sources and technical approaches of analysis; comparability of fixed tangible assets profitability with industry level, .analysis of fixed tangible assets profitability factors; evaluation of factors level; systematization of information on profitability of fixed tangible assets; decision on fixed tangible assets.

1. Bernstein L. Financial Statements Analysis. – Boston: Irwin, 1993. – 685 p. 2. Įmonių finansinės būklės vertinimo rodikliai 2000 – 2003. – Vilnius: Public company "Researches of statistics", 2004. – P. 8-9. 3. Lewis R., Pendrill Advanced Financial Accounting. – London: Pitman Publishing, 1994. – P. 363 – 367. 4. Mackevičius J. Įmonių veiklos analyze. Informacijos rinkimas, sisteminimas ir vertinimas. – Vilnius: TEV, 2007. – 510 p. 5. Mackevičius J., Poškaitė D. Turto pelningumo analizės metodikos // Organizacijų vadyba: sisteminiai tyrimai, 1999. – Vol. 9 – P. 65-78. 6. Palepu K.C., Healy P.M., Bernard V.L. Business Analysis and Valuation Using Financial Statements. – Thomson, South-Western, 2004. 7. Subačienė R., Villis L.. System of Analysis of Total Liabilities to Total Assets Ratio // Economics, 2010. – Vol. 89 (2) – P. 120-129. 8. Statistical databases [On-line] // Statistics Lithuania: [web-page]. – Access at: http://www.stat.gov.lt/en /pages/view/?id=1350. 9. Wilson R., McHugh G. Financial Analysis. A Managerial Introduction – London: Cassell, 1993. – P. 69.

Надійшла до редколегії 05.05.12

JEL classification F32

A. Misiunas, PhD, Associate Professor,
R. Kregzdaite, Master of Economics,
Vilnius University

ASSESSMENT OF CONDITIONS FOR THE SUSTAINABILITY OF THE BALTIC STATES' BALANCES OF PAYMENTS

Одним з основних статистичних звітів, що відображають зв'язок зі світом, є платіжний баланс, аналіз якого дозволяє скласти думку про ефективність міжнародної економічної діяльності та побудови його в процесі формування економічної політики. З виявленням можливості займу на міжнародних ринках, країни можуть підтримувати дефіцит поточного рахунку; однак, це збільшує зовнішній борг, і країни, можливо, стикаються з валютними або борговими кризами. У статті розглядається міжчасова модель обмеження платоспроможності для поточного рахунку платіжного балансу; отримані та перевірені міжчасові умови обгрунтованості платоспроможності для Прибалтики.

Ключові слова: баланс виплат, поточний рахунок, міжчасова теорія платоспроможності, коінтеграція, стаціонарність.

Одним из основных статистических счетов, отражающих связь с миром, является платежный баланс, анализ которого позволяет составить мнение об эффективности международной экономической деятельности и составление его в процессе формирования экономической политики. С обнаружением возможности займа на международных рынках, страны могут поддерживать дефицит текущего счета; однако, это увеличивает внешний долг, и страны, возможно, сталкиваются с валютными или долговыми кризисами. В статье рассматривается межвременную модель ограничения платежеспособности для текущего счета платежного баланса; получены и проверены межвременные условия обоснованности платежеспособности для Прибалтики.

Ключевые слова: баланс выплат, текущий счет, межвременная теория платежеспособности, коинтеграция, стационарность.

One of the main statistical accounts reflecting the link with the world is the balance of payments, the analysis whereof allows making judgements about the efficiency of international economic activity and drawing upon it in the process of forming economical policy. With the opening up of possibilities to borrow on international markets, countries can maintain current account deficits; however, it increases external debt, and countries may be faced with currency or debt crises. The paper reviews an intertemporal solvency constraint model for the current account of the balance of payments; intertemporal solvency validity conditions for the Baltic States are derived and checked.

Keywords: balance of payments, current account, intertemporal solvency theory, cointegration, stationarity.

International links of each country are shown by the balance of payments and real exchange rate. In the accounts of the balance of payments, all country's economic links with other countries of the world are reflected, which allows making judgements about the efficiency of international economic activity and, on this basis, adjusting the economic policy process.

Economic openness poses a risk of large current account deficits. Countries can cover the current account deficit having borrowed funds on financial markets. However, a country that has borrowed funds to finance the current account deficit may face debt management problems and currency crisis. Meanwhile, if there is a possibility to borrow funds within the country, it is possible to maintain the desirable consumption and investment level and have a current account deficit that it is expected to be covered from the current account surplus in the future – when the economy is on the rise. It is the basis for one of the main views on the balance of payments – an intertemporal solvency constraint model. In the paper, the current accounts of the balances of payments of the Baltic States are assessed based on the conditions derived from the intertemporal solvency constraint model. The model was applied to three Baltic States – for the assessment of these countries' current account deficits.

Recently, as European countries faced the debt crisis, more attention has been paid to the size of a country's debt. The current account deficit is directly related to the growth in the public debt, and if a country does not have debt management problems in the future, the deficit may be considered as acceptable.

1. Intertemporal solvency constraint model

This model is based on an intertemporal choice approach to the sustainability of the balance of payments. From the point of view of this approach, saving and investment are conditioned by future expectations for productivity and interest rates, while the current account deficit is caused by intertemporal utility maximisation. Consumers try to maximise utility in all periods, and they do it by assessing income flows now and in the future. A country with a current account surplus produces more than it consumes, exports more than it imports; therefore, it can lend to the rest of the world. A country with a current account deficit borrows from the rest of the world because its imports exceed exports. An assumption is made that borrowing and lending are optimal; thus, countries behave rationally.

Based on a model proposed by C. Hakkio and M. Rush (1991), intertemporal budget constraint may be described as follows:

$$-B_t + \mathrm{r}_t D_{t-1} = D_t - D_{t-1} \quad (1),$$

where B – the budget deficit, r – the debt interest rate, D – the size of the debt.

As a rule, the values analysed are assessed in relation to gross domestic product (GDP). Therefore, the equation may be rearranged as follows:

$$d_t = \frac{(1+r_t)}{(1+\pi_t)(1+\eta_t)} d_{t-1} - b_t \quad (2),$$

where d – the size of the debt, as a percentage of GDP; π – inflation, per cent; η – economic growth, per cent; b – the budget deficit, as a percentage of GDP.

Let's modify the latter equation so as to include expectations based on the information (E) of the period t, and, for simplicity's sake, let's denote $\theta_t = r_t - \pi_t - \eta_t$.

Then, intertemporal budget constraint may be derived as follows:

$$d_t = E_t \sum_{k=0}^{\infty} \prod_{i=1}^{k} (1+\theta_{t+k})^{-1} b_{t+k} + E_t \sum_{k=0}^{\infty} \prod_{i=0}^{k} (1+\theta_{t+i})^{-1} d_{t+k} \quad (3)$$

The latter equation shows that the accumulated debt is equal to the current value of the present debt and the cash flows required for the administration of this debt (the coverage of interest).

Applying these intertemporal budget constraint conditions, S. Husted (2000) derives a model enabling the analysis of the sustainability of the current account. The model is created for a small open economy (which is applicable to the Baltic States) having access to international financing with certain interest. S. Husted replaces the budget deficit from the previously described model with the current account deficit indicator, the public debt – with the gross external debt, covering both the public and the private sectors. The current account indicator is broken down into the following main components: import and export flows, and intertemporal solvency constraint is described as follows:

$$X_t = \alpha + MM_t - \lim_{j \to \infty} \lambda^{t+j} B_{t+j} + \varepsilon_t, \quad (4)$$

where $MM_t = M_t + r_t B_{t-1}$ – aggregated imports and debt interest indicator, X – exports, M – imports, and $\lambda = \frac{1}{1+r}$.

If the limit of the equation approaches zero, the relation between the aggregated imports and exports indicators may be presented as follows: $X_t = \alpha + \beta MM_t + \varepsilon_t$.

In this model, X is the exports of goods and services, MM – an aggregated indicator formed of the imports of goods and services, net debt interest and net current transfers. From this model, the weak and the strong conditions for the assessment of the sustainability of the balance of payments current account deficit are derived.

2. Size of the current account deficit not increasing the debt

International financial institutions (IMF, World Bank) state that the acceptable current account deficit (CAD) is about 5 per cent of GDP. However, the model discussed above enable a more precise calculation of this value based on the country's economic situation in a certain period. By applying expression (2), one may calculate the CAD not increasing the debt for individual Baltic States. This model is based on the fact that the CAD is generally financed by loans from foreign investors, while foreign direct investment and non-repayable capital transfers account for a smaller part of financing. This is the reason why there is an assumption in the model that the CAD is only financed by loans.

The results of the calculations show that in 2011 the current account balance did not increase the gross accumulated debt in Latvia and Estonia because those countries had a current account surplus. In Lithuania, the actual CAD exceeded the calculated one; thus, the gross external debt was increased due to the current account deficit.

Based on the model parameters and CAD calculations for individual Baltic States (Table 1), we have determined that a larger CAD not increasing the debt is calculated for the countries with a larger accumulated public debt. However, a larger allowable CAD is allowed by a faster economic growth, higher real effective exchange rate and lower interest rates.

Table 1. **Size of the current account deficit not increasing the debt**

Country	CAD not increasing the debt	Actual CAD
Lithuania	-1.41	-3.8
Latvia	-3.26	1.2
Estonia	-1.07	4.2

*Source:*The calculations are based on the NSIs', central banks' and IMF's data.

Econometric analysis allows checking two intertemporal solvency conditions: the weak and the strong one. The previously derived intertemporal solvency model equation, defining the links between the indicators of exports and imports plus interest, reads as follows: $X_t = \alpha + \beta MM_t + \varepsilon_t$. This equation is valid only if β =1 and ε_t is a stationary process. Usually, economic indicators are not stationary, and if X and MM are non-stationary processes, they have to be cointegrated processes.

S. Husted proves that the discounted debt will be approaching zero only when 0< $\hat{\beta}$ <1. In the process of checking the weak condition, it is checked whether export and import indicators are cointegrated by a cointegration vector [-1, $\hat{\beta}$], where 0< $\hat{\beta}$ <1. Variables are considered to be cointegrated when they are non-stationary processes. Generally, they may be integrated processes of the first or higher order; however, their regression model remainders are stationary.

The weak condition for the assessment of intertemporal solvency may be explained by a long-term relation between the variables: changes in exports influence GDP, national income and demand. That is, if exports are growing, GDP, national income and import demand will be growing together with it. Imports also influence exports: foreign investment stimulate imports because equipment and investment goods are purchased. An increase in the imports of such – investment – goods increases productive capacity, which causes production, GDP and exports to grow.

An analysis of cointegration in the Baltic States showed that in all the three countries the indicators of imports and exports are non-stationary processes, characterised by deviations from process averages.

Cointegration relations are checked using the Engle–Granger procedure. The assessments carried out showed

that the indicators of imports and exports are cointegrated in Lithuania and Estonia; therefore, in these countries, there is a long-term relation between the indicators, they are characterised by a common trend and meet the weak condition for the validity of the sustainability of the balance of payments. The Latvian indicators of exports and imports are not cointegrated; thus, the weak condition for the sustainability of the balance of payments is not valid for this country.

In the process of checking the strong condition, the relation between the indicators of imports and exports may be put down as follows: $MM_t = EX_t + (B_{t-1} - B_t)$. We can see that MM and EX indicators will be cointegrated only when $(B_{t-1} - B_t)$ is a stationary process. $(B_{t-1} - B_t)$ is the indicator of the current account balance; hence, this condition is stricter than the previous one because the indicator includes not only the balance of trade in goods and services but also current transfers and income.

In the process of checking whether this condition is met, the assessment of the CAD indicator is performed by applying the augmented Dickey–Fuller (ADF) test for the assessment of a unit root hypothesis. After the ADF test had been performed for all three countries, we determined that CAD processes have a unit root; thus, they are not stationary, and the strong condition is not valid for these countries.

Conclusions

Model analysis showed that the main current account deficit sustainability assessment models are based on the intertemporal solvency theory, and the CAD analysis is performed based on those model expressions.

1. The current account sustainability assessment models are based on budget sustainability assessment models, when all flows into and from the country are treated similarly to budget revenue and income, while the CAD is also assessed similarly to budget deficit but, instead of general government transactions, all sectors' transactions with the rest of the world are included.

2. The main indicators for the assessment of the weak sustainability condition are imports and exports because they are important constituent variables conditioning the formation of the CAD.

3. The weak current account sustainability condition is valid in Lithuania and Estonia. In these countries, the indicators of imports and exports are cointegrated, are characterised by a common trend, and do not move away from each other a lot. It conditions the stability of the current account dynamics.

4. The strong current account sustainability condition does not satisfy the requirements due to considerable deviations from the period average for 2006–2008, when countries were having large CADs, and large surpluses in 2009–2010.

1. Hakkio, C.; Rush M. Is the budget deficit "too large"? Economic inquiry, 1991. – Vol. 29. – P.429-445. 2. Husted, S. The Emerging U.S. Current Account Deficit in the 1980: A Cointegration Analysis. The Review of Economics and Statistics. 1992. – Vol 74. – P. 159-166. 3. Holmes, M.; Otero, J; Panagiotidis, T. Are EU budget deficits sustainable? Department of Economics discussion paper series. [Online], University of Macedonia, July 2008, http://econlab.uom.gr/~econwp/pdf/wp0807.pdf

Надійшла до редколегії 05.05.12

JEL classification F21

A. Miskinis, Doctor, Professor,
Vilnius University

BUSINESS ENVIROMENT VS. INCENTIVES IN ATTRACTING FDI

Існуючий розрив в економічному розвитку в країнах Центральної та Східної Європи може бути зменшений за допомогою більш значних іноземних інвестицій. Для того, щоб залучити прямі іноземні інвестиції, уряди країн Центральної та Східної Європи намагаються покращити інвестиційний клімат та застосувати різноманітні стимули. Мета статті – порівняти ефективність таких дій та їх вплив на обсяги прямих іноземних інвестицій у регіоні.

Ключові слова: прямі іноземні інвестиції, ділове оточення, стимули.

Существующий разрыв в экономическом развитии в странах Центральной и Восточной Европы может быть уменьшен с помощью более крупных иностранных инвестиций. Чтобы привлечь прямые иностранные инвестиции, правительства стран Центральной и Восточной Европы стремятся улучшить инвестиционный климат и применить разнообразные стимулы. Цель статьи – сравнить эффективность таких действий и их воздействия на объемы прямых иностранных инвестиций в регионе.

Ключевые слова: прямые иностранные инвестиции, деловое окружение, стимулы.

The existing gap in economic development in CEE countries can be reduced with larger foreign investments. To attract FDI the CEE governments seek to improve investment climate and apply a variety of incentives. The aim of the paper is to compare the effectiveness of such actions and their impact on FDI volumes in the region.

Keywords: Foreign direct investment, business environment, incentives.

Most countries recognised the importance of foreign direct investments (FDI) for their economic growth and try to attract as many as possible by improving business environment and using diverse investment incentives. It is assumed that a business environment is a major factor making a country attractive for foreign investors. Riess [1] mentions regulatory and policy environment as the main driving factor for investors, Dicken [2] considers that country's attractiveness for foreign investors depends on government's policies – fiscal, monetary, trade, industrial – in creating attractive business environment. Some authors hold that FDI inflows are determined by production factor endowment. Dunning [2008] points to the availability of resources including natural resources, efficient and skilled low-cost labour force, while Sass [4] stresses market size and its growth prospects, privatisation, the role of private sector, the quality of infrastructure.

To make business environment more attractive governments have liberalized their policies, however, as most countries competing for FDI did the same it is not enough anymore just to relax investment regime. Low taxes or cheap labour are characteristic for a large number of developing and emerging economies and therefore it is necessary to bring forward for foreign investors additional stimuli hardly proposed by other nations. These stimuli include financial and other incentives provided solely to foreign investors.

Lithuania is not a leading country in attracting FDI despite that business environment is one of the most liberal among new EU member states. This gives a suggestion that for foreign investor business environment is less important than other factors including fiscal and financial incentives. Here is a contentious situation when in most international surveys Lithuania is treated as a country having