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Assessing the Effectiveness of Tax Reduction Policies in Rejuvenating Indonesian Automotive Industry Productivity Post-COVID-19

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Abstract

This study examines the governmental strategy implemented by the Indonesian Government to mitigate the repercussions of the COVID-19 pandemic on the Indonesian automotive industry. The government introduced a policy involving tax incentives, particularly targeting domestic manufacturers producing automobiles. The primary objective of this policy was to sustain industry operations, albeit within limited capacities, amidst the challenging circumstances posed by the pandemic. The provision of these incentives was formalized through the issuance of PMK No 20/PMK.010/21, addressing Sales Tax on Luxury Goods for the Delivery of Taxable Goods Classified as Luxury, specifically pertaining to certain motorized vehicles, sponsored by the government during the fiscal year 2021. This study analyzes a comparative analysis utilizing the T-test methodology on car sales data prior to and subsequent to the implementation of the tax incentive policy. The data processing was executed through the Statistical Package for the Social Sciences (SPSS). The results of the incentive application analysis reveal a notable disparity in sales figures before and after the policy's enforcement. Thus, it is concluded that the tax incentives implemented by the government are effective in increasing car sales during the COVID-19 pandemic. Consequently, the government's policy measures not only yield advantages for entrepreneurs engaged in manufacturing but also extend benefits to the broader public as consumers. This underscores the practical impact of the policy, aligning with the realities observed in society thus far.

Keywords: Automotive Industry, COVID-19, Government Intervention, Policy, Productivity

Abstrak

Penelitian ini mengkaji strategi pemerintah yang diterapkan oleh Pemerintah Indonesia untuk mengurangi dampak pandemi COVID-19 terhadap industri otomotif Indonesia. Pemerintah memperkenalkan kebijakan yang melibatkan insentif pajak, khususnya ditujukan kepada produsen dalam negeri yang memproduksi mobil. Tujuan utama dari kebijakan ini adalah untuk menjaga operasi industri, meskipun dalam kapasitas terbatas, di tengah situasi sulit yang dihadapi oleh pandemi. Penyediaan insentif ini diformalkan melalui penerbitan PMK No 20/PMK.010/21, yang mengatur Pajak Penjualan atas Barang Mewah untuk Pengiriman Barang Kena Pajak yang Diklasifikasikan sebagai Barang Mewah, khususnya terkait dengan kendaraan bermotor tertentu, didukung oleh pemerintah selama tahun fiskal 2021. Penelitian ini menganalisis perbandingan menggunakan metodologi uji T pada data penjualan mobil sebelum dan setelah implementasi kebijakan insentif pajak. Pengolahan data dilakukan melalui Statistical Package for the Social Sciences (SPSS). Hasil analisis penerapan insentif menunjukkan perbedaan signifikan dalam angka penjualan sebelum dan setelah penerapan kebijakan. Sehingga, diperoleh kesimpulan bahwa insentif pajak yang diberlakukan oleh pemerintah efektif dalam meningkatkan penjualan mobil saat pandemic COVID-19. Oleh karena itu, langkah-langkah kebijakan pemerintah tidak hanya memberikan keuntungan bagi pengusaha yang terlibat dalam manufaktur tetapi juga memberikan manfaat kepada masyarakat umum sebagai konsumen. Hal ini menekankan dampak praktis dari kebijakan tersebut, sesuai dengan realitas yang diamati dalam masyarakat sejauh ini.

Kata kunci: COVID-19, Intervensi Pemerintah, Industri Otomotif, Kebijakan, Produktivitas

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INTRODUCTION

COVID-19 has emerged as a global health crisis, impacting countries worldwide, Indonesia included. The initial indications came from the World Health Organization (WHO) on December 31, 2019, highlighting a cluster of pneumonia cases with a novel origin in Wuhan City, Hubei Province, China, subsequently spreading beyond China's borders (Kufelová & Raková, 2020; Suwardi et al., 2021).

The COVID-19 pandemic drove the OECD economies into a deep economic crisis (Klein et al., 2021). International trade has declined significantly. Lockdown measures in the spring of 2020 forced many sectors to close down or to operate at a fraction of their standard capacity. Restrictions on international travel and increased border controls fuelled international trade costs. The virus resurgence in the autumn has led to new containment measures. While less strict than during the first wave, they drag on the economic recovery. Moreover, demand for goods and services plunged and will likely be subdued for longer, reflecting income losses and heightened uncertainty. World trade may have fallen by 10% in 2020 (Klein et al., 2021)

One of the business sectors affected is the automotive industry sector (Purwanto et al., 2020). In Indonesia, the automotive sector plays a vital role in economic growth and employment. The automotive industry is a cornerstone of the economy, significantly contributing to the national financial landscape. Presently, Indonesia hosts 22 companies engaged in the production of four-wheeled or larger motorized vehicles. This sector boasts an investment worth IDR 99.16 trillion, enabling a yearly production capacity of 2.35 million units and providing direct employment to 38.39 thousand individuals. Notably, the automotive industry's influence extends far beyond, impacting over 1.5 million people employed across its extensive industrial value chain (Kemenperin, 2019).

The impact of COVID-19 has significantly affected automotive manufacturing, leading to a substantial decline in vehicle demand (Hensley et al., 2021). This viral outbreak struck the automotive realm hard in 2020 (Lie, 2022). The automotive industry stands out as one of the most intricate sectors, as highlighted (Kannegiesser & Günther, 2014). Automobile manufacturing facilities experienced temporary closures, and automotive exhibitions were canceled due to social limitations imposed to mitigate the spread of the epidemic. The surge in unemployment rates, challenges in securing employment opportunities, and the economic downturn witnessed in Indonesia during 2020 further prompted individuals to prioritize purchasing essential goods and addressing health concerns rather than investing in new vehicles (Christopher W. Craighead, David J. Ketchen Jr., 2020). As elucidated earlier, this primary shift in consumer behavior stands as the pivotal factor contributing to the decline in car sales throughout 2020 as opposed to the preceding year. Based on data from the Association of Indonesian Automotive Manufacturers (GAIKINDO), wholesale car sales throughout the year 2020 amounted to only 532,407 units (Gaikindo, 2023). In contrast, in 2019, car sales reached 1,030,126 units. Comparing these figures with the data from 2019, there was a decrease of 13.87% in car sales in the year 2020 (Gaikindo, 2023).

The government's steps in handling the automotive industry during the COVID-19 pandemic are carried out by combining the use of the authority of laws and regulations, policy regulations, actions of government agencies and officials, as well as bureaucratic support as the policy implementing organ. These incentives encompass a range of measures such as subsidies for purchasing electric and hybrid vehicles (Caulfield et al., 2010; Chandra et al., 2010; Gass et al., 2014; Hardman, 2019; Jenn et al., 2013; Jensen et al., 2014; Kwon et al., 2018; Langbroek et al., 2016), implementing special taxes for these vehicles, adjusting gas taxes (Bjerkan et al., 2016), providing subsidies for clean fuels and energy (Beresteanu & Li, 2011; Irawan et al., 2018; Yeo et al., 2017), imposing taxes on particular emissions, reducing taxes on electric and hybrid vehicle purchases, waiving road use fees for these vehicles (Brand et al., 2013; Langbroek et al., 2016; Nanaki & Koroneos, 2016; Wang et al., 2017; Wee et al., 2018), offering discounts on electric tariffs,

exempting electric vehicle buyers from driver's license fees, and providing subsidies for charger installation (Kwon et al., 2018; O'Neill et al., 2019; Urrutia-Mosquera & Fábrega, 2021; Wang et al., 2017).

One of the policies taken to increase national economic growth, the Minister of Finance has issued Minister of Finance Regulation No. 20/PMK.010/21 concerning Sales Tax on Luxury Goods on Delivery of Taxable Goods Classified as Luxury in the Form of Certain Motorized Vehicles borne by the Government for Fiscal Year 2021 (hereinafter abbreviated as PMK No. 20/PMK.010/2021)(Lathif et al., 2021). PMK No. 20/PMK.010/21 is the government's support to increase people's purchasing power in the motor vehicle industry sector to encourage national economic growth (Lathif et al., 2021). To realize government support for the motor vehicle industry sector and the sustainability of the motor vehicle industry sector as a result of the COVID-19 pandemic, it is deemed necessary to provide sales tax incentives (Ma & Mayburov, 2021; Madani & Mas-guix, 2011; Sun et al., 2020) on luxury goods for the delivery of taxable goods classified as luxury in the form of certain motorized vehicles borne by the government. In Article 5 PMK No. 20/PMK.010/21 explained that the government holds PPnBM for the delivery of motorized vehicles. The 0 percent down payment discount policy or the relaxation of PPnBM turned out to have a positive impact on the car sales (Lathif et al., 2021). This can be seen in the number of Vehicle Order Letters (SPK) increase from each car brand affected by PPnBM. The positive impact is even believed to be not only at the beginning of the policy implementation. From 1 to 7 March 2021, the SPK for models that received relaxation experienced an increase of up to 233% compared to February 2021 (Gaikindo, 2023).

Similar industry policies to face unintended circumstances such as disease. The program on automotive exports in South Africa is positive and significant. In particular, (i) an enormous response to the program in terms of improved manufacturing exports occurs with a delay after the adoption of the law, suggesting that exports need time to react to the incentives fully; and (ii) in turn, the effectiveness of the tax incentives fades in time, reaffirming the common belief that tax incentives may affect some business decisions, particularly in the short run, but they are not a primary consideration for investors in the long run (Madani & Mas-guix, 2011). The same case occurred in Chile regarding tax incentives provided by the government to encourage sales. Individuals are more sensitive to autonomy and incentives in the case of electric vehicles than conventional/hybrid types. Likewise, results show that for an exemption from VAT payment and any sales and purchase tax, 72% of individuals would be willing to purchase an electric vehicle, and 76% of individuals would be ready to buy a hybrid car, waiting for an adequate incentive policy for it (Urrutia-Mosquera & Fábrega, 2021).

RESEARCH METHOD

This research is purely analytical. The main aim is to determine the effect of using government-borne PPnBM incentives and the difference in wholesale car sales before and after the provision of government-borne PPnBM tax incentives in automotive companies registered with GAIKINDO (Gabungan Industri Kendaraan Bermotor Indonesia). This research uses T-test analysis to analyze data. The t-test is used to compare the means of two groups using the t-distribution, which depends on the degrees of freedom of the sample, to determine if the test results are significant (Thukral et al., 2023). The use of the t-test in the research was chosen because it can compare the means of two groups to determine if there is a significant difference in wholesale car sales before and after the provision of PPnBM incentives.

This study uses a paired sample T-Test to analyze car wholesale data from Gaikindo. The data consists of wholesale cars from 2019-2021 by car type, including affordable energy, sedan, 4x2 type, and 4x4 type. The total data analyzed is 12 data. A quantitative approach and analytical

methods were used to arrive at research conclusions, and the calculations were made using SPSS (Statistical Product and Service Solution) version 23. The research stages were as follows:

T-test Difference Test Analysis

1. Normality Test
   In this study, researchers used the Shapiro-Wilk statistical test. The basis for making decisions on the normality test using Shapiro-Wilk is that if the significance value is < Research Alpha (0.05), then the data is not normally distributed; if the significance value is > Research Alpha (0.05), then the data is normally distributed.
2. Paired T-test
   It is a comparative test carried out on one paired sample. This test is used to compare the means of paired samples. The T-test used in the research was the Paired Sample T-Test.

RESULTS AND DISCUSSION

The Influence of the COVID-19 Pandemic on the Automotive Industry

Since the onset of the COVID-19 pandemic, the automotive industry in Indonesia has experienced serious impacts, including a significant decline in car sales. Social limitations, decreasing consumer purchasing power, and economic uncertainty are among the main factors affecting this decline. To address the negative impacts of the COVID-19 pandemic, the Indonesian government implemented tax incentive policies in the form of exemptions or reductions in PPnBM for certain motor vehicles. This policy aims to stimulate demand and support the automotive industry in facing the economic challenges.

The research was carried out by analyzing Gaikindo sales data on 4 types of cars, namely, Sedan, 4X2 type, 4X4 type, and Affordable energy saving cars with CC<1500. In the 2019–2021 period, there were significant fluctuations in car sales due to the pandemic. Table 1 shows sales data for the four types of cars in Indonesia.

Table 1. Total Wholesales Sedan, 4x2, 4x4, and Affordable Energy-Saving Cars in Indonesia from 2019 to 2021

Type of Cars	Total Sales (Unit)		
	2019	2020	2021
Sedan	1.751	1.106	1.886
4X2	442.636	213.228	395.825
4X4	552	999	803
Affordable Energy-Saving Cars	217.454	104.650	146.520

Table 1 shows that there has been a decline in car sales for the Sedan, 4X2, and Affordable energy-saving cars which are still low due to the increase in COVID-19 in Indonesia which has made people choose to use their money to meet basic needs rather than using it to buy a new car. Efforts to stabilize the economy in the manufacturing sector, especially in the automotive sector, began with the issuance of a tax incentive policy for sales tax on luxury goods, namely Minister of Finance Regulation no 120/PMK.010/2021 concerning Sales Tax on luxury goods which is valid for 10 months starting in March 2021 to December 2021. So, car sales will increase again in 2021 in line with the implementation of sales tax incentives on luxury goods in the manufacturing industry during the COVID-19 pandemic. It is hoped that the PPnBM incentive program borne by the government will increase sales of new cars. To be able to see whether or not the implementation of the PPnBM incentive program organized by the government for 10 months from March 2021 to December 2021 has been successful in increasing car sales, you can see from the car sales table after the implementation of the PPnBM incentive program. We can see from Table 2.

Table 2 Total Wholesales Sedan, 4x2, 4x4, and Affordable Energy-Saving Cars in Indonesia from Before Incentive Tax and After Incentive Tax

Type of Cars	Before PPnBM Incentive (Unit)	After PPnBM Incentive (Unit)
Sedan	1.019	1.552
4x2	142.591	360.879
4x4	678	757
Affordable Energy-Saving Cars	73.189	124.864

Table 2 shows the number of sedan units before the PPnBM incentive was 1,019, and after the incentive, it became 1,552 units. The number of 4x2 car units before the PPnBM incentive was 142,591, and after the incentive, it increased to 360,879 units. The number of 4x4 car units before the PPnBM incentive was 678; after the incentive, it became 757 units. The number of affordable energy-saving car units before the PPnBM incentive was 73,189; after the incentive, it increased to 124,864 units. With the PPnBM incentive in place, there has been a significant increase in the number of car units for each type, indicating the positive impact of the incentive on the car market.

T-Test Result

The data normality test can be seen from the statistical test carried out using the Shapiro-Wilk Test, which can be seen in Table 4.

Table 3. Normality Test

	Shapiro-Wilk		
	Statistic	df	Sig.
Before	.865	4	.280
After	.833	4	.174

This data describes the results of normality tests using the Shapiro-Wilk test for two data groups, namely before and after the incentive provision. Here is the interpretation of the normality test results:

1. Before the Incentive:
   a. The significance value (Sig.) from the Shapiro-Wilk test for the variable before the incentive is 0.280, which is greater than the set significance level (0.05).
   b. Because the significance value is greater than the set significance level (0.280 > 0.05), it can be concluded that the research data for the variable before the incentive is normally distributed.
2. After the Incentive:
   a. The significance value (Sig.) from the Shapiro-Wilk test for the variable after the incentive is 0.174, which is also greater than the set significance level (0.05).
   b. Since the significance value is greater than the set significance level (0.174 > 0.05), it can be concluded that the data in this study is also normally distributed after the incentive provision.

Thus, both data groups, before and after the incentive, can be considered normally distributed based on the Shapiro-Wilk test results conducted. A paired Sample T-Test is a parametric test that can be used on two paired data. The following are the results of the paired sample t-test:

Table 4. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair	Before - After	-6065.73333	6691.60738	1221.71477	-8564.42059	-3567.04607	-4.965	29	.000

Based on the results of the Paired Samples T-Test conducted in Table 4, we can conclude the following:

1. The average difference between the data before and after the implementation of PPnBM is -6065.73333, which means that there is a decrease in value between the data before and after the implementation of PPnBM.
2. The t-statistic value generated is -4.965, with degrees of freedom (df) of 29. This two-tailed test's significance value (Sig.) is 0.000, which is much smaller than the typically set significance level (0.05). This indicates a significant difference between the data before and after the implementation of PPnBM.
3. The 95% confidence interval for the difference between data pairs is from -8564.42059 to -3567.04607. This indicates the range in which the actual values of the difference between the data before and after the implementation of PPnBM lie.
4. The significance value is 0.000, and the calculated t-value is -4.965. With these results, it can be seen that 0.000 < 0.05. Since the significance value < 0.05, it can be concluded that there is an influence from the use of PPnBM incentives on car sales.

Therefore, based on the results of the Paired Samples T-Test, we can conclude that the implementation of PPnBM has had a significant impact on the observed data, showing a significant decrease in data after the implementation of PPnBM. Thus, the Tax Reduction Policy has successfully increased car sales during the COVID-19 pandemic.

CONCLUSION

The tax reduction policy implemented by the Indonesian government to mitigate the impact of the COVID-19 pandemic on the national automotive industry has yielded positive results. This policy, primarily focused on domestic car manufacturers, aims to maintain industry operations despite limited conditions due to the pandemic. Through this policy, the government provides tax incentives outlined in PMK No 20/PMK.010/21, which significantly increased car sales after the policy's implementation. Analysis using the T-test indicates a significant difference in sales figures before and after the policy was implemented, indicating the positive impact of the incentive on the automotive industry. Thus, the government policy not only benefits manufacturing entrepreneurs but also provides benefits to consumers, aligning to stimulate national economic growth.

Limitations of this research include several aspects to consider. First, the study only considers wholesale car sales, thus excluding retail transactions that may provide different insights. Second, the research timeframe is limited only from March to December 2021; thus, it cannot capture long-term fluctuations in the automotive market. Third, the analysis uses a simple paired T-test method, which may need to account for other complex factors influencing sales.

For further research in the automotive industry, several areas can be explored. First, delving into it from the consumer perspective, focusing on buyer preferences, including reliability, comfort, and price. Furthermore, research on the latest vehicle technologies, such as autonomous vehicles and electrification, will better understand the industry's development direction. Additionally, there are benefits in exploring the impact of environmental regulations on vehicle

design and marketing strategies. Considering these aspects, further research is expected to provide deeper insights into the modern automotive market and its future direction.

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