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THE GLOBAL FINANCIAL CRISIS AND ITS EFFECTS ON HUNGARY'S ECONOMY

The warning of a collapse occurred in early 2007, but the outbreak of the crisis were the events on August 2007. By March 2007, more and more individuals were unable to repay the loan and steadily increased the number of financial institutions with financial problems. On April there was the bankruptcy of New Century Financial, one of the leading subprime mortgage lenders. By July 2007 nearly 30 financial institutions were in bankruptcy because of debtors, who were unable to pay the mortgage loans [1, p. 70-74].

On August 6th, 2007 one of the largest independent U.S. companies in providing of housing loans, American Home Mortgage reported bankruptcy, and dismissed 7,000 employees. The real shock on the markets was three days later, made by the major French bank: BNP Paribas three, a total of 2 billion EUR worth of investment fund trading was suspended, saying they could not enhance the value of the fund's assets, because they have disappeared from the market. The announcement effect was almost within hours frozen the short-term credit market [2].

To relieve the pressures of the market, the European Central Bank (ECB), almost immediately, pumped 95 billion EUR into the euro zone banking system, and then a few days later was a further 109 billion EUR. The U.S. Federal Reserve Bank (Fed) and the Japanese central bank were playing similar steps [1, p. 70-74].

The beginning of September 2007 the size of ECB's intervention was amounted in 250 billion EUR. In the United States the Citigroup reported the loosing of 3.1 billion U.S. $, and an additional 5.9 billion U.S. $, thus during half a year achieved 40 billion U.S. $ loss [1, p. 70-74].

In the fourth quarter of 2007 the world largest banks and almost all brokerage houses - the U.S. Citigroup, Merrill Lynch, Lehman Brothers, Bank of America, Wachovia, the Swiss UBS and Credit Suisse - and even the world largest insurance company, AIG, reported a huge amount of write-offs [3].

September 2008 was known for the bankruptcy of Lehman Brothers. The world's fourth-largest U.S. brokerage house according to the Bloomberg announced the biggest failure and leaving behind more than 600 billion USD debts on 2008 September. The international stock markets began to fall, and the banks were not willing to land money even to each other.

The wave of the crisis reached the emerging countries, including Hungary, unexpectedly in the autumn 2008 - as most countries of the world. Central bank governor Andras Simor said that the bankruptcy of Lehman Brothers have shocked the developed world [4].

On October 9th, 2008 such major problems appeared in Hungary’s economy: in the afternoon the forint began to fall sharply, few minutes before closing of the stock exchange, the OTP shares began to dive and the government bond market dried up. As a consequence, 17.4 billion EUR reserves of the Hungary’s National Bank suddenly were not enough. The reserve requirements, according to the Central Bank president, crept up to 24 billion EUR, which in normal case the Hungarian government can cover with foreign borrowing [4].

Hungary received 20 billion EUR credit line, of which 6.5 billion EUR from the EU, the International Monetary Fund (IMF) issued 12.5 billion EUR, and the World Bank issued 1 billion EUR to the country's disposal.

The effect of that action: after the experience of low point on October 22 and 23, in the middle of November the forint strengthened by 5-10%; the Hungarian sovereign debt risk dropped almost to half of the government bond yields fell 150 basis points, i.e. the situation has stabilized somewhat [5], the country escaped the sovereign default.

In 2011 the economical growth slowed in contrast to 2010. As it was indicated by the IMF, the growth of the world economy was just 3,9%, lower than in 2010. Global growth significantly depends on the developing countries, while the fiscal imbalances, shrinking of the credit market, the inflation pressure and the southern European debt crisis inhibited growth. All these factors had an impact on the Hungary’s economy, as it is shown in the table below (Budapest Stock Exchange).

Table 1

Factors influencing the BUX index in 2011

Date	Factors
2011.02.01.	Elimination of mandatory private pension fund system
2011. February	Middle East unrest
2011.06.01./13.	Greece downgraded by Moody’s and Standard & Poor’s
2011.07.05./12.	Portugal and Ireland downgraded by Moody’s
2011.10.31.	Greek referendum announcement
2011.11.24.	Moody's downgraded Hungary's government bond rating by one notch to Ba1 from Baa3, and is maintaining a negative outlook
2011.12.21.	Sovereign-credit ratings were cut one step to BB+ from BBB- by S&P

Compared to other countries in the region, the Hungary’s economy lags behind. Almost all products became more expensive. The OECD and the European Commission have predicted that in 2012 the recession will probably be 1.2%.

Shortly after the beginning of the year, on February 2012, Hungary was forced to implant savings package. On July the Hungary’s government has introduced new taxes (tax on telephone and SMS), on December the excise tax was increased [7].

In order to restore economic stability, the government continues the restrictions in 2013. All of this, tax increases and introduction of new taxes, is built into the 2013 budget.

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THE COST OF CLIMATE CHANGE POLICY

Climate change (global warming) can be considered as one of the major environmental problems. However, the climate change policy is difficult and expensive. It requires a comparison of the costs and benefits, and a comparison of costs of action to diminish negative effects of climate change and costs of inaction [1]. The costs and benefits are uncertain. Moreover, they occur in different time periods.

The estimates of costs of mitigation of global warming are controversial. For example, according to one of the most famous and influential review of the economics of climate change – the Stern Review of 2006 – the cost of long-term actions to avoid worst impacts of climate change and reduce greenhouse gas (GHG) emissions would be approximately 1% of global GDP each year. It is the cost of achieving GHG stabilisation in the range of between 500 and 550 ppm CO_2e. N. Stern estimated also the cost of inaction. According to the report it would be at least 5% of global GDP per year. In other words, we will annually lose one twentieth of our income. The damage cost could be even higher (for example 20% of global GDP) if wider range of risks and impacts is taken into account [2]. As noted in the literature, majority of spending for climate change programs will come from developed countries [3].

W. Nordhaus of Yale University have analysed costs of various trajectories for reducing carbon dioxide emissions over the next years. According to his study, the net present-value global benefit of the optimal climate policy is $3.4 trillion relative to the baseline (uncontrolled case – no policy to reverse climate change). It is a relatively small amount – it corresponds to only 0.17% of the discounted value of total future income. The reduction targets have to be achieved by carbon tax. According to the study, the optimal tax rate per tonne of carbon (that is carbon price) should be $95 in 2050 and $207 in 2100 [4]. It corresponds to respectively $26 and $56 per tonne of carbon dioxide.

Carbon taxes (carbon charges) are climate change policy instruments which can provide a cost-effective distribution of mitigation efforts across different countries [5]. However, this would require an introduction of international uniform carbon tax which minimizes the total abatement cost. Currently, such taxes on carbon content of fuels or on carbon dioxide emissions are applied only in some European and non European countries. There are large differences in tax rates: for example in Poland the rate of the CO_2 charge is lower than 0,10 euro per tonne. The tax rate in Sweden is more than 100 euro per tonne of carbon dioxide.

Harmonised carbon taxes could be levied and collected by national governments [6]. The example of how such taxation harmonisation can be done is the 2004 EU energy tax directive which sets minimum tax rates for energy products [7]. Alternatively, such tax could be levied internationally. The tax revenues would be allocated to the special fund for GHG emissions mitigation programmes in selected countries.

The emission reduction targets can be also achieved by quantity instruments, particularly international cap-and-trade scheme. However, it seems that price instruments (international carbon tax)