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# Model for Economic Security Assessment

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## Abstract

The problem of measuring the economic security of a country is a complex topic with an ongoing research since there are a number of factors with different characteristics that should be taken into account. The goal of the research is to suggest a model for economic security assessment based on public available data from official sources like EUROSTAT or national databases. The main assumption is that economic security is directly proportional to the economic development. Based on this assumption the economic security could be assessed using measurements for economic development such as GDP, GDP per capita, inflation, unemployment, budget deficit, government debt, net export, etc. A model is provided giving 7 indicators of economic growth and referencing values that if achieved and sustained for a longer period of time should provide a higher level of economic security. Based on the referencing values and comparison with other countries the model could be used for assessing the current level of economic security of a country.

**Keywords:** Economic security, GDP, Inflation, Unemployment, Deficit, Debt, Growth.

## Introduction

An important element of a country's national security is its economic security. In the aftermath of the Cold War, the security focus has increasingly shifted from military power to economic power. However, the two should not be regarded as independent concepts as military power provides a security product that creates conditions for the development of the economic power of the state, but on the other hand economic power determines the resources available for the development of the defense and security sector. The economic power depends on the state of education, health, transport, infrastructure, science, culture, social policy and internal security, which determine the welfare of a country.

Economic security is often associated with financial security - the availability of resources and sustainable revenues, both financial and non-financial, in order to maintain a particular way of developing the country in the long run. Free market competition has emerged as a model for organizing the economy of most countries, where companies have a leading role and everyone is free to own private property and grow their own (private) business according to their capabilities and development prospects. Despite this model, the state must have a strong planning and regulatory function, and through the three authorities - legislative, executive and judicial - establish and control the conditions and rules for the functioning of public spheres, including the business environment, and at the same time play a leading role in planning and socially equitable provision of public goods.

From what has been said here, it can be concluded that economic security is the maintenance of the ability to overcome the negative factors of the environment and use the positive ones so as to ensure the economic development of the state.

Basically, the research assumes that economic security is directly proportional to the economic development. The goal is to suggest a model for assessing economic security based on available official statistics that can be accessed on public databases like EUROSTAT or national databases.

## 1. Measuring Economic Development

In order to provide a better basis for the justification of decisions in each activity, indicators for current phenomena, actions taken and results achieved are sought. The economy is a field that has a wide range of such indicators - gross domestic product, gross national product, unemployment, inflation, government debt, consumer price index, interest rate and more. Each meter has its own advantages as well as a number of disadvantages, which are the reason to look for better and better ones. Appropriate examples in this regard are the UN Human Development Index, the Nordhouse and Tobin Measure of Economic Welfare, the World Bank's Genuine Savings Indicator, and the GPI - Genuine Progress Indicator) and more. Since economic development is the consequence of pursuing the right policy, it must be based on appropriate measures that will allow the right objectives to be set and the results achieved to be taken into account. The use of incorrect or inaccurate meters can lead to the wrong direction of economic development policy and have undesirable consequences. According to John Galbright and his book The Great Crash 1929, the lack of reliable benchmarks, combined with misguided theoretical knowledge, led to deterioration rather than an improvement in the aftermath of the 1929 US crisis. The same phenomenon repeats itself almost a century later when inaccurate valuations of securities backing up mortgage loans in the US lead to the 2008 economic crisis. Wrong metrics and misjudgements can lead to a false sense of security, which is a prerequisite for a wrong policy and negative consequences (Jacobs, Slaus, 2010) . Measuring economic security remains a problem for further research.

## 2. GDP and Economic Security

Economic security is linked to the economic growth of a country. It cannot be stated that a country is economically secure in the presence of high inflation, high unemployment, low population incomes, high government debt, low GDP, lack of a state budget to cover the state's obligations to sectors such as healthcare, education, social activities, public transport, etc. Economic growth is a prerequisite for enhancing the security and well-being of each country, but it can also be a prerequisite for a crisis in the long run.

GDP is used as a measure of a country's economic power. GDP per capita is often used as a measure of the standard of living in an economy, although it hides uneven distribution of income among the population. From what has been said, it can be argued that high GDP and its growth are prerequisites for economic security. But excessively high GDP growth is a prerequisite for an economic crisis. It is essential to monitor the rate of GDP growth. Excessive growth will lead to rapid depletion of production resources, as well as increased inflation and negative effects on the economy. Very often, GDP growth is associated with the accumulation of debt and the excessive consumption of a country's natural resources. Expenditure on restoring the ecological balance distorted by industrialization increases GDP; in the case of natural disasters, the costs of the services involved in overcoming the consequences are increased; the increase in crime increases the cost of investing in law enforcement agencies; epidemics increase health care costs. All these expenditures are classified as government purchases and increase the amount of GDP therefore GDP does not differentiate the factors that lead to progress from those that impede it.

Weak growth or negative growth is not good for economic security, but faster growth too. The question arises: "What kind of economic growth is good?" Following the example of US economic development, it is assumed that sustainable GDP growth is between 2.5% and 3.0%. The federal government perceives such a growth rate as sufficient to stimulate economic activity without unduly increasing inflation. Whether this is a sustainable growth rate for the US is a controversial issue, but certainly the stated interval between 2.5% and 3% may not be the right target for any economy. What is more important is to seek a growth rate that stimulates economic development but does not increase inflation too much. According to (Iliev, 2005), this percentage is between 2% and 2.5%, according to (the Journal for basic terms used within the educational process, UNWE, 2013) is between 3% and 4% and according to (Samuelson, Nordhaus, 1989) it is 3,5 %.

Potential GDP or natural GDP is the value of GDP that can be sustained over a long period of time and does not lead to a significant increase in inflation. Potential GDP is achieved through full utilization of available production resources. Full load should not be understood as 100% since there are always natural, regulatory or other limits.

GDP growth beyond its potential leads to the so-called "overheating" of the economy and the depletion of natural resources, at a faster rate than their recovery. Growing below the level of potential GDP means that not all production factors are used in the best possible way. Each economy for some reason is growing below the potential GDP. Since economic security depends on economic growth and GDP growth is taken as a measure of economic growth, it follows that in order to maintain its economic security a country should strive for GDP growth as close as possible to potential GDP.

## 3. Unemployment and Economic Security

Labor resources with their quantitative and qualitative characteristics and their use are a factor that can develop an economy or slow it down in the long run. An important indicator of a country's economic development is the unemployment rate. Employment is closely linked to economic growth because maintaining high unemployment for a prolonged period of time disqualifies labor resources and impedes future economic development. It is a prerequisite for impoverishment of the population and deterioration of political, economic, social and cultural values, and hence instability in the country.

In addition to employment, expressed in terms of number of employees only, the income earned by employees is essential. This indicator can be directly linked to the government's income policy. The aim is to provide sufficient income for the employed so that they do not fall below or near the poverty line and have the opportunity to maintain their qualifications, restore their ability to work, access to healthcare, education, culture, etc., which affects the motivation and quality of the workforce. For developed countries, apart from changes in family and cultural values, low incomes on the one hand and high standards of living on the other are some of the main causes of population decline, which is a prerequisite for exacerbating the problem of labor shortages. Exemplary instruments through which the state can influence the wage are the determination of the minimum wage threshold and the determination of minimum wages by major economic activities and qualification groups of occupations, while taking into account the purchasing power of money when forming these thresholds.

There is a perceived minimum threshold for natural unemployment, which has a positive effect on the economy. It is provisionally assumed that natural unemployment is around 5-6% (Iliev, 2005) )and is within frictional and structural unemployment (Friedman, 1968) and maintains stable inflation rates. Further job creation to reduce unemployment below its natural threshold will increase inflation. Raising wages puts a strain on businesses, reduces the competitiveness of the economy and raises inflation. In the absence of a depreciation of the national currency, or in the absence of such and maintaining minimum levels of inflation, a reduction in wages is a mechanism through which the state can increase its competitiveness and increase its solvency, but this should not be at the expense of excessive impoverishment of the population. The aim of a sustainable policy is to

maintain a level of unemployment and income that will maintain price stability and create conditions for economic development.

**4. Economic Security and Employees' Income**

In addition to employment, expressed in terms of number of employees, the income earned by employees is essential. This indicator can be directly linked to the government's income policy. The aim is to provide sufficient income for the employed so that they do not fall below or near the poverty line and have the opportunity to maintain their qualifications, restore their ability to work, access to healthcare, education, culture, etc., which affects the motivation and quality of the workforce. For developed countries, apart from changes in family and cultural values, low incomes on the one hand and high standards of living on the other are some of the main causes of population decline, which is a prerequisite for exacerbating the problem of labor shortages. Exemplary instruments through which the state can influence wages are the determination of the minimum wage threshold and the determination of minimum wages by major economic activities and qualification groups of occupations. A corresponding indicator could be the average salary in a country and how far it is from the poverty threshold but there is a major problem with judging based on such an indicator. A high average salary in a country does not mean that the income is well distributed among the people and some could earn a lot while others could earn very little. A better indicator could be the number of people living with income on or below the poverty threshold.

**5. Inflation and Economic Security**

Inflation is a key factor in the economic security of any economy and largely determines its functioning. High inflation leads to a depreciation of money, which means that one consumer will be able to buy less goods and services with his money than in previous periods. As a result, savings are depreciated and consumers impoverished and consumption shrinks.

High inflation has a strong deterrent effect on investors, whether individual, institutional investors or businesses. Price volatility and the fear of depreciation withdraw investors from investments in financial and production assets and direct them to investments in gold, gems, real estate and other commodities that are considered to be retaining their value over time. The outflow of large amounts of capital from manufacturing and the financial sector significantly limits economic development.

For banks as lenders, inflation leads to a depreciation of their assets - loans and has a positive effect on borrowers. In reality, a long-term hyperinflationary loan can be repaid within a few months' wages, making the bank insolvent. This effect is further compounded by the outflow of savings into financial assets - massive termination of deposits and other savings, which results in withdrawal of money from the banking system.

Deflation, although associated with price reductions, also has a negative effect on the economy. With deflation, the price of money rises and one consumer can buy more goods and services with their money than in the previous period. This leads to a holding back of consumption as everyone prefers to postpone the purchase for a while so they can buy cheaper. For the same reasons, businesses can delay their investments, thus holding back economic development. With the rise in value of money, borrowers in the face of business are beginning to pay more and more expensive loans in shrinking markets and declining cash flows, and with a longer fall in prices and limited sales, they run the risk of insolvency.

As inflation rises, output produced in a given country becomes more expensive, reducing its competitiveness in international markets. On the other hand, as inflation decreases, competitiveness increases, but so does sovereign debt as a percentage of GDP, as the overall level of market prices declines and, consequently, GDP decreases. The contradiction between competitiveness and sovereign debt is a problem facing a number of EU countries, as increased competitiveness is a prerequisite for getting out of the crisis faster, but reduced debt provides resilience in times of economic crisis.

How much should inflation or deflation be? Inflation is a sign that the economy is growing, but too much growth is not having a positive effect. In some situations, low inflation or even deflation can be as dangerous as high inflation. The lack of inflation may mean that the economy is weakening. In order to avoid economic stagnation and avoid delaying investment, the European Central Bank assumes that price stability is achieved by annual inflation of around 2% (European Central Bank, 2001). The reason is that this is considered to be a level sufficient to stimulate consumption and business activity.

## 6. Budget Deficit and Economic Security

General government deficit is defined as the balance of income and expenditure of government, including capital income and capital expenditures. "Net lending" means that government has a surplus, and is providing financial resources to other sectors, while "net borrowing" means that government has a deficit, and requires financial resources from other sectors. This indicator is measured as a percentage of GDP.

In cases where a budget deficit is identified, current expenses exceed the amount of income received through standard operations. A nation wishing to correct its budget deficit may need to cut back on certain expenditures, increase revenue-generating activities, or employ a combination of the two. One of the primary dangers of a budget deficit is inflation, which is the continuous increase of price levels. Budget deficit can cause the state through the central bank or corresponding institution to release more money into the economy, which in turn feeds inflation.

Budget deficit may occur as a result of unforeseen situation like crisis response, war etc. or it could be caused by a certain state policy to increase government spending in order to support some economic activities or sectors. For example, the government

may decide to generate deficit and use it for increasing the defense spending or supporting the agriculture, thus boosting the economic activity of all related sectors. In other words, the deficit could be used for boosting the economy, but such a decision should take in to account the negative effects of inflation if the deficit increases too much and deteriorating the business environment in a country by making certain economic activities a lot more favorable than others. If a certain industry suddenly becomes more profitable private entrepreneurs will divest capital from other businesses and move them to the supported industry. If such a tendency is kept for a long time the economy may lose competitiveness in key industries and then they will need support, which in turn will increase the deficit further and further and will create additional imbalance in the economy.

A certain amount of deficit may be necessary for each economy but how much depends on the geopolitical and economic environment of the country. If the deficit ratio stays below a critical level, then there are two steady states where capital, output, and public debt grow at the same constant rate. An increase in the deficit ratio reduces the growth rate (Brauninger, 2005). To set up a referencing value this research will use the Euro convergence criterion – government deficit cannot be higher than 3% of GDP.

## 7. Government Debt and Economic Security

Government debt contrasts to the annual government budget deficit, which is a flow variable that equals the difference between government receipts and spending in a single year. The debt is measured at a specific point in time, and it is the accumulation of all prior deficits. Government debt can be categorized as internal debt that is owed to lenders within the country and external debt that is owed to foreign lenders. Another common division of government debt is by duration until repayment is due and it is divided in long-term or short-term. Government debt-to-GDP ratio measures the gross debt of the government as a percentage of GDP. It is a key indicator for the sustainability of government finance.

Good utilization of government debt results economic development. It also allows the government to support certain policies and achieve certain goals. Debt becomes a problem if debt-servicing capacity does not keep up with growth of debt. This may also be expressed as debt exceeding sustainable levels. Unsustainable levels of debt have repercussions for an economy in the form of re-allocation of resources from valuable social and economic sectors towards debt servicing at a certain time when debt is due. There is a non-linear impact of debt on growth with a turning point – beyond which the government debt-to-GDP ratio has a negative impact on long-term growth – at about 90–100% of GDP. Confidence intervals for the debt turning point suggest that the negative growth effect of high debt may start already from levels of around 70 to 80% of GDP (Checherita – Westphal, Rother, 2012).

Just like deficit, a certain amount of debt may be necessary but as stated above this amount should be monitored prudently. Since the different countries may plan differently according to their geopolitical and economic environment to set up a referencing value this research will use the Euro convergence criterion – government debt cannot be higher than 60% of GDP.

## 8. International Economic Relations and Economic Security

Due to the processes of globalization and the increasingly open and dependent economies of individual countries, economic security is linked to the dependence of the country's economic growth on international relations. A country's participation in certain unions may be a prerequisite for closing traditional markets for its goods and services. This is especially true for the military industry and trade in dual-use items. On the other hand, this may be a favorable opportunity to enter new markets.

Economic security requires ensuring the competitiveness of the national economy in the global economic space by developing competitive advantages in priority sectors. An indicator could be the country's net export. When it is positive, it means that the state earns more from export than it spends on import and therefore its goods and services are competitive on the international market.

An important part of international relations and their relationship with economic security is the dependence on import of resources. Although there is no fully independent economy in terms of resource availability, it is essential for economic security that this dependency is not on a single provider and as low as possible. Since such an indicator could not be assessed by using data from publicly available official sources and databases it should not be included within the current model for economic security assessment.

## 9. A Model for Economic Security Assessment

Considering the above stated the following model could be derived:

Table 1. Model for Economic Security Assessment

| № | Indicator | Reference value |
|---|---|---|
| 1 | GDP Growth | 2,5% – 3,5 %. |
| 2 | Inflation | 1% – 2%. |
| 3 | Unemployment | 5% – 6% |
| 4 | Employees income | 0% population with income at or below the poverty threshold |
| 5 | Budget Deficit | Less than 3% of GDP |
| 6 | Government Debt | Less than 60 % of GDP |
| 7 | Net Export | Positive |

## Conclusion

The 7 derived indicators for assessing economic security are based on the assumption that economic security is directly proportional to economic growth. The study does not include indicators such as the United Nations Human Development Index, the Nordhouse and Tobin Measure of Economic Welfare, the World Bank's Genuine Savings Indicator, and the GPI - genuine progress indicator), Human Happiness Index and others, as the purpose is to use the most widely accepted indicators of economic development and available data in public databases.

Reaching the reference values of all 7 indicators together and maintaining them for a long period of time is difficult, but the model sets a goal to guide the economy in order to maximize economic security of the country. To apply this model to a separate country will give certain results and recommendations. To really assess the economic security of a country through this model it would be better to compare the results of the targeted country with the results of other countries. For example, to assess the economic security of an EU member country it would be better to apply the model for all countries within the EU and then compare. All the necessary data is available in the EUROSTAT database but the limitations of each indicator should be taken into account when interpreting the results. For example, a country may have a positive net export but may be highly dependable on import of strategic resources or the deficit and the government debt could be within the reference values but this might be as a result of slow development.

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