

REV.1

2022

Report

on the Italian building envelope market_2021

WINDOWS AND CURTAIN WALLS

UNICMI – Economic Studies Office

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The market numbers and perspectives



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Introduction

The annual report on the building envelope market provides information on the size, characteristics and evolution of the Italian market for windows and doors and curtain walls. The report is focused on Italian companies and on the domestic market, at the same time it provides precise data on the import of PVC windows and doors and the export of curtain walls.

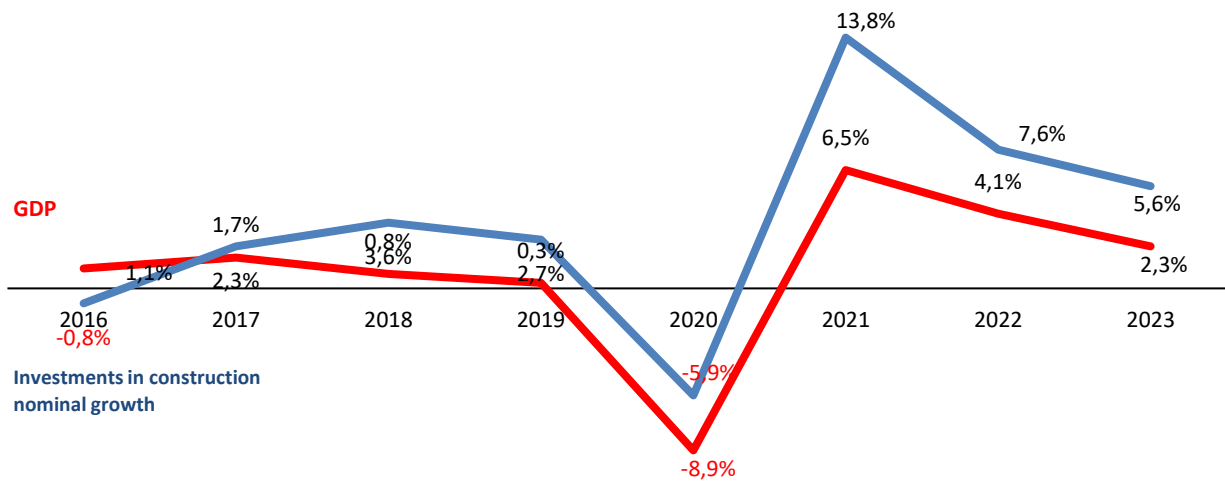
The main contents of the sections of which the document is composed are briefly outlined below.

1. Analysis of the economic situation in the building construction industry. Construction investment trends by market segments. Market trends for the next two years.
2. Analysis of the demand for windows and doors and curtain walls. Estimated demand for windows and doors, in value and volume, in the residential and non-residential segments. Evolution of the market shares of the three main materials for windows and doors: aluminium, wood and PVC. A specific focus is dedicated to the impact of tax incentives on the demand for windows and doors.
3. Analysis of the metal windows and doors market. Evolution of the aggregate turnover of the sector, analysis of the characteristics of the competing companies.
4. Analysis of the curtain wall market. Evolution of the offer with analysis of sales by building type. Analysis of the commercial policies of curtain wall manufacturers.
5. Analysis of the economic and financial performance of metal window and curtain wall manufacturers.
6. Conclusions and forecasts of market trends in the medium term.

1. The economic situation in the construction sector

The growth of the construction sector, which had been showing clear signs of recovery since 2016, was affected by the pandemic in 2020. 2021 is confirmed to be the year of recovery with a growth of +13.8%, well above the Italian GDP (+6.5%). 2022 and 2023 are expected to see a further increase in construction investment, which will continue to grow at rates higher than the economy's growth.

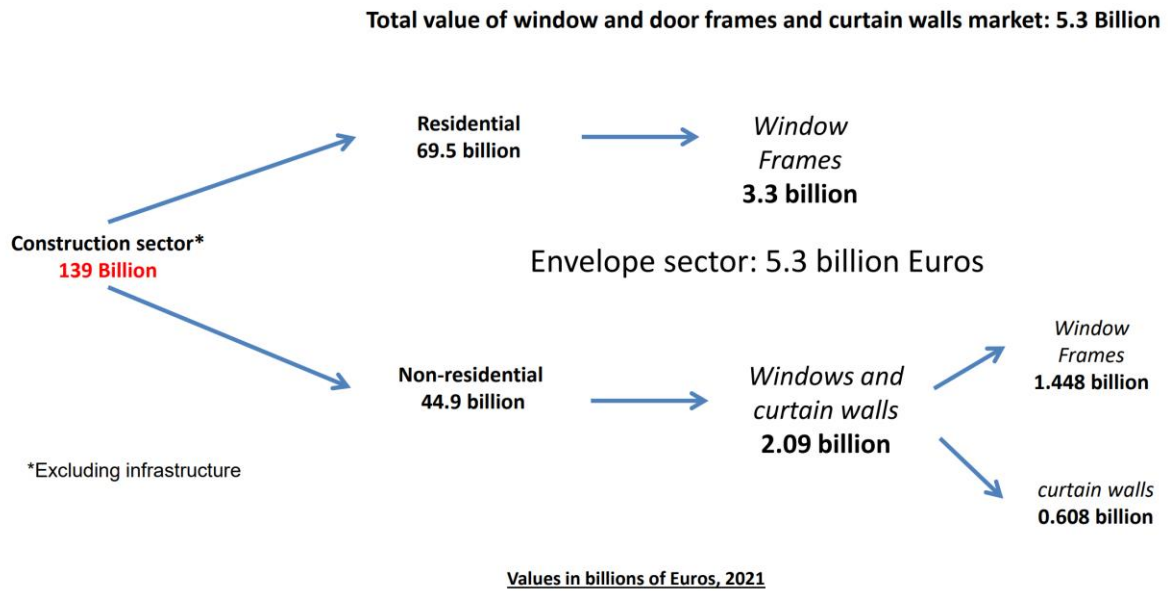
Figure 1. Comparison of GDP growth and construction investment



UNICMI elaborations on ISTAT data for investments in construction, 2021, 2022 and 2023 estimated data. Source GDP: European Commission.

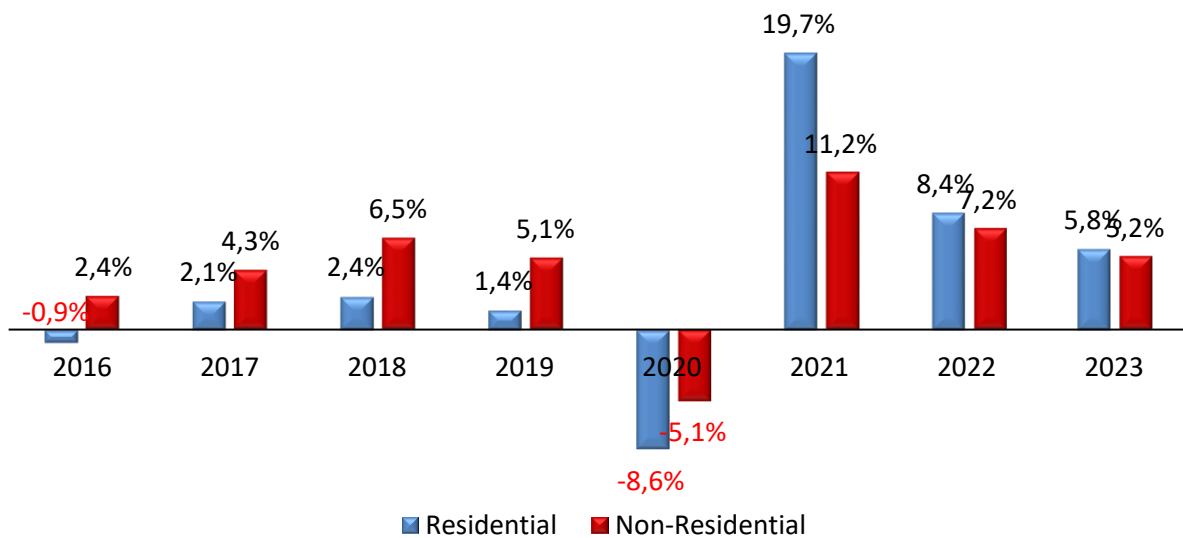
The residential segment (Figure 2) has a preponderant weight in the construction sector and, since 2017 has grown thanks to investments in home renovation. After the contraction in 2020, the residential and non-residential segments resume the positive trend that will follow until 2023, especially in the renovation segment (Figure 3).

Figure 2. Investment in construction and demand for windows and curtain walls



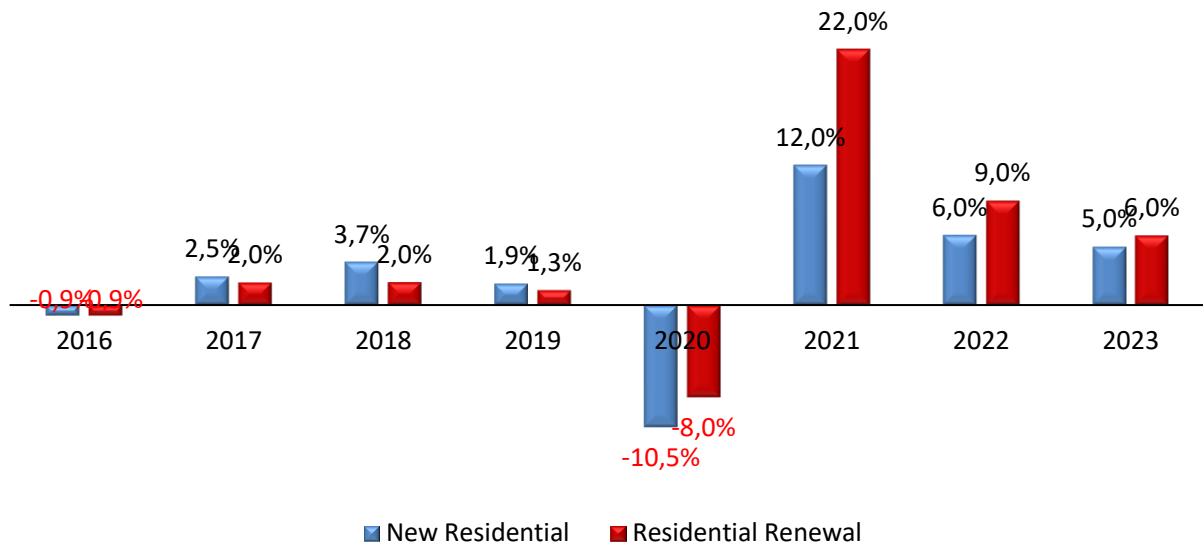
Elaborations of UNICMI on ISTAT data. Estimated 2021 data.

Figure 3. Construction investment by destination segment



Elaborations of UNICMI on ISTAT data. 2021, 2022, 2023 estimated data.

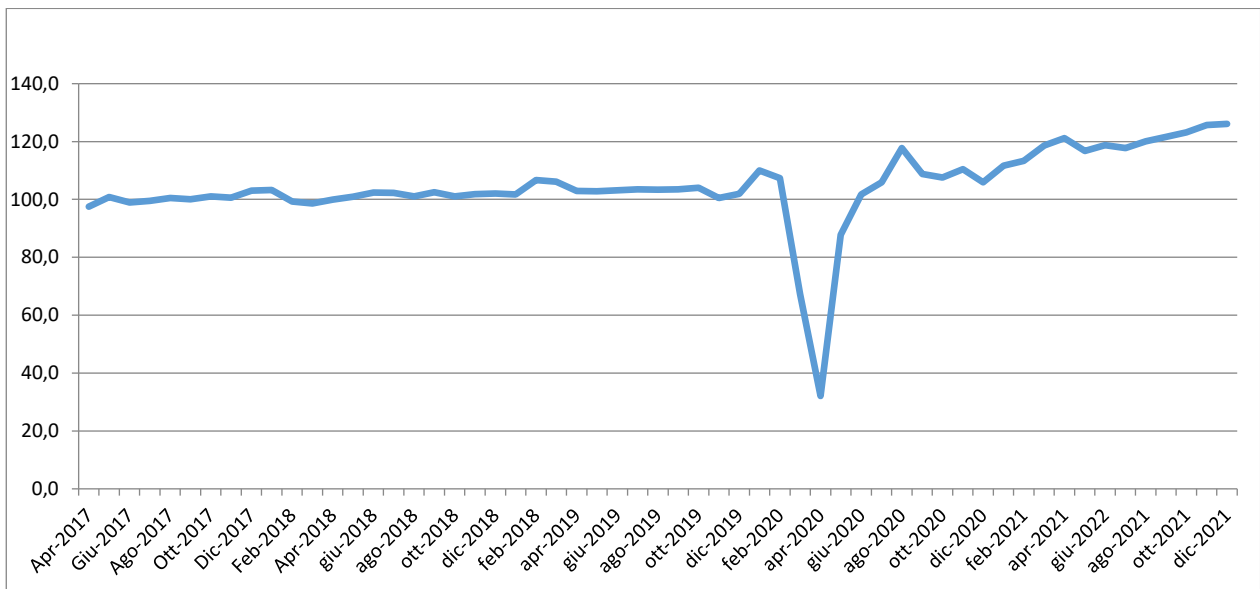
Figure 4. Investment in residential construction



Elaborations of UNICMI on ISTAT data. 2021, 2022, 2023 estimated data.

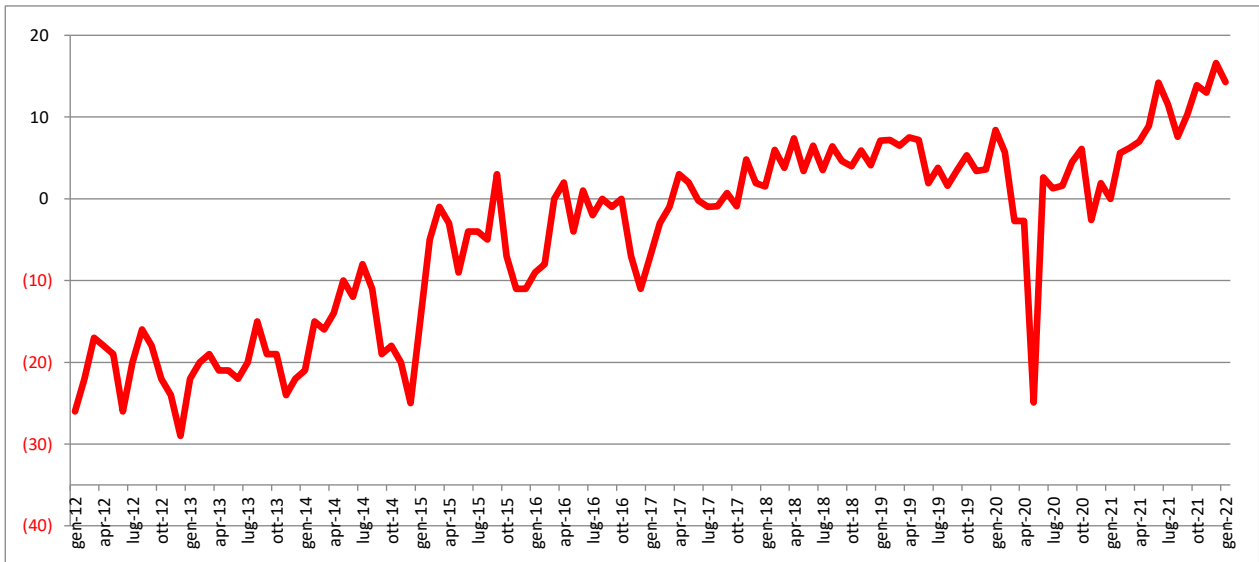
The production index (Figure 5) in construction shows a positive trend that is also confirmed by the indices referring to orders and prices (Figures 6 and 7). After the shock caused by the pandemic, there has been a robust recovery, with significant growth in B2B orders and prices (Figure 7), an index, the latter, that has an exponential trend and is also affected by the increase in the cost of raw materials.

Figure 5. Trends in the ISTAT construction index (seasonally adjusted data, base 2015=100)



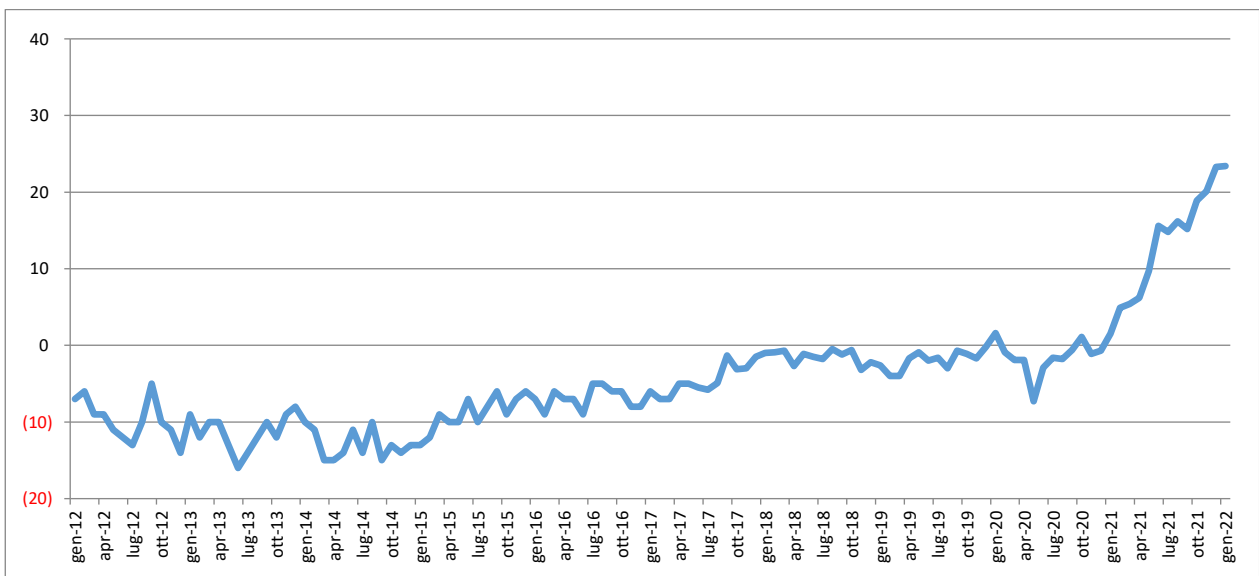
Elaboration UNICMI on ISTAT data.

Figure 6. Trend of orders in the construction industry



Elaboration UNICMI on ISTAT data.

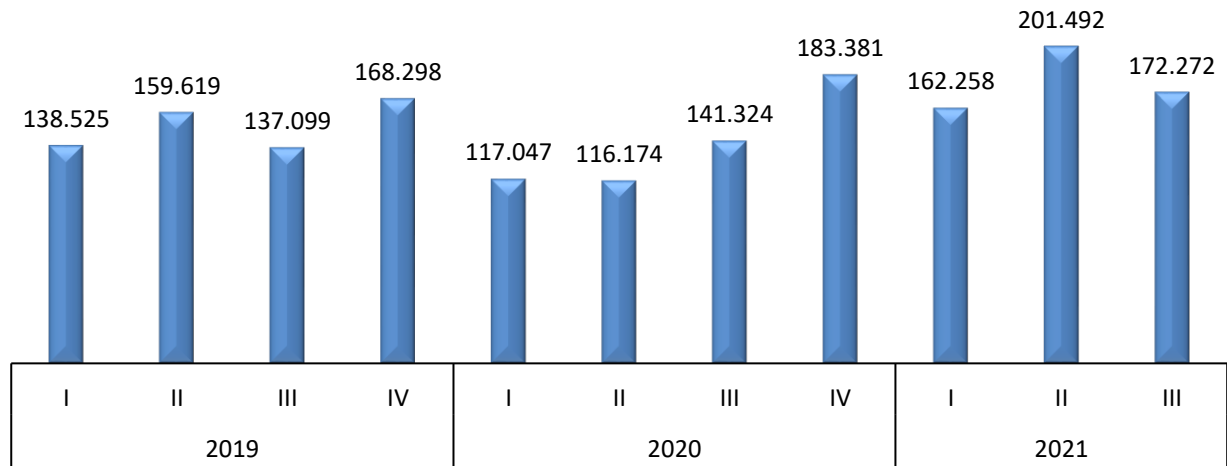
Figure 7. Price trends in the construction industry



Elaboration UNICMI on ISTAT data.

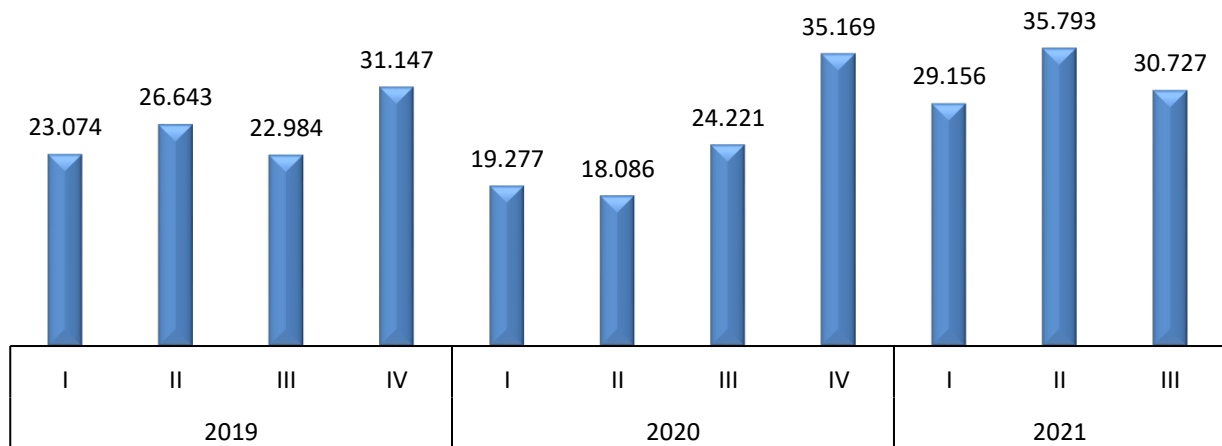
The analysis of real estate purchase and sale transactions in the residential and non-residential segments provides a picture of investment trends in the short term and provides important indications for estimating the trend of the renovation market. The residential segment has been recording a positive growth trend since 2013 and, after the slowdown in 2020, has resumed significant growth. Similar for the non-residential segment that managed to recover what was lost in the pandemic. In both market segments, purchase and sale volumes have exceeded 2019 values (Figure 8 and 9) and the long-term trend is largely positive.

Figure 8. Quarterly property sales trends in the residential segment (NTN)



Elaboration UNICMI on data from the Revenue Agency.

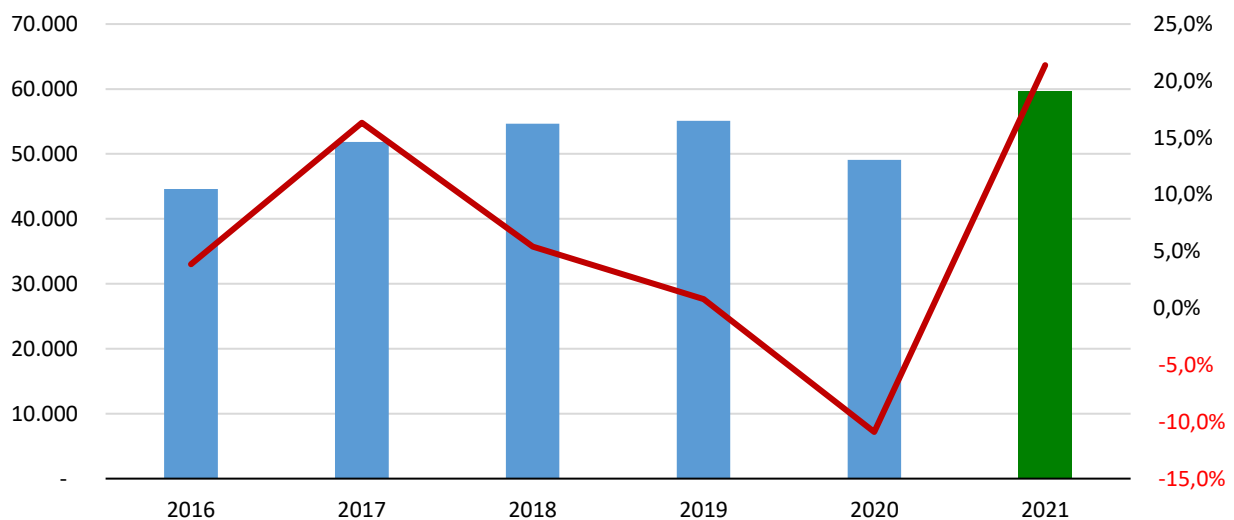
Figure 9. Trends in quarterly property sales in the NON-residential segment (NTN)



Elaboration UNICMI on data from the Revenue Agency.

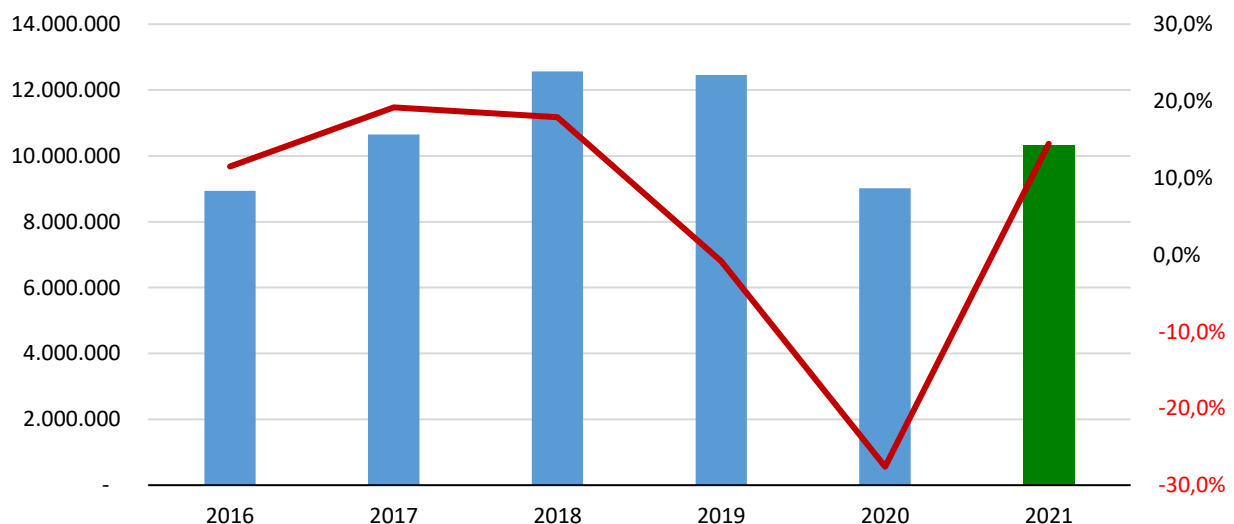
The analysis of building permits is another significant indicator for assessing the 12-24 month construction investment trend. The trend in permits for new housing and non-residential construction shows a positive trend that began in 2015, slowing in 2020, followed by a significant rebound as well in 2021 (Figures 10 and 11). The residential segment in 2021 shows record growth in permits per dwelling unit of +21%. The non-residential segment also experienced a significant rebound with a 14% increase in permitted floor area. These figures reinforce the forecast for growth in residential and non-residential new construction investment in the 2022-2023 biennium.

Figure 10. Building permit trends. Number of dwellings in new residential buildings (thousands of units and % Change).



Elaborations of UNICMI on ISTAT data. Estimated 2021 data.

Figure 11. Building permit trends. Square meters of nonresidential buildings (square meters and % Change).

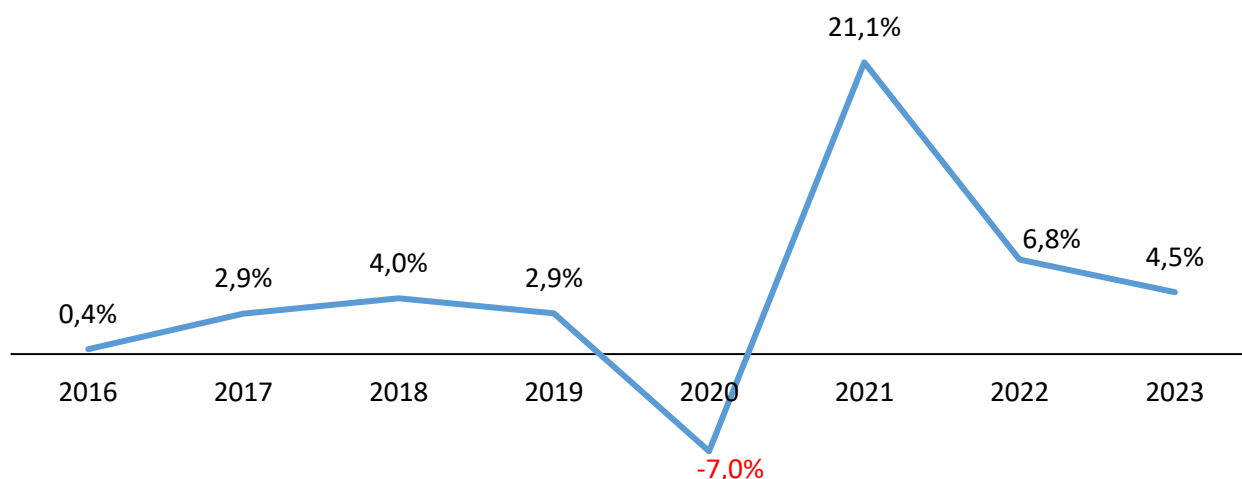


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2. The demand for windows and doors in the Italian market

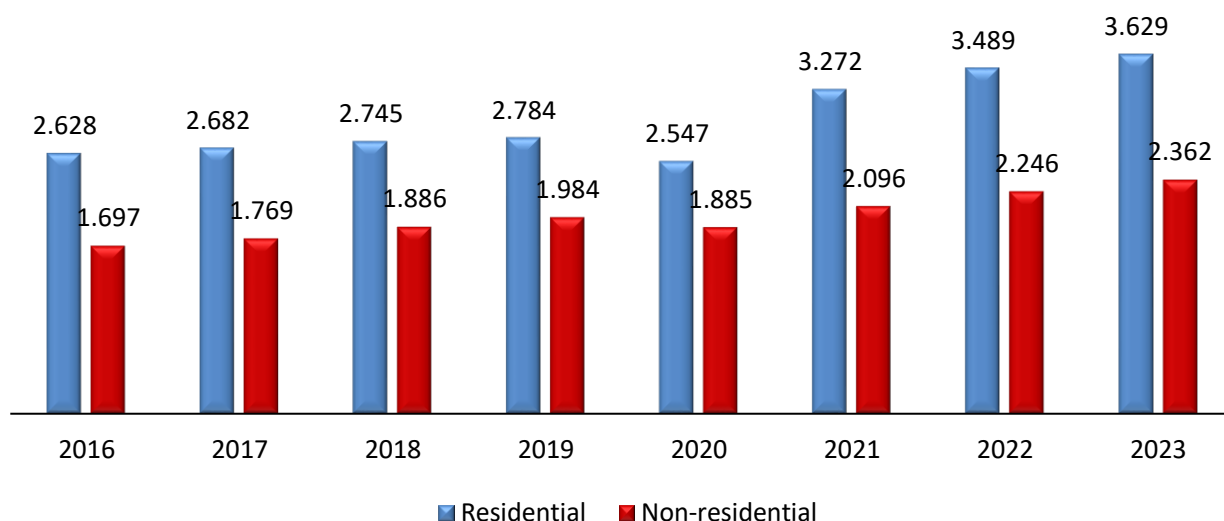
2021 was the year of recovery for the window and door industry, which posted record growth of +21% (Figure 12). Demand for windows and doors in the residential sector reached €3.2 billion, while non-residential demand exceeded €2 billion. The sector will continue to grow in 2022 and 2023 albeit at lower rates (+6.8 in 2022; +4.5% in 2023) (Figure 13).

Figure 12. Revenue growth rate in the windows and doors and curtain walls industry



UNICMI processing. Estimated 2021, 2022, 2023 data.

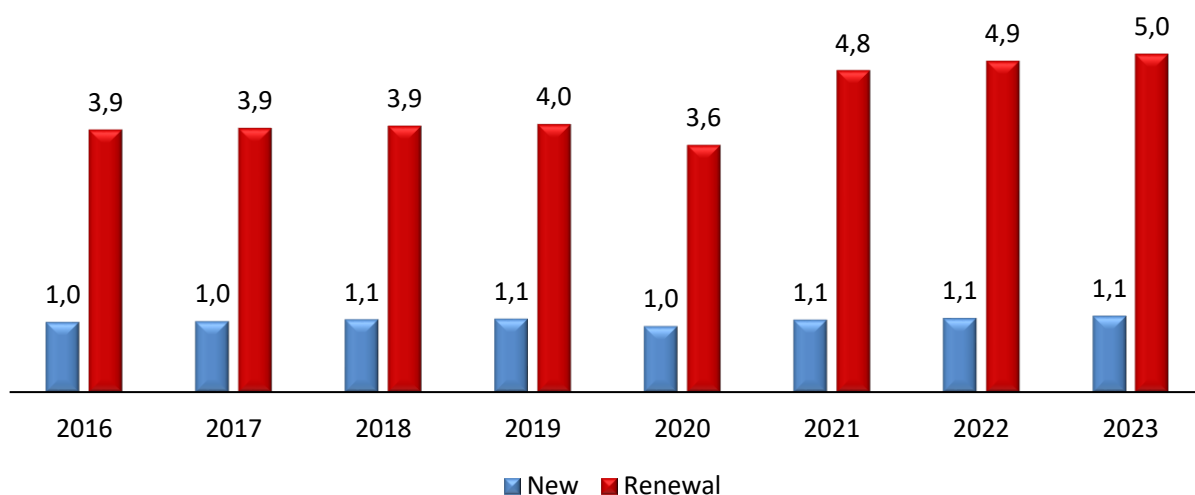
Figure 13. Demand for windows and doors and curtain walls (millions of Euros)



UNICMI processing. Estimated 2021, 2022, 2023 data.

In the residential segment, most of the demand for windows and doors is generated by the refurbishment market, which took in 4.8 million windows in 2021, compared to 1.1 million in the new segment. The post-pandemic recovery has allowed window units to recover in the residential segment, increasing by as much as 1.2 million units between 2020 and 2021 (Figure 14). For the next two years, the new segment is expected to hold up and the renewal segment is expected to increase further, touching 5 million units in 2023.

Figure 14. Windows sold new vs. renewal residential (millions of units)



UNICMI processing. Estimated 2021, 2022, 2023 data.

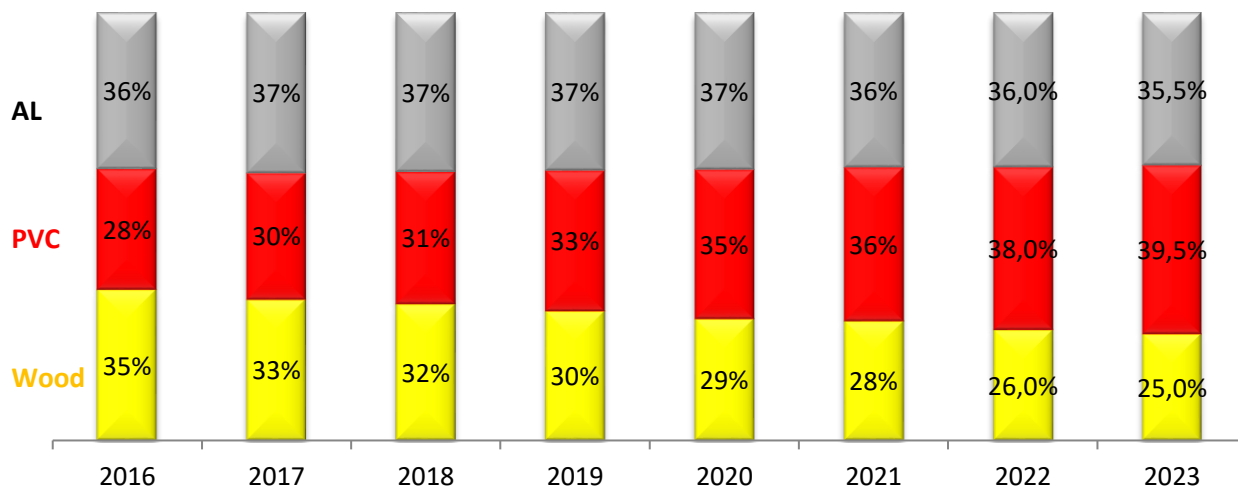
Since 2014, there has been a process of radical change in the market shares (in value) of the three main materials used to produce windows and doors (aluminum, wood and PVC) in both the residential and non-residential segments (excluding curtain walls from the calculation). PVC windows and doors have been characterized by a significant growth from a 28% market share in 2015 to a 36% market share in 2021 (Figure 15), thanks to the penetration in the residential recovery segment, where they have an absolute leadership position.

The market share of wooden windows and doors is set to decline further over the next two years, falling to 25% in 2023. The market share of aluminum windows and doors has held up reasonably well throughout the period considered, thanks to penetration in the premium segment, both in the new and refurbishment markets. Over the next two years, aluminum's market share is expected to stabilize at around 35%, due to the increased penetration of PVC in the premium segment of new residential construction and in the non-residential segment.

The analysis of market shares in volume confirms the strength of PVC windows and doors, which have become the market leader in terms of window units sold, with a 44% share in volume, followed by aluminum

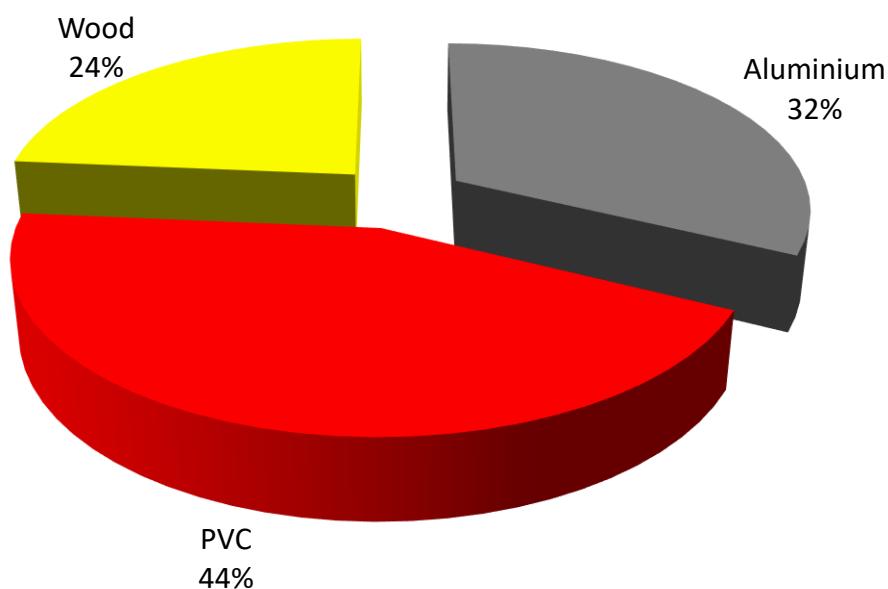
windows and doors with a 32% share and wood windows and doors with about 24% of the units sold (Figure 16).

Figure 15. Evolution of market shares in value in the Italian windows and doors market



UNICMI processing. Estimated 2021, 2022, 2023 data.

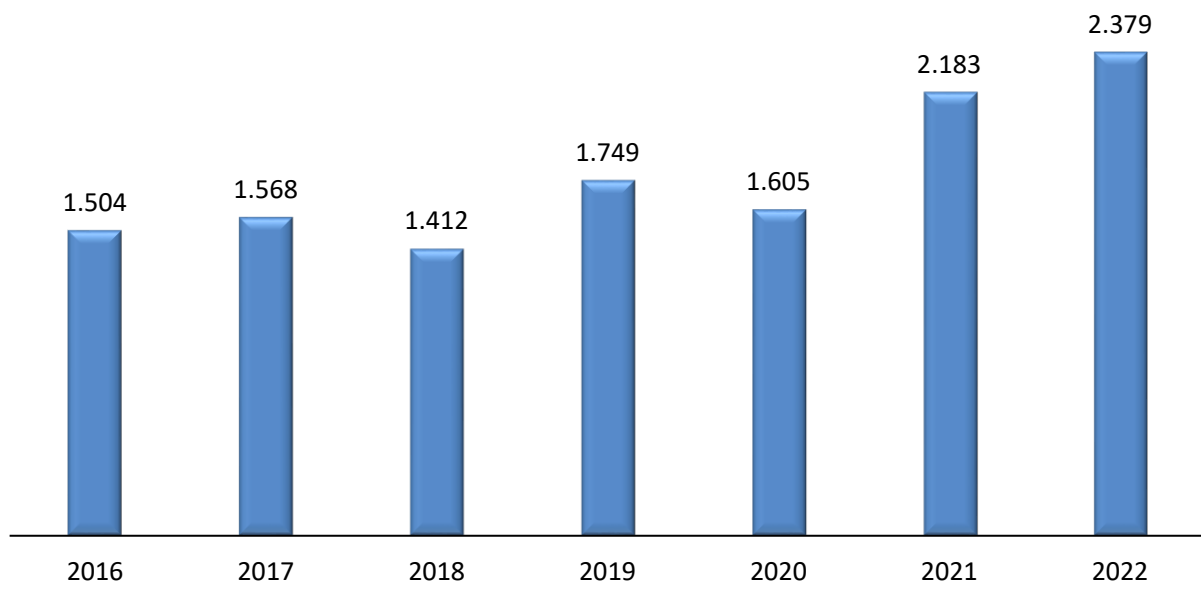
Figure 16. Evolution of market shares in volumes (window units sold) in the window and door market in Italy (2021)



Elaborations UNICMI

In 2021, tax incentives for energy requalification work on buildings helped support demand for windows and doors, generating a turnover of €2,183 million (Figure 17). This value is the highest in recent years and is destined for a further increase in the coming year, thanks to the effect of the different incentive schemes (Ecobonus, Bonus Casa and Superbonus), provided that their application mechanisms are not substantially modified.

Figure 17. Demand for windows and doors generated by tax incentives (millions of Euros)



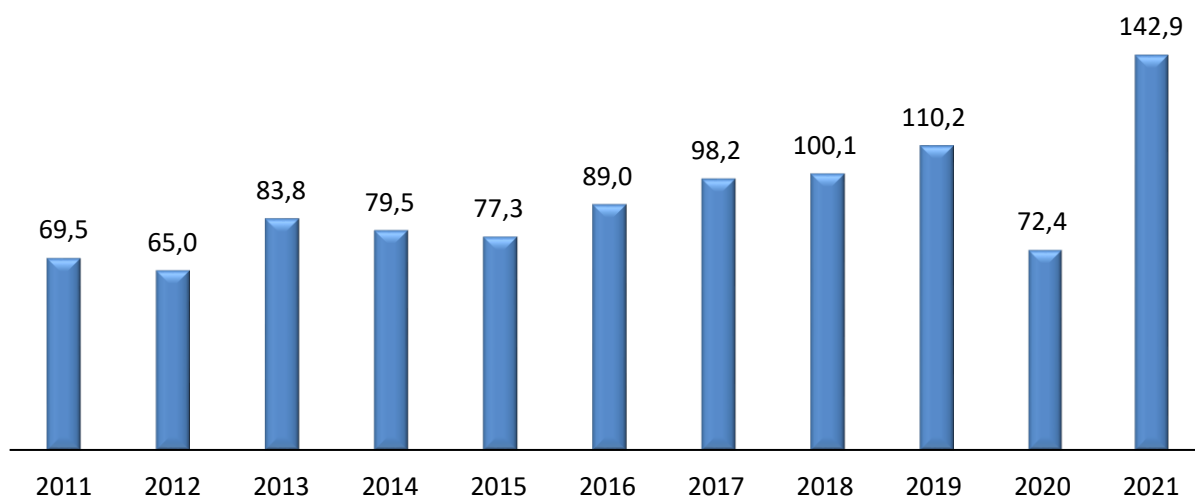
UNICMI elaborations on ENEA data. Data 2021, 2022, 2023 include an estimate of interventions made with: Ecobonus, Home Bonus and Superbonus.

Imports of PVC windows and doors are a consolidated reality in a market as attractive as the Italian one, even though they experienced a sharp drop in 2020, only to recover during 2021, reaching a record figure of over 142 million Euros (Figure 18), the highest value in the period analyzed.

The main countries from which imports come are: Germany, Austria, Poland, and Romania (Figure 19). Poland recorded the highest long-term growth (CAGR from 2021-2020) with a value of 24.17%. Imports from Austria and Germany are also growing.

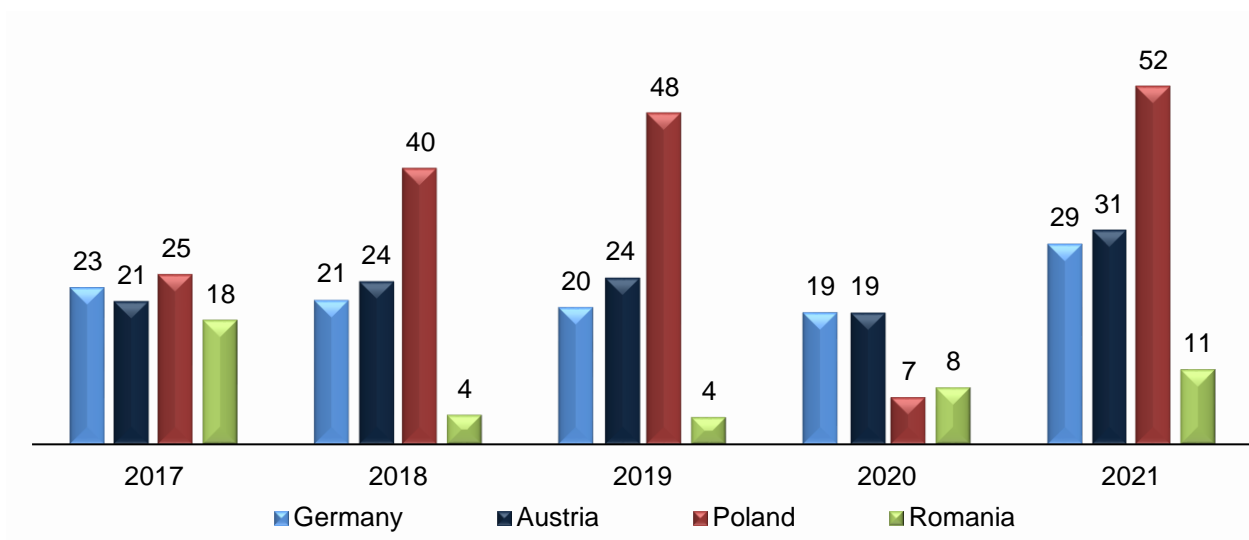
Imports are calculated on wholesale prices, therefore, the value should be multiplied by about 2.5 in order to have an idea of the actual impact that imports have on the total (installed) value of the Italian market. We can estimate the impact on market value (final price to the public of installed windows and doors) at about 355 million Euros in 2021 (142.9×2.5), equal to about 10.8% of the total value of the window and door market in the residential sector (3,272 million Euros), which absorbs most PVC products.

Figure 18. Imports of PVC windows and doors (millions of Euro)



Elaborations of UNICMI on ISTAT data. Estimated 2021 data.

Figure 19. Main countries from which PVC windows and doors are imported (imports in millions of Euro)



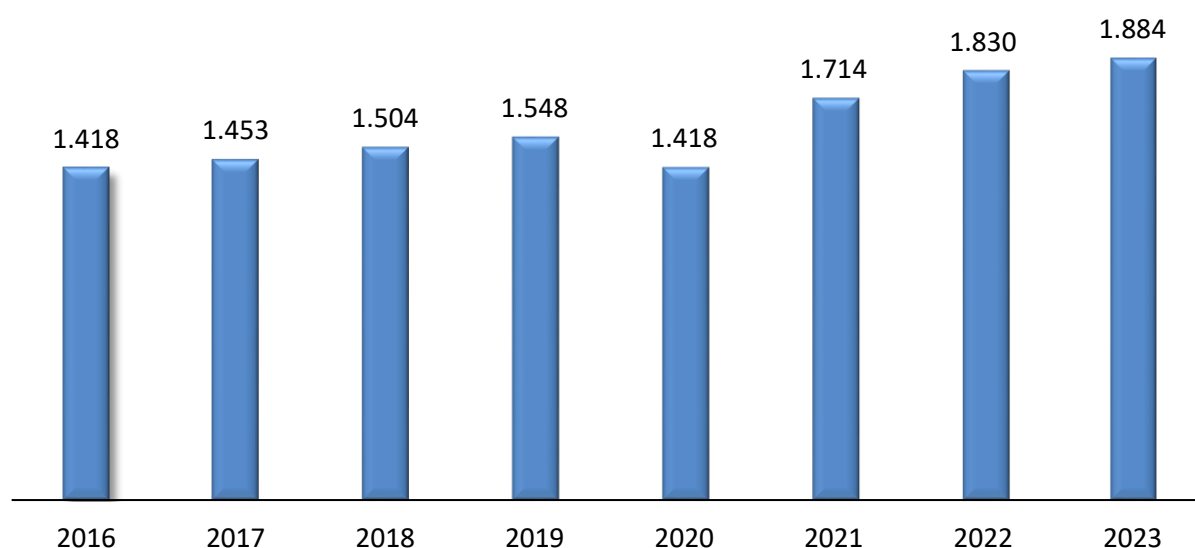
UNICMI elaborations on ISTAT data. Estimated 2020 data.

Average growth rates of PVC windows and doors imports (CAGR 2012 - 2021)			
Germany	Austria	Poland	Romania
0,42%	2,66%	24,17%	-7,88%

3. The market of metal windows and doors

Since 2015, the metal windows and doors market has been affected by a positive growth trend, interrupted in 2020, and resumed in 2021 with a +22.5% over 2020 (Figure 20) reaching 1.7 billion in sales. This figure should be corrected for the increase (weighted for the incidence on the cost structure of metal window and door manufacturers) of the cost of relevant production factors (aluminum, steel and energy) that in 2021 was 12.9%, this would bring the "real" growth to about 9.6% ($22.5\% - 12.9\% = 9.6\%$), a result that is in any case excellent. For the next two years, the positive trend is confirmed with growth values of 6.8% in 2022 and 2.4% in 2023, which will allow the metal window and door market to exceed 1.8 billion Euros in value.

Figure 20. Value of the metal windows and doors market in Italy (millions of Euros)



UNICMI processing. Estimated 2021, 2022, 2023 data.

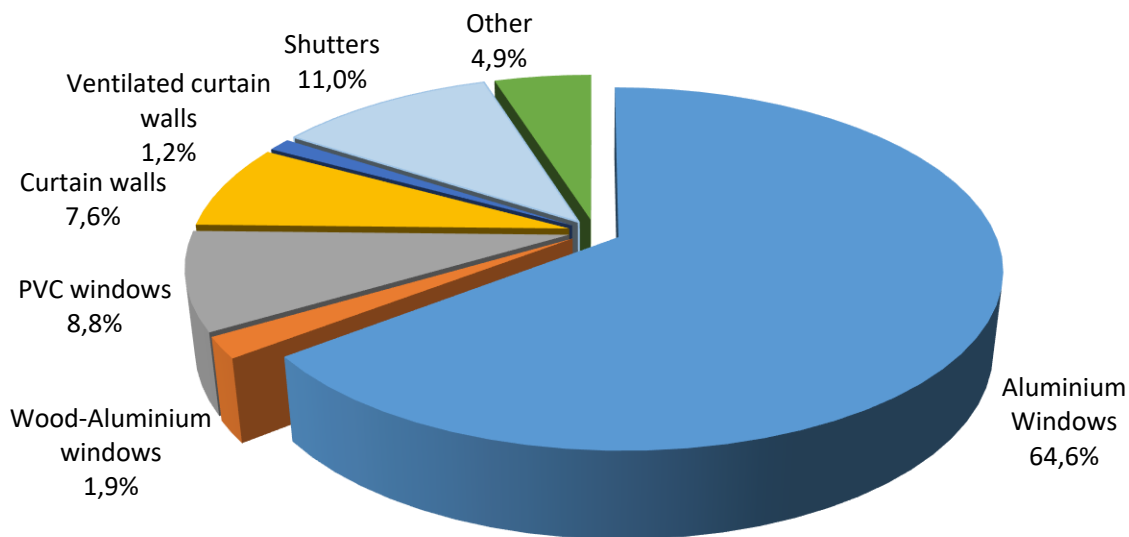
Metal window and door manufacturers are small and medium-sized companies (there are about 2,000 companies operating in the Italian market, of which only 500 have revenues of over €1 million) that have adopted a business model based on a wide and diversified offer, capable of reaching different market segments. The relatively structured window and door companies are about 200 with average revenues of about 3.5 million Euros. In 2021, aluminum window sales represent 64.6% of total sales (Figure 21). Sales of curtain walls exceed 7% of total sales. Sales of PVC windows (both those produced in-house and those only marketed) represent 8.8% of total sales.

The majority of sales are to the residential segment (Figure 22) with a focus on replacement (replacement of old windows and doors). The new market was affected by a strong and contributes 35.5% of revenues.

In 2021, the key customers remain individuals, who purchase directly (59%) and indirectly through showrooms (3.6%), followed by small businesses (18.7%) (Figure 23).

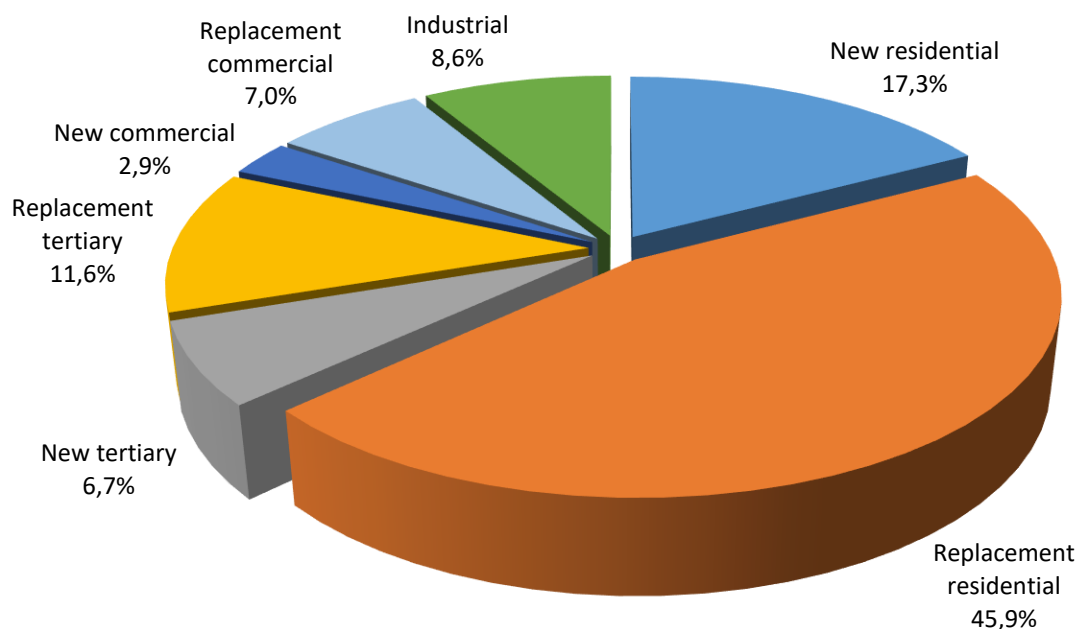
Tax incentives, by 2022, drove 51% (Figure 24) of metal window and door manufacturer sales.

Figure 21. Breakdown of sales by products



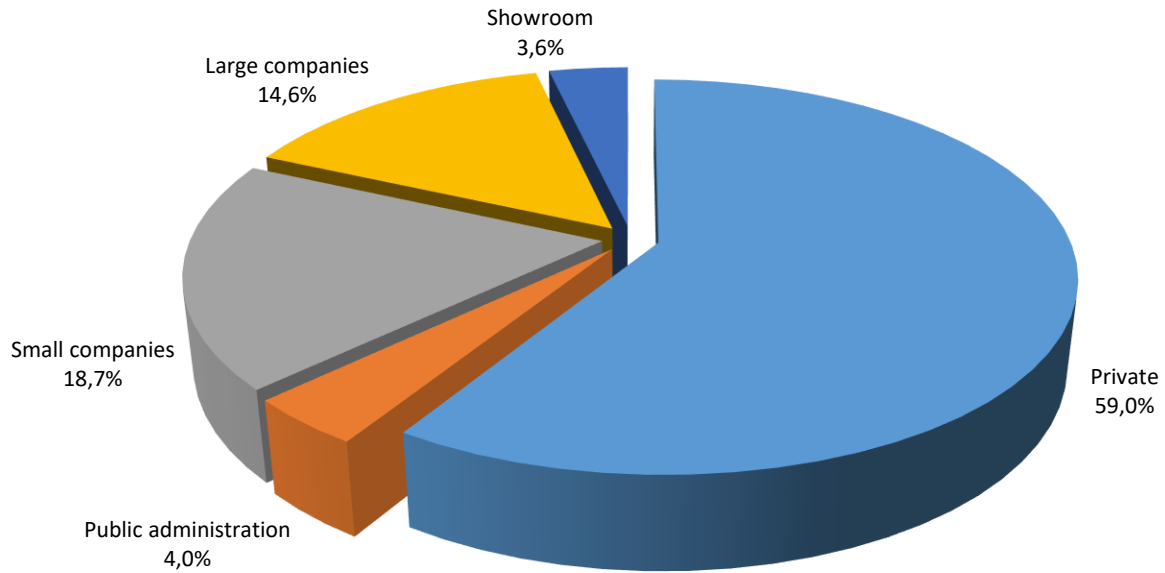
UNICMI elaborations.

Figure 22. Sales breakdown by market segment



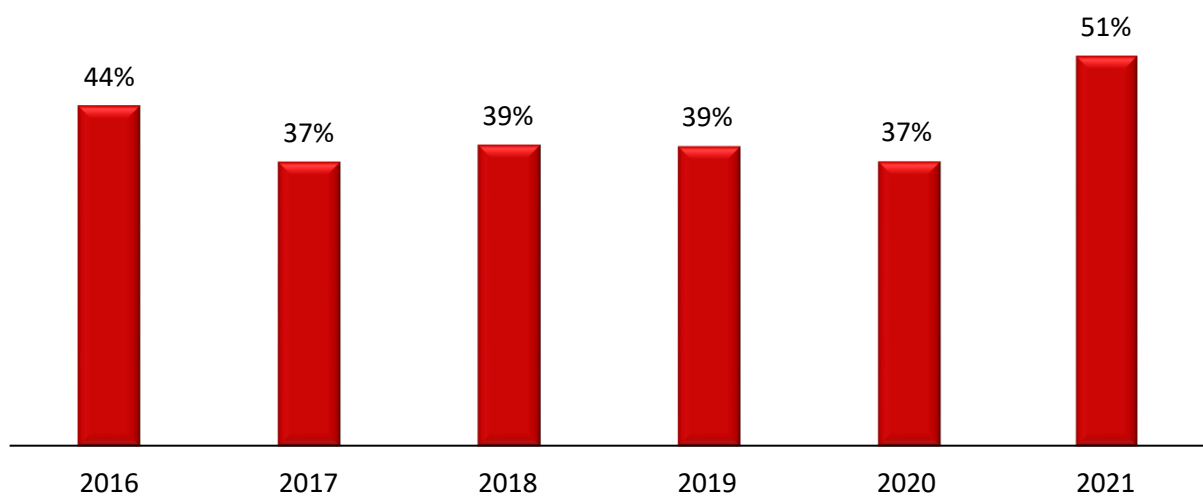
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Figure 23. Breakdown of sales by type of customer



UNICMI elaborations.

Figure 24. Share of metal window and door manufacturers' turnover achieved with the tax bonus



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4. The curtain wall market

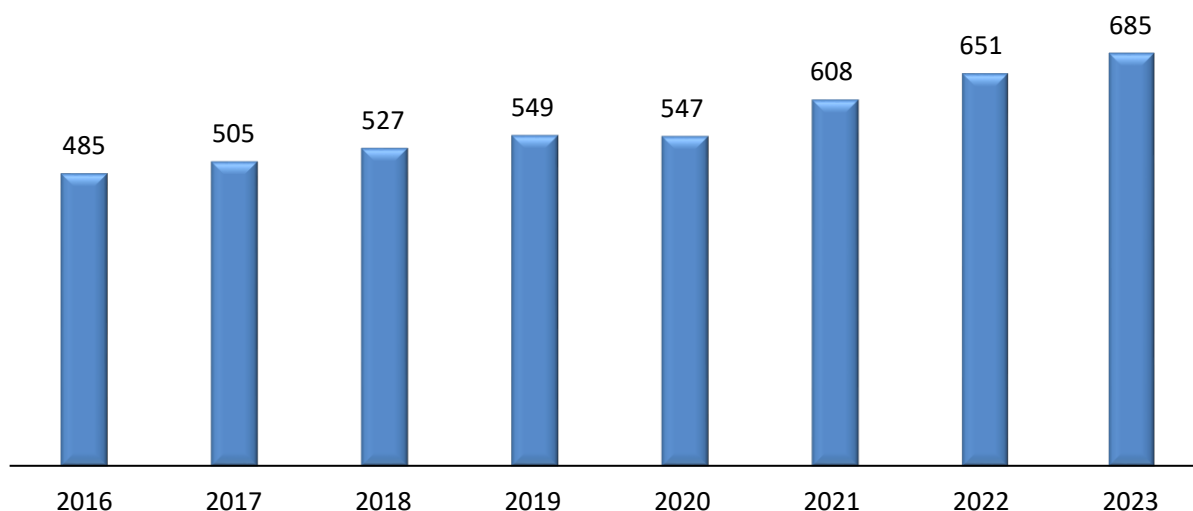
The crisis of 2020 had marginal effects on the curtain wall sector with a decrease in growth of -0.1%, this is due to the fact that the orders are multi-year and are less affected by short-term fluctuations. In 2021, the sector experienced a strong recovery (+11%) generated by the recovery of delays accumulated with the pandemic and the opening of new construction sites (Figure 25).

Curtain wall manufacturers are medium- to large-sized companies (average turnover over €26 million) that adopt a specialized business model and realize more than 50% of their revenues from curtain walls (Figure 26).

Companies primarily target the non-residential segment (78.4%), and in particular the service (48%) and commercial (23.7%) segments. Approximately 72% of revenue is generated by new construction work (Figure 27). The primary target customers are large businesses (52%) (Figure 28).

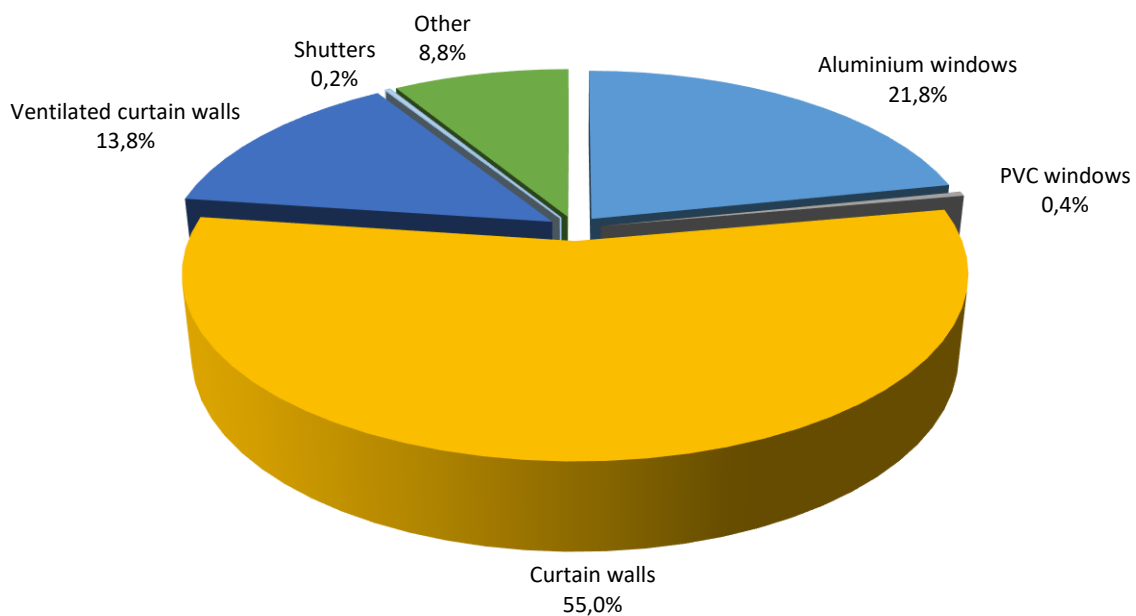
Facade manufacturers have a consolidated presence in foreign markets, particularly in Europe, the United States, and the Middle East, with average exports approaching 50% of revenues in 2019, only to fall in 2020 and 2021 due to the suspension of worksite operations (following the pandemic) in several countries where Italian companies operate (Figure 29).

Figure 25. Value of the curtain walls market in Italy (millions of Euro)



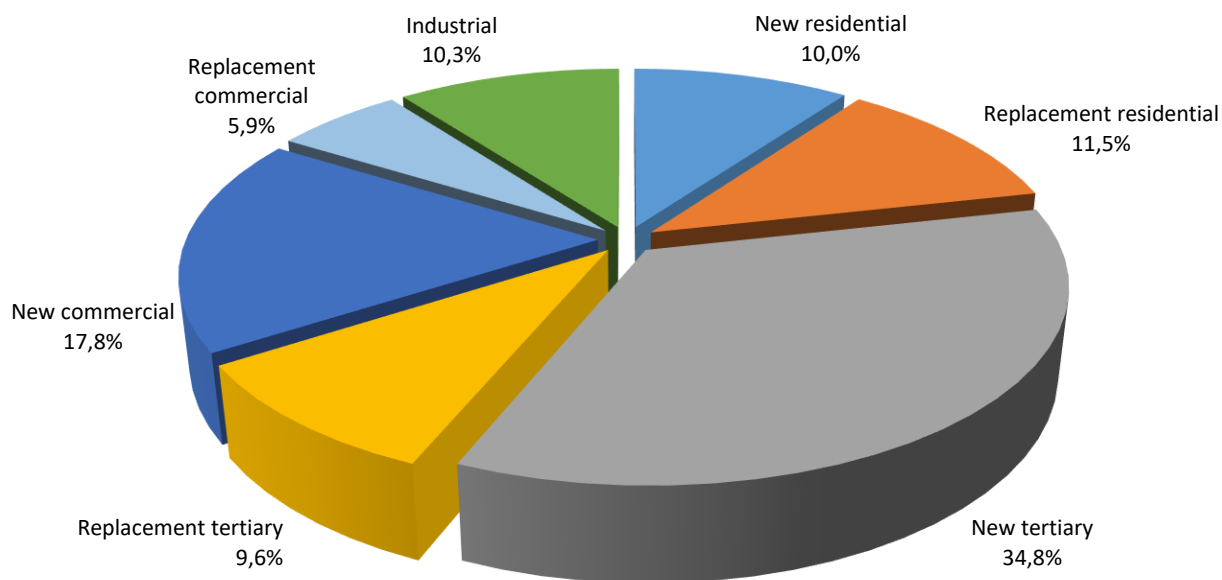
UNICMI processing. Estimated 2021, 2022, 2023 data.

Figure 26. Breakdown of sales by product type



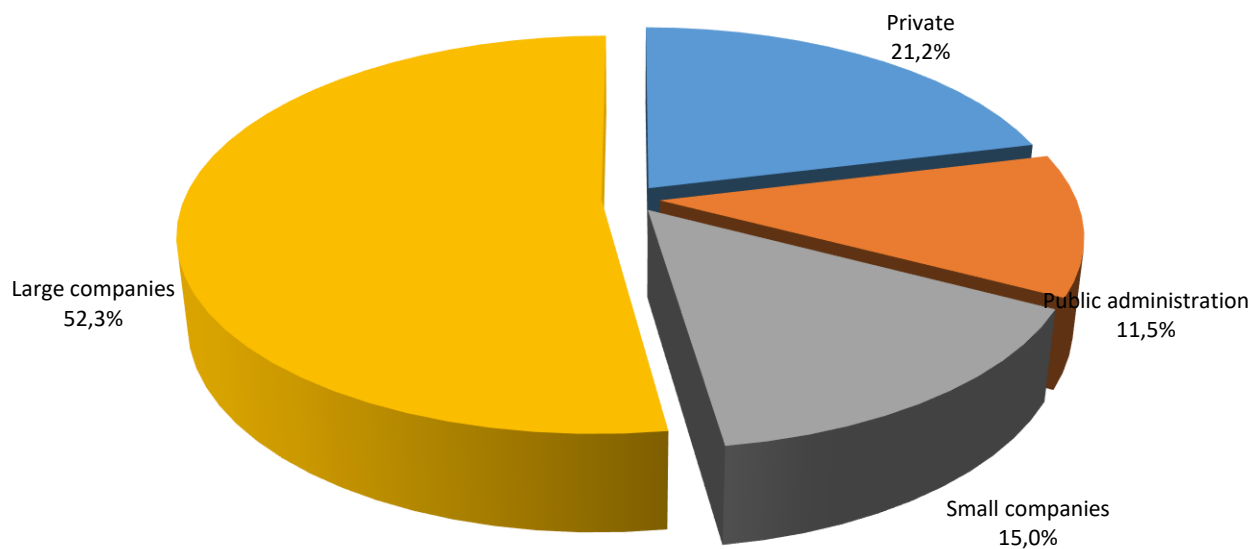
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Figure 27. Sales breakdown by market segment



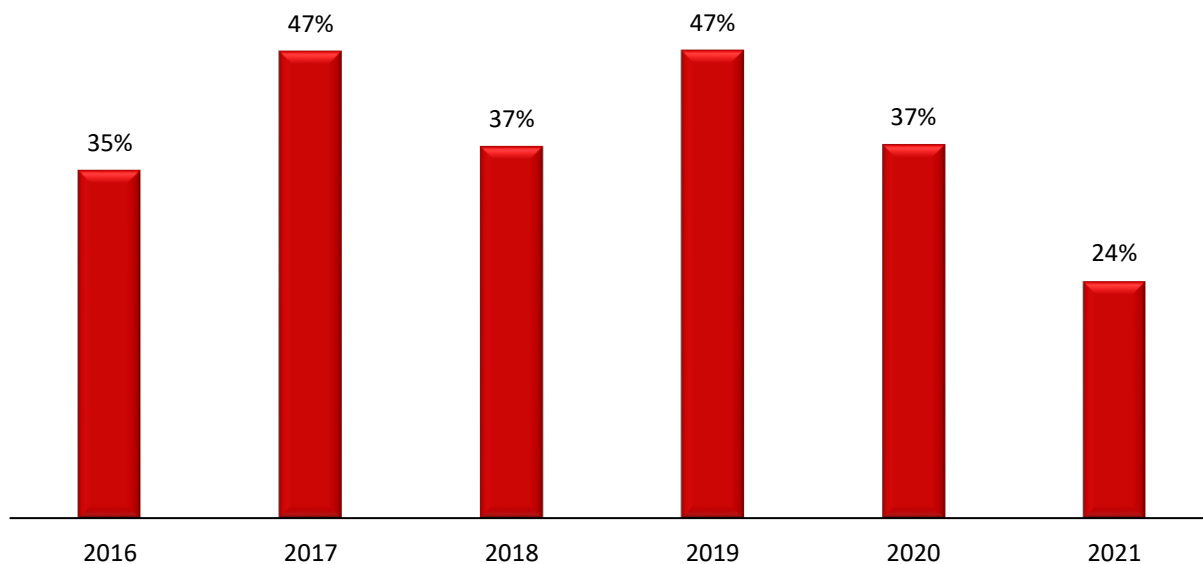
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Figure 28. Breakdown of sales by type of client



UNICMI elaborations.

Figure 29. Export share of curtain wall manufacturers (stated incidence on sales revenue).



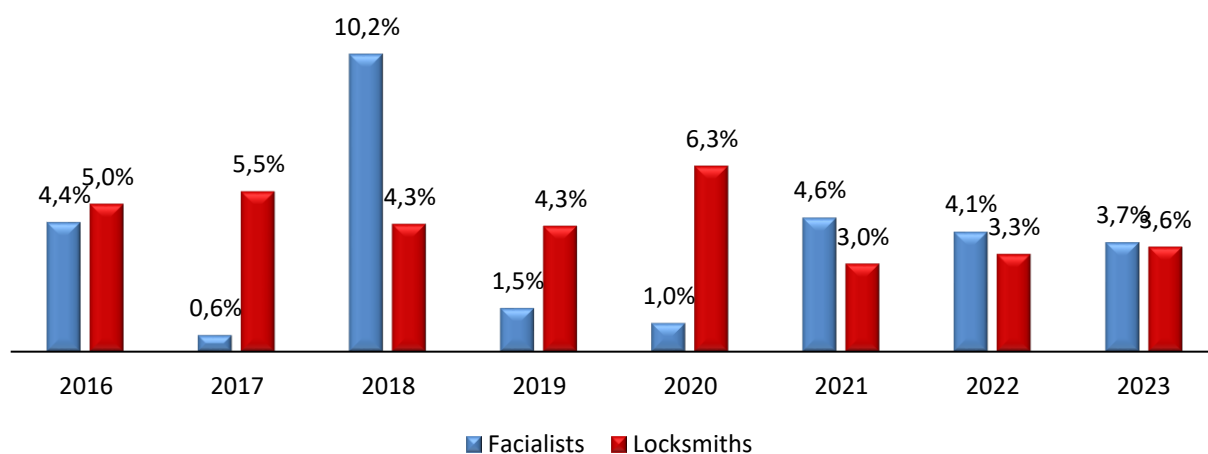
UNICMI elaborations.

5. The economic performance of window and facade manufacturers continuous

Manufacturers of metal frames and curtain walls

In 2020, metal window and door manufacturers were unaffected by the crisis at the level of commercial margin (ROS), thanks to the strong recovery, driven by incentives, that there was in the second half of the year. Things were different for curtain wall manufacturers, who paid heavily for slowdowns and work stoppages (often taken, in 2019, with very low margins). In 2021, estimates show a sharp recovery for facade manufacturers and a decline in profitability (ROS) for window and door manufacturers, a figure generated by the sharp rise in the cost of raw materials and the operational difficulties encountered in coping with the peak demand generated by tax incentives (Figure 30).

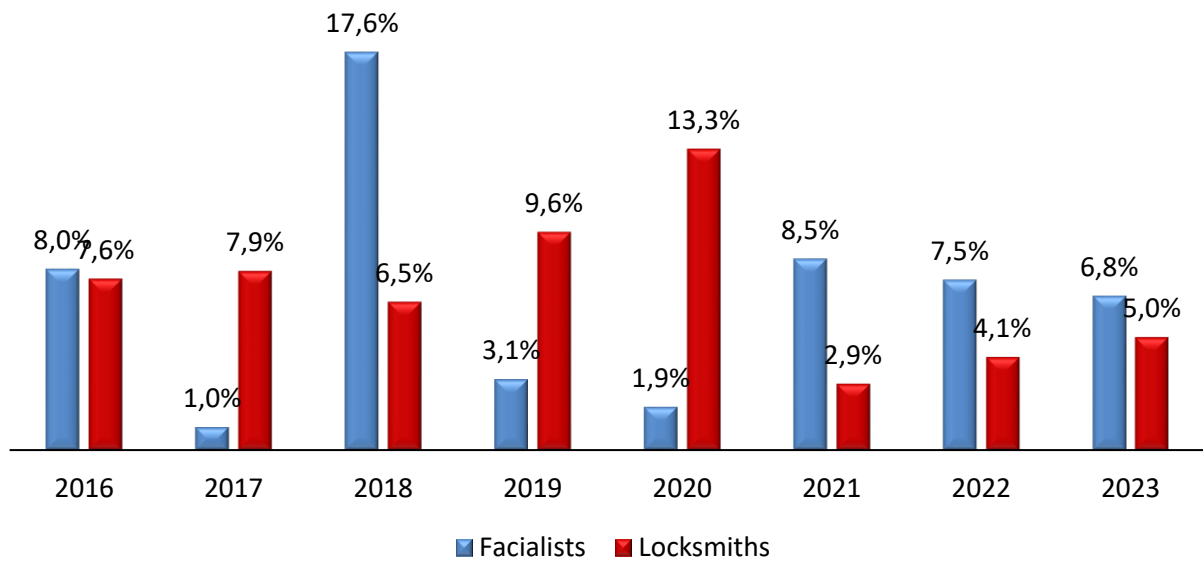
Figure 30. Metal window and curtain wall manufacturers. Commercial margin - ROS



UNICMI processing. Estimated 2021 data.

Return on invested capital (ROIC) follows what we saw for ROS. 2020 was positive for metal window and door manufacturers, who did better than facade manufacturers, but in 2021 the situation reverses due to the complexity of managing growth and the strong progression of raw material costs that cannot be fully passed on to end customers (Figure 31).

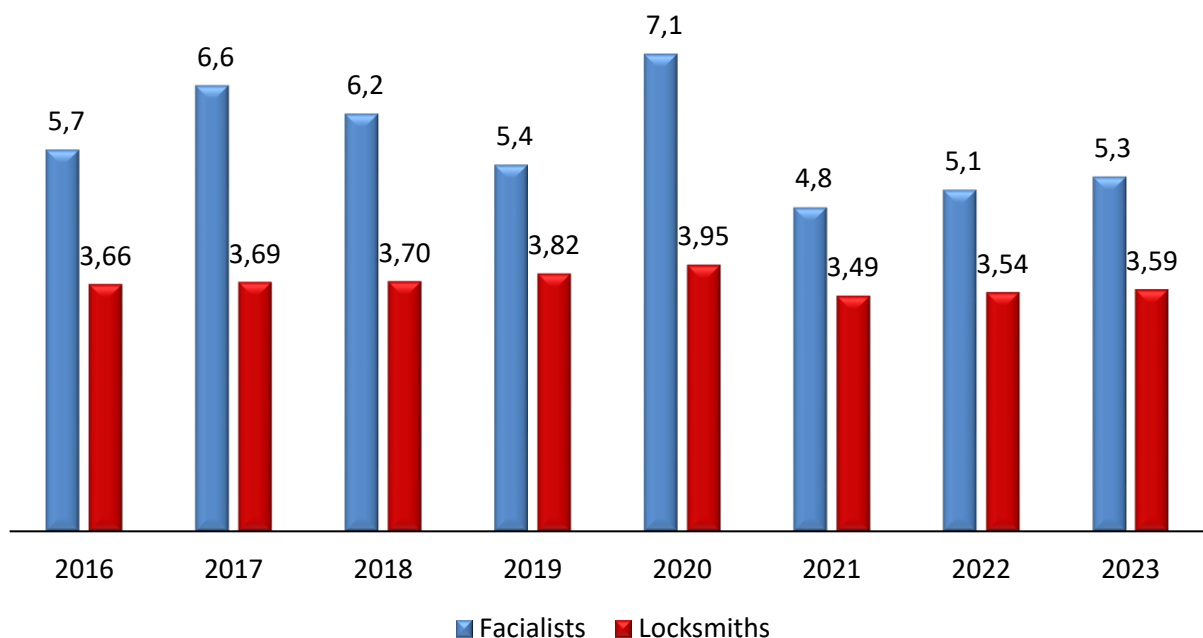
Figure 31. Metal window and curtain wall manufacturers. Return on investment - ROIC



UNICMI processing. Estimated 2021 data.

The indebtedness rate of façade manufacturers remains stable throughout the period considered, except for 2020 when it rises to 7.1. From the point of view of indebtedness, window and door manufacturers are not affected by the crisis in 2020 and keep their rate substantially unchanged throughout the period considered. A return to pre-crisis values is forecast for 2021.

Figure 32. Metal window and curtain wall manufacturers. Initial debt rate



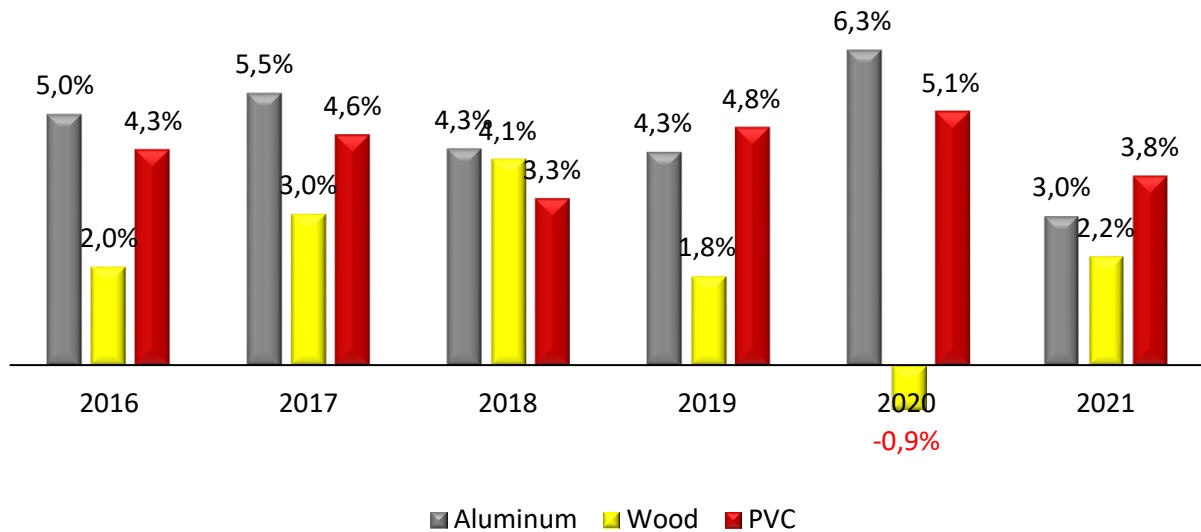
UNICMI processing. Estimated 2021 data.

Comparison of the performance of manufacturers of aluminum, wood and PVC windows and doors

A specific analysis has been dedicated to window and door manufacturers, divided on the basis of production specialization (material used to make windows and doors) into manufacturers of aluminum, wood and PVC windows and doors.

The trade margin (ROS) of aluminum and PVC window manufacturers was not affected by the 2020 crisis that hit wood window manufacturers hard. For 2021, estimates indicate a slight decrease in the trade margins of aluminum and PVC, with PVC exceeding the ROS levels of aluminum, and a recovery in the margins of wood window manufacturers, at around 2.2%

Figure 33. Comparison of manufacturers of aluminum, wood, and PVC windows and doors. Commercial margin - ROS

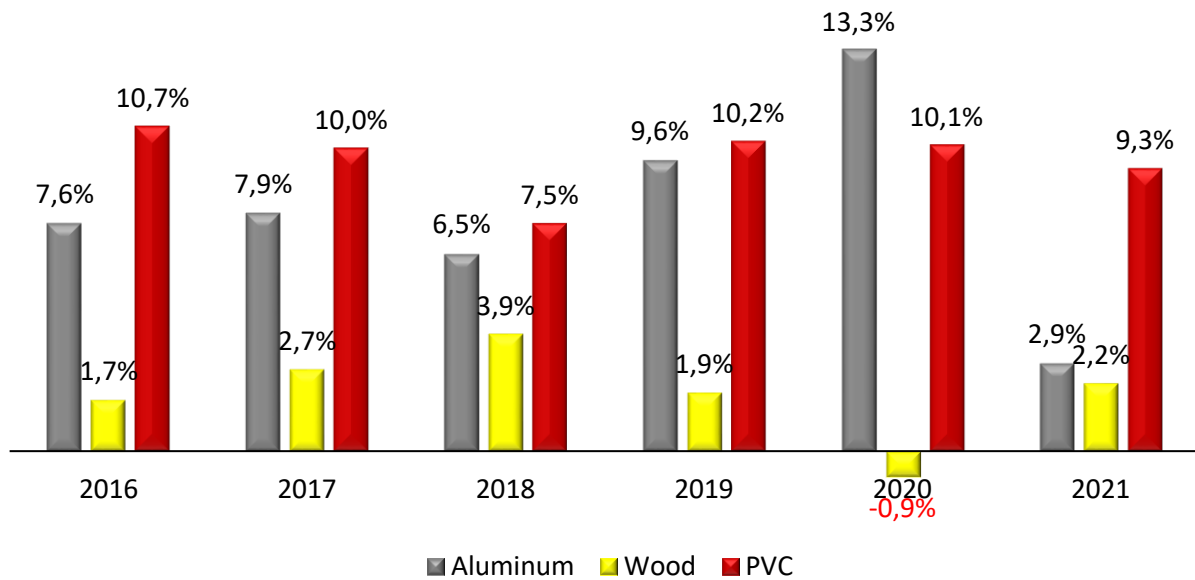


UNICMI processing. Estimated 2021 data.

With reference to the return on invested capital (ROIC) the good performance of aluminum and PVC window and door manufacturers is confirmed in 2020 with higher values for the aluminum sector. Also with reference to ROIC, wood producers show a situation of substantial criticality.

In 2021, the problematic situation reappears for aluminum, burdened by input costs and higher investments made to increase production capacity, while PVC continues the trend started in 2019 with the best performance in terms of return on investment (Figure 34).

Figure 34. Comparison of aluminum, wood, and PVC window and door manufacturers. Return on investment - ROIC



UNICMI processing. Estimated 2021 data.

6. Conclusions and perspectives

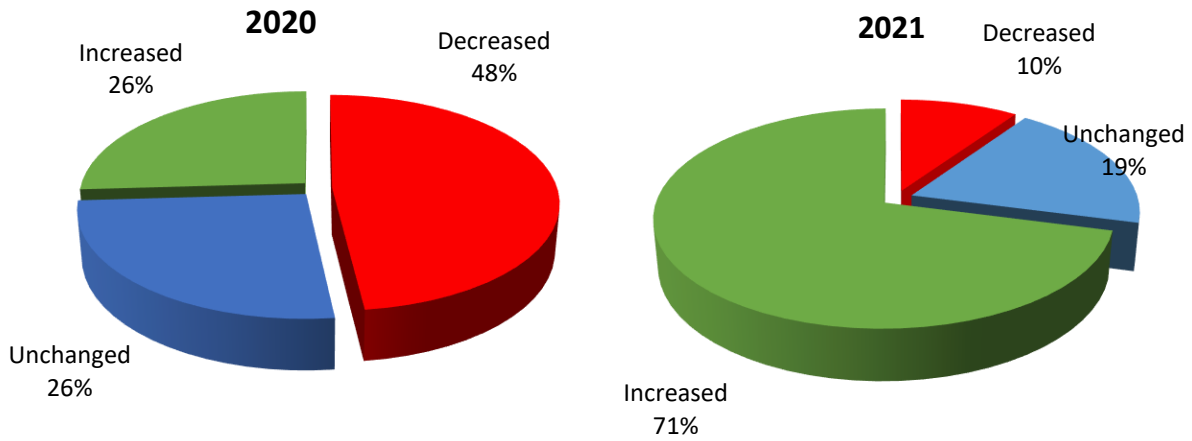
After a year of strong recovery, 2022 opens with uncertainty and questions remain about the possibility of consolidating growth in the next two years. The strong turbulence on the raw materials market risks having a heavy impact on the profitability of companies. Uncertainties regarding the regulatory framework relating to tax deductions could slow down the drive that incentives have given to the replacement of windows and doors.

Trends on the portfolio of acquired orders for both metal window and curtain wall builders further reinforce predictions of a positive trend for the industry in 2022. Seventy-one percent of metal window and door manufacturers noted an increase in their acquired portfolio (Figure 35), a figure three times (approximately) higher than that recorded in 2020. The figure for curtain wall manufacturers is also positive, with 46% of manufacturers reporting an increase in orders acquired (Figure 36).

The window and door market will continue to be driven primarily by the residential renovation sector, where tax incentives will help support demand. The condominium superbonus, if not subject to further changes and limitations, will give a significant boost to the market, which will reach 2.4 billion euros in 2022.

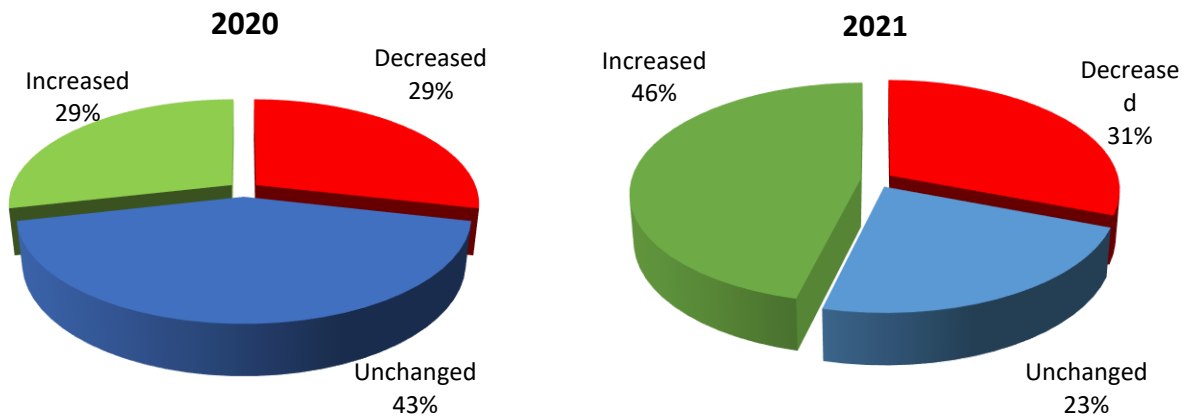
The nonresidential sector will continue to be fueled by the completion of initiatives interrupted or slowed during the COVID19 pandemic and will benefit from the opening of new construction sites. An important contribution will come from public investments set to start with the implementation of the NRP.

Figure 35. Metal window and door manufacturers. Evolution of the order portfolio



UNICMI elaborations.

Figure 36. Facade Builders. Portfolio evolution



UNICMI elaborations.

The general picture is positive and a two-year growth scenario is outlined (2022 and 2023), but in the background there is still uncertainty caused by the war, which is causing great instability on the raw materials markets that is slowing down and/or blocking some productions. If the situation of instability were to extend to the financial markets, this could have serious consequences for investments in construction, causing a sharp slowdown in demand for windows and doors and curtain walls.

Methodological note

The analysis of financial statement economic data, as well as the analysis of market shares of the different materials, is based on a sample of metal window and curtain wall manufacturers, PVC window and door manufacturers, and wood window and door manufacturers. The sample represents about 35% of the supply in the industry and has been partially modified in its composition as of FY 2019. The source of financial statements is the AIDA database; financial statements are captured in Excel and optical formats.

The characteristics of the offer of the companies, the market segments served, the growth prospects are analyzed through a questionnaire administered (annually in December) to the window and door frame manufacturers and curtain wall manufacturers associated with UNICMI.

The growth rates of the windows and doors and curtain walls market have been estimated on the basis of the trend of investments in construction provided by ISTAT. Prior to 2011, construction investments were estimated on the basis of Euroconstruct and ISTAT data.

The data relating to the number of windows sold and the market share in volume (number of units) have been calculated by dividing sales (in Euros) by the respective average unit prices of windows (by type of material) recorded by UNICMI. The window unit used to record prices and quantities is defined as follows: 1,300mm X 900mm, one sash, casement, white finish, A/R mechanism, hammer handle.

All data are at actual values unless otherwise noted.

The data processing of this report was carried out by Dr. Francesco Maria Gentile with the scientific coordination of Prof. Carmine Garzia.

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