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MACROECONOMIC ANALYSIS OF SWITZERLAND AND JAPAN ECONOMIES

The macroeconomic analysis of the Swiss and Japanese economies involves the study of various indicators and factors that influence their overall economic performance. Some of the key areas of analysis include GDP growth, inflation, unemployment, exchange rate, fiscal policy, and trade balance.

GDP growth is the main indicator of economic activity and productivity. A regression analysis was conducted to compare the GDP growth rates of Switzerland and Japan (2000-2022). The analysis focused on key indicators such as GDP, which serves as a measure of economic development, along with other important macroeconomic factors. The following regression model was built, which has the following general form:

$$GDP_t = a + \beta_1 C_t + \beta_2 I_t + \beta_3 G_t + \beta_4 Xn_t, \quad (1)$$

where C is private consumption expenditure, which includes the total value of goods and services purchased by households within the country; I is gross investment, which is the total amount spent on business investment in the country; G is government spending, which is the amount spent by the government on public goods and services, including spending on infrastructure, defense, education, health care, etc; Xn is net exports or trade balance, which is the difference between exports and imports, reflects the contribution of international trade to the country's GDP.

Results of the regression model for Switzerland (calculated by authors using data [1]):

$$\begin{gathered} GDP = const + 0{,}690c + 0{,}237i - 0{,}039g + 0{,}126x \quad (2) \\ (-3{,}522^{***})\ (31{,}104^{***})\ (17{,}717^{***})\ (-1{,}889^{*})\ (20{,}017^{****}), \\ R^2 = 0{,}97. \end{gathered}$$

The model's outcomes suggest that private consumption expenditures are the key driver of GDP, implying that an uptick in these expenditures positively correlates with GDP growth. Both gross investment and net exports also contribute positively to GDP. On the other hand, government spending's impact on GDP growth is unclear due to an insignificant and statistically negligible coefficient. This emphasizes the crucial role of private consumption expenditures, gross investment, and net exports in grasping GDP fluctuations and determining economic performance. The overall model conveys that enhancing business investments and private consumption, alongside active foreign trade, can elevate a country's economic development.

Results of the regression model for Japan (calculated by authors using data [1]):

$$\begin{gathered} GDP = const + 0{,}899\,c + 0{,}195i - 0{,}004g + 0{,}121x \quad (3) \\ (-0{,}735)\ (266{,}570^{***})\ (134{,}375^{***})\ (-1{,}432)\ (1{,}554^{***}), \\ R^2 = 0{,}96. \end{gathered}$$

The results of the regression analysis show that an increase in private consumption expenditures and gross investment has a positive effect on GDP, while an increase in government spending has a negative effect. In addition, an increase in net exports will also have a positive impact on GDP.

Both models have high values of the coefficient of determination, indicating a strong relationship between the independent variables and GDP in both countries. When analyzing the coefficients of the models, the following differences can be observed: in the Swiss model, private consumption expenditures (0.690) and gross investment (0.237) are more pronounced, and there

is a negative contribution of government spending (-0.039). The Japanese model has a larger contribution to GDP from private consumption expenditures (0.899) and small positive contributions from gross investment (0.195) and net exports (0.121), while government spending has almost no effect on GDP (-0.004). Thus, the second model has a more pronounced contribution of the private sector to the economy, as well as the contribution of exports, while the first model has a more pronounced contribution of investment and public spending.

Based on the results of the regression analysis, it can be concluded that both Switzerland and Japan have strong economies where private consumption expenditures and gross investment play an important role in stimulating GDP growth. However, the structure of the economy and the impact of government spending differ between the two countries.

The results of the regression analysis show that in the Swiss model, all four factors - private consumption expenditures, gross investment, government spending, and net exports - have a statistically significant impact on GDP. This indicates the importance of all these factors in the economic development of Switzerland. In the Japanese model, government spending does not have a statistically significant impact on GDP. At the same time, private consumption expenditures, gross investment, and net exports have a positive and statistically significant impact on GDP. This indicates that in Japan, public spending is less important for economic development compared to other factors.

REFERENCES:

1. Official website of the World Bank. GDP, Consumption, Investment, Government Spending, Exports, Imports (billion dollars. U.S.): веб-сайт. URL: https://databank.worldbank.org/home