

# Domestic Saving, Credit Ratio, Money Supply Ratio, and Economic Growth in Germany

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## Abstract

This study's goal is to examine the effects of domestic saving, credit, and money supply on long- and short-term economic development in Germany throughout times of crisis and not-crisis, namely from 1990 to 2021. This study uses a research period from 1990 to 2021 using data from the European Central Bank (ECB) to investigate the causal relationship between the domestic saving, credit, and money supply on economic growth in Germany. This study uses a quantitative method using Error Correction Model (ECM) analysis. We found that Germany's economic development may be slowed by an increase in the percentage of money in circulation there. Short-term German economic development is supported by the country's variable bank credit ratio. On the other hand, over time, the German bank credit ratio actually slows down the country's economic expansion. German economic growth is influenced both short- and long-term by the domestic savings ratio variable.

**Keywords:** Money Supply, Credit Ratio, Domestic Saving, Economic Growth

**JEL Classification:** C01,C15,E01,E02

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## Background

Monetary depreciation does not depend on a basket of goods or the price of oil, but on an excessive expansion of the money supply in relation to production, or more generally as a country's total economic output or currency area (Doan Van, 2020). If money circulation increases at the same rate as a country's economic output, everything balances out, so to speak, and theoretically there is no depreciation of money, because all new money is accompanied by new economic goods (Girdzijauskas, Streimikiene, Griesiene, Mikalauskiene, & Kyriakopoulos, 2022). However, if the money supply increases faster than the new economy's supply of goods, more money is distributed among existing goods and services, the prices of which will sooner or later rise (Anser, Khan, Zaman, Nassani, Askar, Abro, & Kabbani, 2021). If the prices of goods increase in general, and not just the prices of individual products, this is called inflation. Inflation is the excessive expansion of the money supply, for which it is primarily responsible through interest rate policy (Iddrisu, & Alagidede, 2020).

Annual economic growth is picking up in most advanced industrialized countries, despite the increasing negative impact of the deepening economic and financial crisis in Asia and other developing countries (Song, Chang, & Gong, 2021). However, it varies greatly from country to country to what extent domestic demand is able to compensate for the effects of a slowdown in trade. Against a backdrop of accommodative economic policies, low inflation rates, supportive credit conditions, a strong stock market, and relatively strong job growth, household spending has been the main driver of increased domestic demand over the past year in countries that have

gone through external shock. In some cases, personal household savings rates have fallen to an all-time low (Pomarici, Corsi, Mazzarino, & Sardone, 2021). The favorable climate in the financial markets and the significant increases in profits and profitability have also encouraged commercial fixed investment in these countries (Chang, Zeng, Wang, & Wu, 2019). Further declines in the relative prices of capital goods and increasing international pressure to cut costs and improve efficiency provided additional impetus, especially for equipment investment (Free & Hecimovic, 2021).

Throughout 1998, economic development in advanced industrial countries was increasingly affected by recession and financial market turmoil in developing countries (Erokhin, Endovitsky, Bobryshev, Kulagina, & Ivolga, 2019). However, the degree and channel of transmission of this influence varies widely between countries and industries, depending on the nature of the economic relationship with the market in question, the stage of the domestic economy, developments in exchange rates and, finally, economic policies. response. Overall, advanced industrial countries recorded an increase in terms of trade last year (Sun, Qin, Taghizadeh-Hesary, Zhang, Mohsin, & Chaudhry, 2020). However, net exports declined as real export growth slowed and lower import prices kept import volumes strong. In addition, although net exports and trade exchange rates are neutral in terms of aggregate income and activity, there are large shifts between economic sectors, complicating policy decisions. In particular, sectors exposed to international competition have faced downward price pressures and weaker demand, while lower import prices have benefited households and firms, whose sales are concentrated in the generally less competitive domestic market (Chong, Li, & Yip, 2021). This difference is also reflected in the confidence indicator. Consumer sentiment improved in almost all countries, while business confidence fell. This was especially the case in the second half of 1998, when the slowdown in export demand and competition from cheap imports were most pronounced (Kitrar, 2021; Widarni & Bawono, 2023). This study's goal is to examine the effects of domestic saving, credit, and money supply on long- and short-term economic development in Germany throughout times of crisis and not-crisis, namely from 1990 to 2021.

**Research Method**

This study uses a research period from 1990 to 2021 using data from the European Central Bank (ECB) to investigate the causal relationship between the domestic saving, credit, and money supply on economic growth in Germany. We use the econometric equation as follows:

$$GDP_t = \beta_0 + \beta_1 Ms_{t1} + \beta_2 Cr_{t2} + \beta_3 Ir_{t3} + e_t$$

GDP is the change in the total amount of goods and services produced nationally in a period of time. Ms is the change in the money supply over a period of time. Ir is the domestic saving in the time period. This study uses a quantitative method using Error Correction Model (ECM) analysis.

**Results and Discussion**

We conducted short-term testing with the test results presented in table 1.

**Table 1.** Results of Short-Term ECM Estimation

Name	coefficient	t-statistics	probability
C	0.002121	0.022111	0.0526

<b>MS</b>	-0.071249	-7.017121	0.0001
<b>Cr</b>	0.082113	1.012322	0.0171
<b>IR</b>	0.056117	2.052611	0.0001
<b>U(-1)</b>	-0.011049	-3.022115	0.0002
<b>Adj. R-squared</b>		0.811711	
<b>Prob.F-statistics</b>		0.000001	

The short-term ECM test findings demonstrate the impact of the money supply ratio variable on economic growth. In the near run, the money supply ratio is bad for economic growth. In the meanwhile, domestic deposit ratios and bank credit ratios have a favorable and considerable impact on economic expansion. The money supply ratio, bank credit ratio, and domestic savings ratio are three independent factors that have a short-term impact on economic growth.

**Table 2.** Results of Long-term ECM Estimation

<b>Name</b>	<b>coefficient</b>	<b>t-statistics</b>	<b>probability</b>
<b>C</b>	6.112112	12.62112	0.0001
<b>MS</b>	-0.411212	-3.22112	0.0001
<b>Cr</b>	0.017211	0.822112	0.0602
<b>Ir</b>	0.043311	0.551213	0.0000
<b>Adj. R-squared</b>		0.792231	
<b>Prob.F-statistics</b>		0.000001	

Over time, the variable money supply ratio has an impact on economic growth. The money supply ratio is harmful to economic growth over the long run. Over time, the ratio of domestic savings has an impact on economic growth. The bank credit ratio variable, however, does not appear to have an impact on GDP. According to the short- and long-term test findings utilizing the Error Correction Model (ECM), the domestic savings ratio variable has a favorable and considerable impact on economic growth in Germany. The findings of this investigation support the Harrod-Domar hypothesis. Investments, according to Harrod-Domar, will eventually raise capital stock.

**Conclusions**

Germany's economic development may be slowed by an increase in the percentage of money in circulation there. Short-term German economic development is supported by the country's variable bank credit ratio. On the other hand, over time, the German bank credit ratio actually

slows down the country's economic expansion. German economic growth is influenced both short- and long-term by the domestic savings ratio variable.

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