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The Influence of Macroeconomic Factors on Automotive Purchase Decisions in France: An Econometric Time Series Study

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The automotive industry is undergoing a major transformation driven by stringent regulations, particularly within the European Union (EU). The EU's directive to ban the sale of combustion engine vehicles by 2035 is accelerating the shift towards electric and hybrid vehicles, reshaping the industry's landscape. This regulation has a significant impact on the automotive industry, particularly in France, where more than 90% of new vehicles sold in 2018 were internal combustion engines. By examining the interplay between economic indicators and consumer preferences, the study aims to uncover the underlying dynamics driving the adoption of combustion, electric and hybrid engines. Using time series models like SARMAX-GARCH [1–3] or MS-ARX [4], the study examines the impact of both endogenous and exogenous variables on vehicle sales from 2010 to 2024. The results show that both internal and external variables affect passenger car registrations, with economic indicators having a different impact on each engine type.

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