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"FINANCIAL REPRESSION" – HOW TO FINANCE PUBLIC DEBT WITH PRIVATE MONEY

Abstract

As a result of subprime crisis, most major developed countries are at extraordinarily high debt levels. Some of them reached the level of public debt close to 100% of GDP. An additional problem is usually sustaining high level of budget deficit. Extreme imbalance of public budget can trigger the new crisis of the unprecedented scale.

To solve the problem, governments could try to reduce debt-to-GDP ratios by holding debt constant and stimulating increase of GDP. However, it would require dramatic, socially and politically unacceptable austerity measures. The additional difficulty here is that GDP drops along with spending, so the economy as a whole shrinks and the debt-to-GDP ratio may not improve in that case. Eventually, austerity programs implemented so far have not brought the expected results.

The alternative to austerity plans emergency exit could become "financial repression". It relies on inflation, but it is a steady, stealthy process and therefore much more politically acceptable. By keeping interest rates low, governments receive cheap funding. On one hand, higher inflation will lead to faster nominal GDP growth and on the other, it will liquidate the size of the government debt burden by an amount equal to the negative real interest rate (impairing private savings at the same time).

The paper presents the principle of "financial repression" and, on the basis of simulations, demonstrates its effectiveness.

Keywords: *public debt, deleveraging, financial repression, inflation, interest rates.*
JEL classification: *G3, E2, E3, E6, F3, F4, H6, N10.*

Introduction

Long history of financial crises provides wide spectrum of various premises and consequences. Contemporary crisis, launched spectacularly in 2008 as the "subprime mortgage crisis", has led to an unusually high level of public debt in the most of economies. In most cases, extensive public debt is the result of governments bailouts, operations addressed towards the financial sector. The privatization of the financial institution's profits and at the same time making losses public, became the consequence of widely popularised doctrine stating that banks, as a public good, are subject to unconditional and public protection.

Eventually, the banks' debt has become public debt, burdening the entire economy. Despite a number of austerity measures, the scale of public debt, as well as the size of budget deficits in most countries was not significantly reduced so far. Thus, there is strong concern about the real chance to reduce this debt in a finite time horizon.

The objective of this study is to argue the lack of real chance to pay off the public debt of the most of European economies under typical economical conditions, using traditional economic and fiscal tools. As an "emergency exit" some unofficial and unfair ways of avoiding sovereign bankruptcy could be implemented. First of them is interest rates manipulation, aimed at limitation of the public debt's costs. Another way, tightly related to the previous one, is often referred to as "financial repression". It concerns, among others, negative impact of inflation on interest rates. In line with governments manipulation it can effect with negative real interest rates for depositors and long term investors.

First section of the paper illustrates the scale of public debt and some remarks on its indices. Special attention will be paid on European Union economies. In the following section, the question is asked, whether those countries are able to pay back their public debt using traditional, economic and fiscal approach. Ineffectiveness of that way is proved with simplified simulation. As an alternative ways of resolving the excessive debt problem, in the following two sections, mechanisms of interest rates manipulation and financial repression will be discussed. Basing on statistical data for EU countries, the evident impact of negative real interest rates on the period of debt repayment will be simulated.

1. Public debt as the result and the premise of financial crises

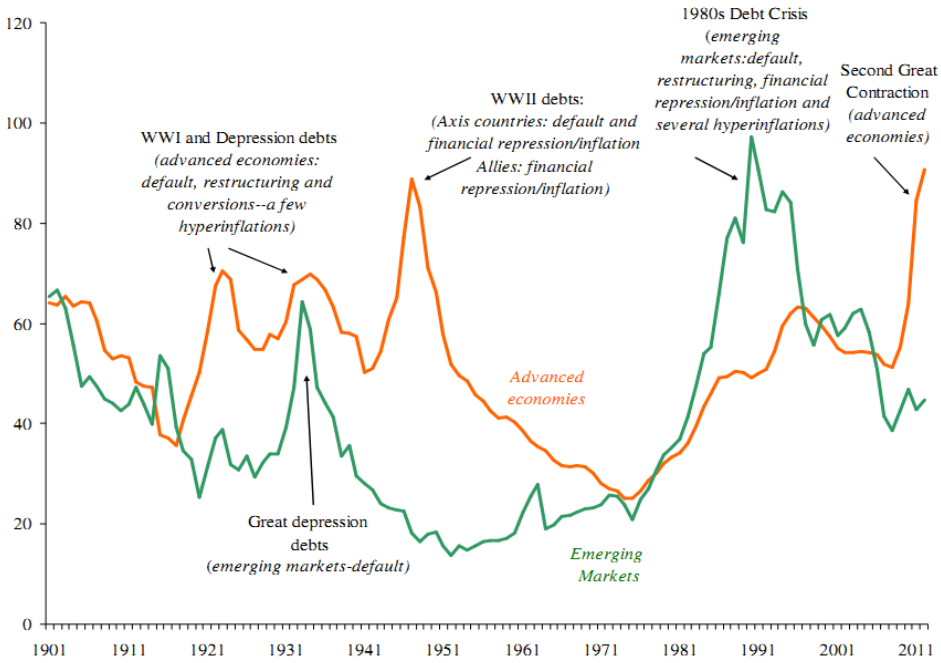
If public institutions – the government, local government, social security, etc. – are spending more money than revenues obtained from taxes and contributions, they generate financial deficits. Missing funds must somehow be supplied, mainly by issuing state securities. If deficit is being compounded for long time, excessive debt makes the state fall into the debt trap[1]. This means that it is not longer able to handle it in time, or even is not able to repay it at all. Inability to pay the debt off is in fact equivalent to the bankruptcy of the state. In a situation in which almost all developed countries have a persistent budget deficit, a lot of them – one would say – that they are formally bankrupt. Avoiding that term is mainly due to political correctness. That situation is more and more often talked

[1] W.M. Orłowski, *Wspólny, publiczny garb*, "Polityka" 2011, nr 39.

about in relation to certain European countries (i.e. Greece, Spain, Portugal), but even more often the problem swells up in other countries (USA, Japan).

Phenomenon of public debt accompanies most of the economies for ages. As the measure of the public debt burden to the state, its relation to national income (GDP) is commonly concerned. Peaks and trends in debt-to-GDP ratio are not regularly synchronized across aggregated historical paths (Figure 1). There are, however, a few historical episodes where debt ratio, in the most countries behave accordingly.

Figure 1. Central Government Public Debts in relation to GDP for advanced economies and emerging markets (1900-2011)



Source: C.M. Reinhart, M.B. Sbrancia, *The Liquidation of Government Debt,* Working Paper, National Bureau of Economic Research, Cambridge March 2011.

The most spectacular four episodes responsible for extreme debt peaks in most of the countries are: the Great Depression of the 30s, World War I, World War II, and the contemporary crisis (2008 – present). The 80s debt crisis followed by the transition economies' collapses is rather unique to emerging markets.

In the recent times, the European Union decided, somewhat arbitrarily, that the public debt security level is 60% of GDP. In fact, that safety limit is ambiguous

and depends on many factors. For example, in Japan, where the gigantic debt reaches 230% of GDP, a huge capital market is considered to be a safety buffer. Japan has a huge economy, which if necessary can be additionally taxed. For similar reasons, until recently, the risk of default of Italy was not taken into account, although for 20 years its public debt is higher than 100% of GDP. On the other hand, the public debt of Spain, until recently, was less than 60%. However, since it is known that the country has serious problems with its banks and may have to subsidize them, is regarded today as one of the main candidates for bankruptcy. The problems of Greece, Portugal, and Ireland come about not only with the same size of the debt, but mostly from weakness of the economies and financial sectors. Also Poland, with a relatively weak economy and financial markets, cannot afford this level of debt-to-GDP ratio, which is accepted in the U.S., Germany, or United Kingdom[2].

For mentioned reasons, debt-to-GDP ratio is more and more often disapproved as misleading. Among other drawbacks, it captures only a part of the government's liabilities, and omits other government obligations such as unfunded pension liabilities. It is also argued, that it's more important to measure whether governments can meet their debt servicing obligations. Comparing the government's debt to its revenues, US debt comes in at 358% of government revenues, UK (169%), Spain (153%), Ireland (248%), and Greece (312%)[3]. In some opinions, debt-to-GDP ratio is essentially a backward measure of accumulated past government deficits. It fails to measure the fiscal challenge that governments will face very soon, when their populations are rapidly getting older, and have to spend more on health and pensions[4].

In the recent years public debt for modern economies achieved levels observed in the years following the Second World War (Figure 2). Also the debts of the financial industry and households reached unprecedented heights. The decade following the crisis may yet mark a record surge in public debt, at least for the advanced economies. In that case it is not surprising that debt reduction is a topic that is receiving substantial attention in academic and policy circles alike[5].

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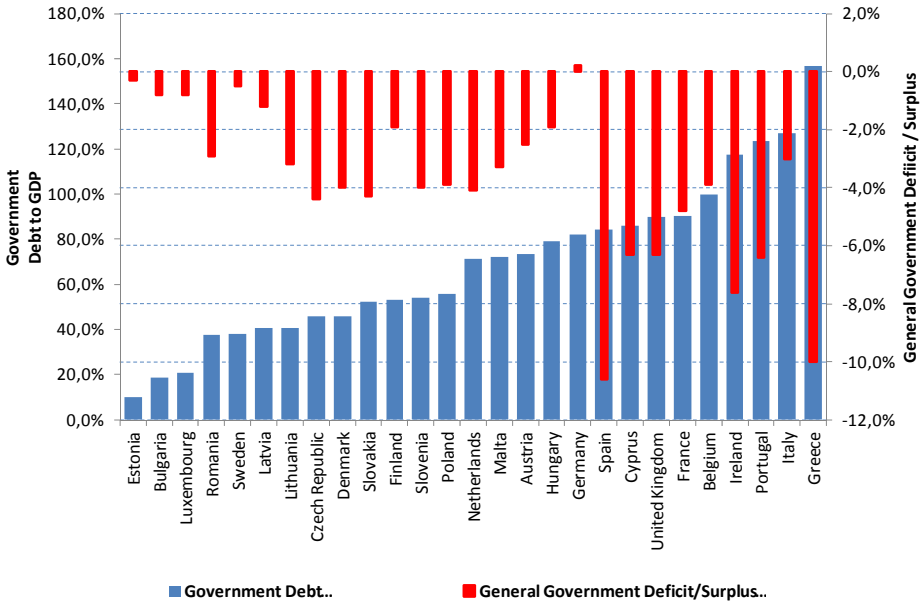
2 Ibid.

3 K. Maley, *The Age of Financial Oppression*, "Business Spectator", http://www.businessspectator.com.au (26.08.2010).

4 Ibid.

5 C.M. Reinhart, M.B. Sbrancia, *The Liquidation of Government Debt*, Working Paper, National Bureau of Economic Research, Cambridge March 2011, p. 1.

Figure 2. Public Debt in relation to GDP and General Government Deficit (Surplus) for European Member States in 2012



Source: Based on http://epp.eurostat.ec.europa.eu.

The fiscal balance state can not be achieved without radical reforms. The governments must first of all lead to the transformation of the budget deficit into a surplus values. For this purpose it becomes necessary to freeze or even reduce public spending with a simultaneous taxes increase[6]. Such activities are everywhere politically unpopular. In addition, the weight of these reforms, much harder affect residents of poorer countries. The main question is, how effective those classical actions would be in practice.

2. Public debt repayment period

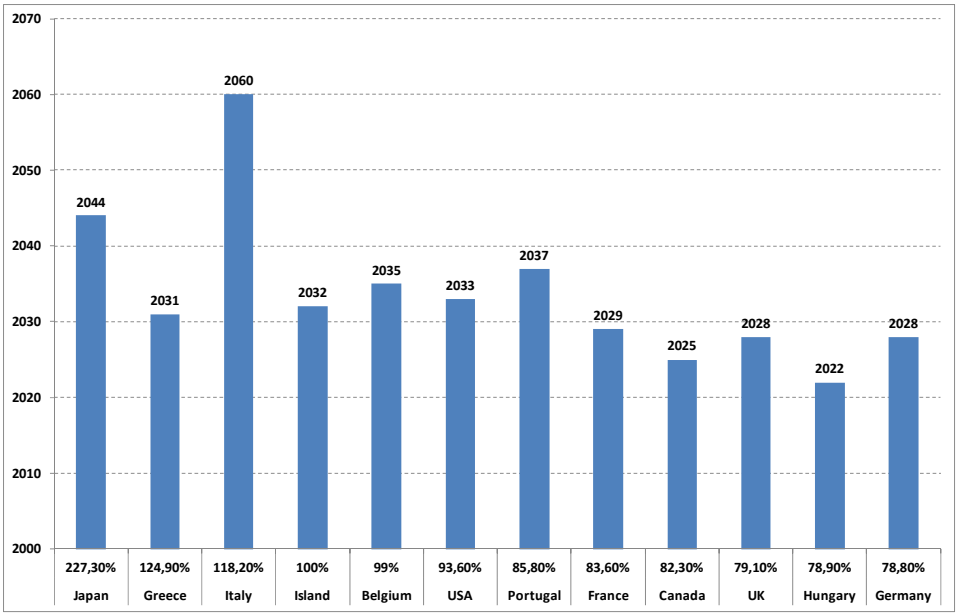
Throughout long history, debt-to-GDP ratios have been reduced throughout a set of various actions. They could be varied into two categories. The first one consist of typical economic parameters, such as: economic growth, a substantive fiscal adjustment/austerity plans, explicit default or restructuring of private and/or public debt. The second category concentrates around monetary parame-

[6] E. Glapiak, *Reformy konieczne do redukcji długów*, „Rzeczpospolita" 2010, nr 118.

ters, and comprises of a possible burst in inflation, interest rate manipulation and other actions, referred to as "financial repression". Historical episodes of debt reduction confirmed, that debt-reduction channels are not mutually exclusive, and empirical experiences of specific countries have been underpinned with combination of more than one of them[7].

Effectiveness of undertaken actions in specific countries can be expressed with predicted time of debt reduction to the target debt-to-GDP ratio. Limiting consideration only to first category of actions, forecasts concerning the period of debt reduction assumes smooth implementation of austerity programs. "Assuming all goes well, Germany and the United Kingdom will reduce public debt to 60 percent of GDP at the earliest in 2028, and Portugal – in 2037. Also United States will face the issue of debt reduction (about 100 percent of GDP at the moment). President Barack Obama announced that he will raise taxes for the wealthiest Americans and improve administration. As a result of these measures, budget deficit of 1.3 trillion dollars will be reduced in 2013 to 533 billion dollars and in 2015 – to zero. If successful, in 2033, the U.S. debt will fall below 60 percent of GDP"[8].

Figure 3. Period to repay public debt for selected countries



Source: Based on E. Glapiak, *Świat pogrążony w długach*, „Rzeczpospolita" 2010, nr 118.

[7] C.M. Reinhart, M.B. Sbrancia, op. cit., p. 2.
[8] E. Glapiak, op. cit.

Estimated values of public debt repayment period could be obtained by simulation techniques based on general economical prerequisites. Some of them are very rigorous in order to simplify the simulation:

1. The size of the state budget remains unchanged in relation to the GDP (General Public Revenue in % of GDP).
2. With completion of the austerity programme, budget expenditures (except of debt service costs) remain at the level of starting relation to the GDP.
3. Real GDP grows at a rate of Real GDP Growth Rate (%), resulting in a proportional increase in revenues and non-financial spending.
4. The cost of debt is determined by the Long Term Public Bond Yields (%).
5. Excess of revenues over non-financial expenses and the cost of the debt service is allocated initially to eliminate the budget deficit and then to reduce debt level.

In order to achieve the aforementioned objectives, it is necessary to collect statistical data for individual countries. The values of required key indicators for the European Union states are depicted in Table 1.

Table 1. Macroeconomic indicators for EU countries encountered in simulation of public debt repayment period

Country	Real GDP Growth Rate (%)	General Government Revenue (% of GDP)	Government Debt (% of GDP)	Annual Inflation Rate (%)	Long Term Government Bond Yields (%)	General Government Deficit/Surplus (% of GDP)
	2014 est.	2012	2012	2012	2013 march	2012
Belgium	1,2%	50,8%	99,6%	2,6%	2,3%	-3,9%
Bulgaria	1,7%	34,9%	18,5%	2,4%	3,5%	-0,8%
Czech Republic	1,6%	40,1%	45,8%	3,5%	2,0%	-4,4%
Denmark	1,7%	55,5%	45,8%	2,4%	1,6%	-4,0%
Germany	1,8%	45,2%	81,9%	2,1%	1,4%	0,2%
Estonia	4,0%	40,2%	10,1%	4,2%	x	-0,3%
Ireland	2,2%	34,6%	117,6%	1,9%	3,8%	-7,6%
Greece	0,6%	44,7%	156,9%	1,0%	11,4%	-10,0%
Spain	0,9%	36,4%	84,1%	2,4%	4,9%	-10,6%
France	1,1%	51,7%	90,4%	2,2%	2,1%	-4,8%
Italy	0,7%	47,7%	127,0%	3,3%	4,6%	-3,0%
Cyprus	-3,9%	40,0%	85,8%	3,1%	7,0%	-6,3%
Latvia	4,1%	35,2%	40,7%	2,3%	3,2%	-1,2%
Lithuania	3,6%	32,9%	40,7%	3,2%	4,2%	-3,2%
Luxembourg	1,6%	42,1%	20,8%	2,9%	1,6%	-0,8%
Hungary	1,4%	46,5%	79,2%	5,7%	6,4%	-1,9%
Malta	1,8%	40,5%	72,1%	3,2%	3,6%	-3,3%
Netherlands	0,9%	46,4%	71,2%	2,8%	1,7%	-4,1%
Austria	1,8%	48,7%	73,4%	2,6%	1,8%	-2,5%
Poland	2,2%	38,4%	55,6%	3,7%	3,9%	-3,9%
Portugal	0,6%	41,0%	123,6%	2,8%	6,1%	-6,4%
Romania	2,2%	33,5%	37,8%	3,4%	5,9%	-2,9%
Slovenia	-0,1%	45,0%	54,1%	2,8%	5,1%	-4,0%
Slovakia	2,8%	33,1%	52,1%	3,7%	4,0%	-4,3%

table 1 cont.

Finland	1,0%	53,7%	53,0%	3,2%	1,6%	-1,9%
Sweden	2,5%	51,3%	38,2%	0,9%	1,9%	-0,5%
United Kingdom	1,7%	42,2%	90,0%	2,8%	1,7%	-6,3%
MEDIANA	1,7%	42,1%	71,2%	2,8%	3,6%	-3,9%
AVARAGE	1,5%	42,7%	69,1%	2,9%	3,7%	-3,8%
MIN	-3,9%	32,9%	10,1%	0,9%	1,4%	-10,6%
MAX	4,1%	55,5%	156,9%	5,7%	11,4%	0,2%

Source: Based on: http://epp.eurostat.ec.europa.eu.

At the first stage, mechanism of simulation will be presented for hypothetical initial values of economic parameters (formulas for used simulation displayed in Appendix 1). More or less they represent average values of economic indicators for whole EU (Table 3).

Table 2. Hypothetical parameters used in simulation of public debt repayment period

Parameter	Value
Starting GDP	1000 of nominal Units
GDP Real Growth	1.7% per Year
Initial Public Debt	100% of GDP
Initial Public Debt	1000 of nominal Units
Inflation Rate	2.8% per Year
Interest Rate (cost of capital)	3.6% per Year
Starting Budget Income	42% of GDP
Starting Budget Income	420 of nominal Units
Starting Budget Deficit	–6% of GDP

Subsequent stages of debt-to-GDP ratio reduction are depicted at Table 3. According to previous assumptions, nominal value of GDP grows nominally by 1.70 % (GDP Real Growth) compounded with 2.80 % (Inflation Rate). With the same ratio increase values of Budget Income and Budget Outcome (without Cost of Public Debt). Maintaining constant share of budget revenues which are socially redistributed is probably the only politically accepted condition within any austerity plan. The Cost of Public Debt, represented by Long Term Government Bond Yield is constant and equals to 3.6% per year. That assumption does not concern possibility of reducing debt costs in line with diminishing the debt-to-GDP ratio. At the start of simulation, the sum of Budget Outcome and Cost of Public Debt exceed the Budget Income by 6% which equals to Starting Budget Deficit. However, one of the essential prerequisites for reducing debt ratio is, that non financial expenditures can not exceed non financial revenues. Otherwise, with undertaken assumption, debt-to-GDP will never be reduced. Observing every next iteration of simulation, one can notice, that the threshold 60% is

reached for debt-to-GDP in about 23rd year of simulation only. Unfortunately, for the same conditions, reduction the debt-to-GDP ratio to 10% is expected even not sooner than in 60 years.

Table 3. Simulation of gradual repayment of the public debt for hypothetical initial parameters

t	GDP (Nominal)	Budget Income	Debt	Cost of Public Debt	Budget Outcome (without Cost of Public Debt)	Debt Reduction	Debt / GDP
0	1 000,00	420,00	1 000,00	36,00	409,20	-25,20	100,00%
1	1 045,00	438,90	1 025,20	36,91	427,61	-25,62	98,11%
2	1 092,03	458,65	1 050,82	37,83	446,86	-26,04	96,23%
3	1 141,17	479,29	1 076,86	38,77	466,97	-26,44	94,36%
4	1 192,52	500,86	1 103,30	39,72	487,98	-26,84	92,52%
5	1 246,18	523,40	1 130,14	40,68	509,94	-27,23	90,69%
6	1 302,26	546,95	1 157,36	41,67	532,88	-27,60	88,87%
7	1 360,86	571,56	1 184,97	42,66	556,86	-27,96	87,07%
8	1 422,10	597,28	1 212,93	43,67	581,92	-28,31	85,29%
9	1 486,10	624,16	1 241,23	44,68	608,11	-28,63	83,52%
10	1 552,97	652,25	1 269,87	45,72	635,48	-28,94	81,77%
11	1 622,85	681,60	1 298,81	46,76	664,07	-29,23	80,03%
12	1 695,88	712,27	1 328,04	47,81	693,95	-29,49	78,31%
13	1 772,20	744,32	1 357,54	48,87	725,18	-29,73	76,60%
14	1 851,94	777,82	1 387,27	49,94	757,82	-29,94	74,91%
15	1 935,28	812,82	1 417,21	51,02	791,92	-30,12	73,23%
16	2 022,37	849,40	1 447,33	52,10	827,55	-30,26	71,57%
17	2 113,38	887,62	1 477,59	53,19	864,79	-30,37	69,92%
18	2 208,48	927,56	1 507,96	54,29	903,71	-30,43	68,28%
19	2 307,86	969,30	1 538,39	55,38	944,38	-30,46	66,66%
20	2 411,71	1 012,92	1 568,85	56,48	986,87	-30,43	65,05%
21	2 520,24	1 058,50	1 599,28	57,57	1 031,28	-30,36	63,46%
22	2 633,65	1 106,13	1 629,64	58,67	1 077,69	-30,22	61,88%
23	2 752,17	1 155,91	1 659,86	59,75	1 126,19	-30,03	60,31%

Source: Based on simulation.

Analogical simulation can be undertaken for individual countries of EU. In Table 4 are depicted results of the simulation for the threshold value debt-to-GDP equal to 10% for each EU state.

Table 4. Simulation of gradual repayment of the debt to debt-to-GDP = 10% for European Union states

No.	Country	Real GDP Growth Rate (%)	General Government Revenue (% of GDP)	Government Debt (% of GDP)	Annual Inflation Rate (%)	Long Term Government Bond Yields (%)	General Government Deficit/Surplus (% of GDP)	Years to Reduce Debt / GDP ratio to 10%
		2014	*2012*	*2012*	*2012*	*2013 M03*	*2012*	
1	Belgium	1,2%	50,8%	99,6%	2,6%	2,3%	-3,9%	**97**
2	Bulgaria	1,7%	34,9%	18,5%	2,4%	3,5%	-0,8%	**19**
3	Czech Republic	1,6%	40,1%	45,8%	3,5%	2,0%	-4,4%	**100**
4	Denmark	1,7%	55,5%	45,8%	2,4%	1,6%	-4,0%	**100**
5	Germany	1,8%	45,2%	81,9%	2,1%	1,4%	0,2%	**32**
6	Estonia	4,0%	40,2%	10,1%	4,2%	x	x	x

table 4 cont.

7	Ireland	2,2%	34,6%	117,6%	1,9%	3,8%	-7,6%	**54**
8	Greece	0,6%	44,7%	156,9%	1,0%	11,4%	-10,0%	**100**
9	Spain	0,9%	36,4%	84,1%	2,4%	4,9%	-10,6%	**100**
10	France	1,1%	51,7%	90,4%	2,2%	2,1%	-4,8%	**100**
11	Italy	0,7%	47,7%	127,0%	3,3%	4,6%	-3,0%	**30**
12	Cyprus	-3,9%	40,0%	85,8%	3,1%	7,0%	-6,3%	**100**
13	Latvia	4,1%	35,2%	40,7%	2,3%	3,2%	-1,2%	**19**
14	Lithuania	3,6%	32,9%	40,7%	3,2%	4,2%	-3,2%	**25**
15	Luxembourg	1,6%	42,1%	20,8%	2,9%	1,6%	-0,8%	**26**
16	Hungary	1,4%	46,5%	79,2%	5,7%	6,4%	-1,9%	**16**
17	Malta	1,8%	40,5%	72,1%	3,2%	3,6%	-3,3%	**36**
18	Netherlands	0,9%	46,4%	71,2%	2,8%	1,7%	-4,1%	**100**
19	Austria	1,8%	48,7%	73,4%	2,6%	1,8%	-2,5%	**70**
20	Poland	2,2%	38,4%	55,6%	3,7%	3,9%	-3,9%	**37**
21	Portugal	0,6%	41,0%	123,6%	2,8%	6,1%	-6,4%	**41**
22	Romania	2,2%	33,5%	37,8%	3,4%	5,9%	-2,9%	**24**
23	Slovenia	-0,1%	45,0%	54,1%	2,8%	5,1%	-4,0%	**100**
24	Slovakia	2,8%	33,1%	52,1%	3,7%	4,0%	-4,3%	**32**
25	Finland	1,0%	53,7%	53,0%	3,2%	1,6%	-1,9%	**100**
26	Sweden	2,5%	51,3%	38,2%	0,9%	1,9%	-0,5%	**35**
27	United Kingdom	1,7%	42,2%	90,0%	2,8%	1,7%	-6,3%	**100**

Source: Ibid.

Under established foundations, some countries (Denmark, Greece, Spain, France, Cyprus, Slovenia) would never reduce their public debt to target level (simulation is limited technically to 100 years). However, using initial parameters picked up from the period of crisis, as constant for whole period of simulation, could burden the forecast with a huge model error. Simulation can be modified at least by setting Real GDP Growth and Annual Inflation Rate for each country to the fixed values, respectively: 1,5% and 2,5% (values close to average of the whole EU). Simulation results under such conditions are depicted in Table 5.

Table 5. Simulation of public debt repayment period to debt-to-GDP = 10% for European Union states with average Real GDP Growth Rate and Annual Inflation Rate

No.	Country	Real GDP Growth Rate (%)	General Government Revenue (% of GDP)	Government Debt (% of GDP)	Annual Inflation Rate (%)	Long Term Government Bond Yields (%)	General Government Deficit/Surplus (% of GDP)	Years to Reduce Debt / GDP ratio to 10%
		2014	*2012*	*2012*	*2012*	*2013M03*	*2012*	
1	Belgium	1,5%	50,8%	99,6%	2,5%	2,3%	-3,9%	**90**
2	Bulgaria	1,5%	34,9%	18,5%	2,5%	3,5%	-0,8%	**20**
3	Czech Republic	1,5%	40,1%	45,8%	2,5%	2,0%	-4,4%	**100**
4	Denmark	1,5%	55,5%	45,8%	2,5%	1,6%	-4,0%	**100**
5	Germany	1,5%	45,2%	81,9%	2,5%	1,4%	0,2%	**32**
6	Estonia	1,5%	40,2%	10,1%	2,5%	x	x	x
7	Ireland	1,5%	34,6%	117,6%	2,5%	3,8%	-7,6%	**56**
8	Greece	1,5%	44,7%	156,9%	2,5%	11,4%	-10,0%	**28**
9	Spain	1,5%	36,4%	84,1%	2,5%	4,9%	-10,6%	**100**
10	France	1,5%	51,7%	90,4%	2,5%	2,1%	-4,8%	**100**

table 5 cont.

11	Italy	1,5%	47,7%	127,0%	2,5%	4,6%	-3,0%	**30**
12	Cyprus	1,5%	40,0%	85,8%	2,5%	7,0%	-6,3%	**43**
13	Latvia	1,5%	35,2%	40,7%	2,5%	3,2%	-1,2%	**29**
14	Lithuania	1,5%	32,9%	40,7%	2,5%	4,2%	-3,2%	**53**
15	Luxembourg	1,5%	42,1%	20,8%	2,5%	1,6%	-0,8%	**32**
16	Hungary	1,5%	46,5%	79,2%	2,5%	6,4%	-1,9%	**23**
17	Malta	1,5%	40,5%	72,1%	2,5%	3,6%	-3,3%	**45**
18	Netherlands	1,5%	46,4%	71,2%	2,5%	1,7%	-4,1%	**100**
19	Austria	1,5%	48,7%	73,4%	2,5%	1,8%	-2,5%	**81**
20	Poland	1,5%	38,4%	55,6%	2,5%	3,9%	-3,9%	**66**
21	Portugal	1,5%	41,0%	123,6%	2,5%	6,1%	-6,4%	**35**
22	Romania	1,5%	33,5%	37,8%	2,5%	5,9%	-2,9%	**37**
23	Slovenia	1,5%	45,0%	54,1%	2,5%	5,1%	-4,0%	**80**
24	Slovakia	1,5%	33,1%	52,1%	2,5%	4,0%	-4,3%	**67**
25	Finland	1,5%	53,7%	53,0%	2,5%	1,6%	-1,9%	**100**
26	Sweden	1,5%	51,3%	38,2%	2,5%	1,9%	-0,5%	**30**
27	United Kingdom	1,5%	42,2%	90,0%	2,5%	1,7%	-6,3%	**100**

Source: Ibid.

Despite of more uniform and probably more realistic approach, periods of debt reduction are yet very long. It is evident, that relying on the rigorously austerity plans and dynamic economic growth is illusory. The first one is not acceptable from a policy standpoint, specialty in long time prospect. Also the second one, according to former experiences, at any rate, is not particularly encouraging, as high levels of public debt are usually associated with lower growth. In that case, the emergency exit could be searched in two, formally hidden directions: interest rate manipulation and *financial repression*.

3. Interest rates manipulation

One of the fundamental pillars of free market economies is, that investment prices and yields need to be determined by rational buyers and rational sellers finding a place where they can agree upon a price on a specific time. If free market price is replaced with a price determined by a force outside of the market, then that price is manipulated. If the manipulation is to force prices too low, then the seller is cheated, and if the manipulation is to force prices too high, then the buyer is cheated. If there is any kind of manipulation, then by definition someone is being cheated when compared to a free market[9]. Nowadays, more and more common is the feeling, that nobody is getting a free market price for just about anything. Every time, the politicians emphasize the public interest, every

[9] D.R. Amerman, *Cheating Investors as Official Government Policy*, http://danielamerman.com/articles/2011/Cheating.htm.

time there is an intervention to manipulate prices, and somebody is being cheated. When government deliberately forces artificial prices upon a market, then in every transaction one side is either paying too much, or one side is getting paid too little. This refers also to financial markets and particularly to markets of money.

During last decade, most of economies had legal ceilings on bank lending and deposit rates. They are forced with: high reserve ratios, substantial entry barriers into banking often combined with public ownership of major banks, quantitative restrictions on credit allocation and government-directed lending by financial institutions (including captive institutional investors such as pension funds), subsidized lending interest rates and restrictions on capital transactions. They all make up the arsenal used for interest rates manipulation. It is particularly useful nowadays, during mortal combat with a huge public debt.

Governments in line with monetary institutions intervene mainly in one side of the market, forcing short term interest rates as small as possible. "If we all believe that the overnight rate will remain at zero for the next three years, then the three-year rate should also provide a yield very close to zero"[10]. All that in order to reduce the public debt servicing costs. But carrying out that secret mission, governments pretend, they do not notice, that investors receive much lower interest payments than they would receive in a free market. In other words, they directly create benefits for corporations and banks by cheating ordinary investors out of the income they would receive if free market forces governed. This is a fairly straight up redistribution of wealth from average citizens to corporate interests[11].

4. Financial repression

Currently there is widespread debate about the best way to reduce public debt. Some consequently advocate strict budgets and fiscal austerity programmes. Others postulate growth through spending, or fiscal stimulus[12]. All of them, more and more often recall an example of post-World War II U.S successful strategy. As presented in a IMF working paper, that strategy enabled to the US and the rest of the advanced economies to pay off enormous government debts, with a reduction in debt-to-GDP ratio of roughly 70% between 1945 and

[10] S. Shepherd, *Financial Repression: Why It Matters*, SimplyStated, April 2013

[11] J. Escolano, A. Shabunina, J. Woo, *The Puzzle of Persistently Negative Interest Rate-Growth Differentials: Financial Repression or Income Catch-Up*? IMF Working Paper, WP/11/260, p. 13.

[12] M. Primorac, *History Offers Tips for Getting a Handle on Public Debt*, IMFSurvey Magazine: IMF Research, September 27, 2012, http://www.imf.org/external/pubs/ft/survey/so/2012/res092712b.htm.

1980. It also allowed to avoid such unattractive phenomena as massive defaults or hyperinflation. That technique can be called *financial repression*[13] or sometimes, but not that often, *financial oppression*[14].

The main power of *financial repression* come from inflation and is always based on aforementioned interest rate manipulation techniques. A government that owes too much money destroys the value of public debts through destroying the value of the national currency (*financial repression* works mainly for domestic debt). That is why inflation make *financial repression* working. Unless the government is not very impatient, inflation rate does not have to be very high. But obviously, the higher it is, the more effective financial repression work. It can be argued that inflation is most effective in liquidating government debts (or debts in general), when interest rates are not able to respond to the rise in inflation and in inflation expectations. This disconnect between nominal interest rates and inflation can occur if: interest rates are either administered or predetermined (vide Interest rate manipulation chapter); all government debts are fixed rate and long maturities and the government has no new financing needs; all (or nearly all) debt is liquidated in one "surprise" inflation spike[15].

The term *financial repression* was introduced in 1973 by the works of Shaw[16] and Ronald McKinnon[17]. It can take different forms, which are typically more or less based on three pillars:

1. **Explicit or indirect caps or ceilings on interest rates**, particularly (but not exclusively) those on government debts. These interest rate ceilings could be effected through various means such as: explicit government regulation (for instance, Regulation Q), direct subsidy to the government in cases where the government borrowed directly from the banks, fixed coupon rate for nonmarketable debt; central bank interest rate targets.
2. **Creation and maintenance of a captive domestic audience** that facilitated directed credit to the government. This was achieved through multiple layers of regulations, including: capital account restrictions and exchange controls, reserve requirements (usually non-remunerated) as a tax levy on banks, regulatory measures requiring that institutions hold government debts in their

[13] Ibid.
[14] K. Maley, op. cit.
[15] C.M. Reinhart, M.B. Sbrancia, op. cit., p. 28.
[16] E.S. Shaw, *Financial Deepening in Economic Development*, Oxford University Press, New York 1973.
[17] R. McKinnon, *Money and Capital in Economic Development*, Brookings Institute, Washington, DC 1973.

portfolios, transaction taxes on equities directing investors toward government types of securities.

3. **Other common measures associated with financial repression** aside from the ones discussed above: state ownership or extensive management of banks and other financial institutions, restrictions of entry to the financial industry and directing credit to certain industries

Spectacular role of inflation, effecting with negative real interest rates, can be clearly observed in simulation depicted in Table 6. Under the assumptions undertaken for previous simulation (Table 5), annual inflation rate has been doubled (from 2,5% to 5% per annum). For some countries it means, that Long Term Government Bond Yield in real approach is negative. The old and new prognosis of term required to reduce debt to 10% of GDP can be analysed in two last columns of the table (Table 6). For most countries, the period of repayment is shortened by about 50%. That beneficial effect is due to faster (in nominal values) growth of Government Revenue then growth of Government Debt.

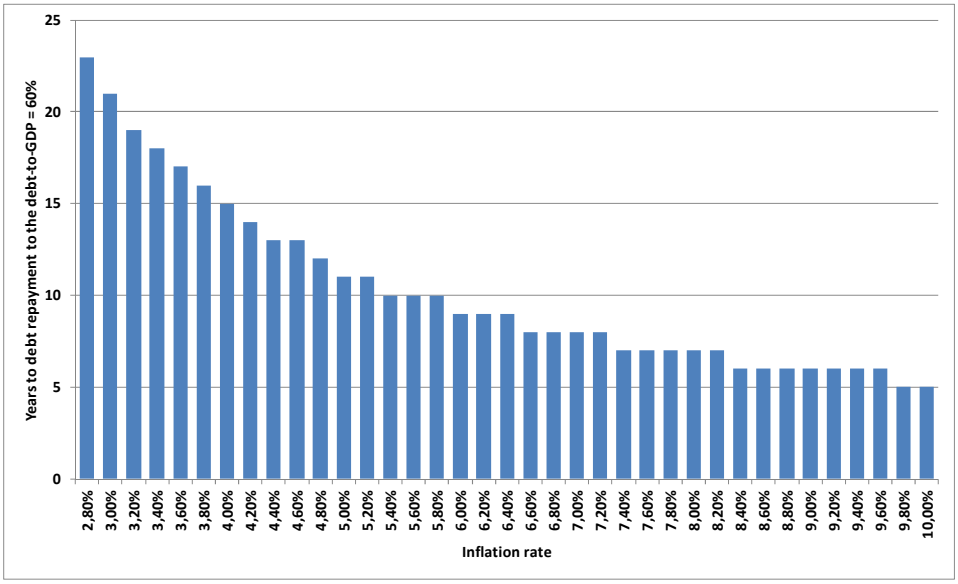
Table 6. Comparisons of public debt repayment period to debt-to-GDP = 10% for Annual Inflation Rate equal to 2,5% and 5%

No.	Country	Real GDP Growth Rate (%)	General Government Revenue (% of GDP)	Government Debt (% of GDP)	Annual Inflation Rate (%)	Long Term Government Bond Yields (%)	General Government Deficit/Surplus (% of GDP)	Years to Reduce Debt / GDP ratio to 10% for inflation 2,5%	Years to Reduce Debt / GDP ratio to 10% for inflation 5%
		2014	*2012*	*2012*	*2012*	*2013 M03*	*2012*		
1	Belgium	1,5%	50,8%	99,6%	5,0%	2,3%	-3,9%	**90**	**46**
2	Bulgaria	1,5%	34,9%	18,5%	5,0%	3,5%	-0,8%	**20**	**11**
3	Czech Republic	1,5%	40,1%	45,8%	5,0%	2,0%	-4,4%	**100**	**100**
4	Denmark	1,5%	55,5%	45,8%	5,0%	1,6%	-4,0%	**100**	**100**
5	Germany	1,5%	45,2%	81,9%	5,0%	1,4%	0,2%	**32**	**23**
6	Estonia	1,5%	40,2%	10,1%	5,0%	x	x	x	x
7	Ireland	1,5%	34,6%	117,6%	5,0%	3,8%	-7,6%	**56**	**33**
8	Greece	1,5%	44,7%	156,9%	5,0%	11,4%	-10,0%	**28**	**18**
9	Spain	1,5%	36,4%	84,1%	5,0%	4,9%	-10,6%	**100**	**87**
10	France	1,5%	51,7%	90,4%	5,0%	2,1%	-4,8%	**100**	**100**
11	Italy	1,5%	47,7%	127,0%	5,0%	4,6%	-3,0%	**30**	**21**
12	Cyprus	1,5%	40,0%	85,8%	5,0%	7,0%	-6,3%	**43**	**24**
13	Latvia	1,5%	35,2%	40,7%	5,0%	3,2%	-1,2%	**29**	**19**
14	Lithuania	1,5%	32,9%	40,7%	5,0%	4,2%	-3,2%	**53**	**27**
15	Luxembourg	1,5%	42,1%	20,8%	5,0%	1,6%	-0,8%	**32**	**15**
16	Hungary	1,5%	46,5%	79,2%	5,0%	6,4%	-1,9%	**23**	**17**
17	Malta	1,5%	40,5%	72,1%	5,0%	3,6%	-3,3%	**45**	**28**
18	Netherlands	1,5%	46,4%	71,2%	5,0%	1,7%	-4,1%	**100**	**100**
19	Austria	1,5%	48,7%	73,4%	5,0%	1,8%	-2,5%	**81**	**41**
20	Poland	1,5%	38,4%	55,6%	5,0%	3,9%	-3,9%	**66**	**33**
21	Portugal	1,5%	41,0%	123,6%	5,0%	6,1%	-6,4%	**35**	**23**
22	Romania	1,5%	33,5%	37,8%	5,0%	5,9%	-2,9%	**37**	**21**
23	Slovenia	1,5%	45,0%	54,1%	5,0%	5,1%	-4,0%	**80**	**33**
24	Slovakia	1,5%	33,1%	52,1%	5,0%	4,0%	-4,3%	**67**	**32**
25	Finland	1,5%	53,7%	53,0%	5,0%	1,6%	-1,9%	**100**	**42**
26	Sweden	1,5%	51,3%	38,2%	5,0%	1,9%	-0,5%	**30**	**19**
27	United Kingdom	1,5%	42,2%	90,0%	5,0%	1,7%	-6,3%	**100**	**100**

Source: Ibid.

Effectiveness of inflation based mechanism of *financial repression* can be spectacularly confirmed with formerly presented simulation (Table 2 and Table 3). Using hypothetical prerequisites, representing averaged economical parameters for all European Union member states (Table 2) the expected period of debt reduction to the debt-to-GDP = 60% (from initial level 100%) is about 23 years. Extending the simulation for higher values of inflation rates (starting from initial value of 2,8%) one can observe the strong effect of shortening that period till only 5 years for inflation rate 10% (ceteris paribus) (Figure 4).

Figure 4. Simulation of the public debt repayment period for hypothetical initial parameters (Table 2) and various values of Inflation Rate



Source: Based on simulation.

Referring to the aforementioned pillars, to make *financial repression* work, two additional conditions must be met beside inflation and interest rates manipulation. The first of them can be named "involuntary funding". The government establishes requirements for financial institutions that make holding substantial amounts of government debt mandatory. Otherwise they can at least establish incentives for banks, savings and loans, credit unions and insurance companies to do so. "From 1945 to 1980, nearly 47 percent of all observed Treasury bill rates were negative – that is less than inflation. From 1981 to 2007 about 10 percent were negative. But since 2008, nearly half of all Treasury bill rates were

negative"[18]. This involuntary funding is sometimes described by financial institutions as a "liquidation effect" or "financial repression tax"[19]. But in fact, the effective cost of that seemingly not profitable investments are passed on depositors and policyholders. Financial institutions make their money not on gross revenues, but on the spread between what they pay out and take in. That way financial institution profits are not necessarily reduced.

Depositors or policy holders could intuitively try to avoid that oppressive policy, so governments must be sure, that inflation-adjusted investor losses are stable. So that is another necessary ingredient to *financial repression* which could be expressed as: "participation must be mandatory". The government has to make sure that it will keep the savers in place while the purchasing power of their savings is systematically and deliberately destroyed. This can be achieved through a combined structure of tax and regulatory incentives for institutions and individuals to keep their investments "domestic" and in the proper categories for manipulation, such as: punitive tax and regulatory treatment of those attempting to escape the repression.

Conclusions

Governments prefer to avoid unpopular ways of reducing excessive public debts such as global defaults, hyperinflation, or comprehensive austerity coupled with massive tax hikes. In fact, they could lead to political and social turmoil. To get out of trouble, the governments would like to wipe out most of the value of their debts, in possibly painless way. In other words, they need to use a trick and cheat the investors devaluating the currency. Thanks to inflation tax collections will rise, but the debts will not, and the savers will be paid back in full with currency that is worth much less. Theoretically, interest rates should rise above the rate of inflation, so that the value of savings would not be eroded. In practice, monetary policy can be uses by governments to avoid that limitation. Financial repression relies on inflation, but it is a steady, stealthy process and therefore much more politically acceptable[20].

Using *financial repression* governments create a type of "sheep shearing" framework. For maximum efficiency, all of investors, depositors or policy holders are sheared whenever they buy government bonds. Using capital requirements and the creation of regulatory incentives and governments can effectively

[18] Global Debt Crisis Is Far from over, Conference Hears, IMF Survey Magazine: In the News, September 18, 2012, http://www.imf.org/external/pubs/ft/survey/so/2012/new091812a.htm
[19] C.M. Reinhart, M.B. Sbrancia, op. cit.
[20] S. Shepherd, op. cit.

force the institutions to take on investments that pay less than the rate of inflation. Institutions take their margins, and pass through lower real return to their depositors and policyholders. Eventually, the last ones pay government's debts with private savings.

A little dose of *financial repression* could be justified in a normal economic environment. Slightly negative real interest rates could generate stronger present-day demand by reducing savings and increasing borrowing. GDP growth would rise and unemployment fall. But nowadays, when the debt leverage is to high, that type of actions aims only at providing cheap funding for government spending and debt servicing. Eventually, once more in the history, the weaker economic players have to pay for the mistakes of the stronger ones.

References

Amerman D.R., *Financial Repression: A Sheep Shearing Instruction Manual*, http://danielamerman.com/articles/2011/Cheating.htm.

Escolano J., Shabunina A., Woo J., *The Puzzle of Persistently Negative Interest Rate-Growth Differentials: Financial Repression or Income Catch-Up*? IMF Working Paper, WP/11/260.

Glapiak E., *Reformy konieczne do redukcji długów*, „Rzeczpospolita" 2010, nr 118.

Glapiak E., *Świat pogrążony w długach*, „Rzeczpospolita" 2010, nr 118.

Global Debt Crisis Is Far from Over, Conference Hears, IMF Survey Magazine: In the News, September 18, 2012, http://www.imf.org/external/pubs/ft/survey/so/2012/new091812a.htm.

http://epp.eurostat.ec.europa.eu.

Maley K., *The Age of Financial Oppression*, Business Spectator, http://www.businessspectator.com.au, 26th August 2010.

McKinnon R., *Money and Capital in Economic Development*, Brookings Institute, Washington DC 1973

Orłowski W.M., *Wspólny, publiczny garb*, „Polityka" 2011, nr 39.

Primorac M., *History Offers Tips for Getting a Handle on Public Debt*, IMF Survey Magazine: IMF Research, September 27, 2012, http://www.imf.org/external/pubs/ft/survey/so/2012/res092712b.htm.

Reinhart C.M., Sbrancia M.B., *The Liquidation of Government Debt*, Working Paper, National Bureau of Economic Research, Cambridge, March 2011.

Shaw E.S., *Financial Deepening in Economic Development*, Oxford University Press, New York 1973.

Shepherd S., *Financial Repression: Why It Matters*, "SimplyStated" April 2013.

Appendix 1

Simulation model with internal formulas displayed

	A	B
1		
2		
3	Financial Repression	
4	Starting GDP (Nominal)	1 000,00
5	GDP Real Growth (% per Year)	1,70%
6		
7		
8	Initial Public Debt (% of GDP)	100,00%
9	Initial Public Debt (Nominal)	1 000,00
10		
11	Inflation Rate (%)	2,80%
12	Nominal Interest Rate (% - cost of capital)	3,60%
13		
14	Starting Budget Income (% of GDP)	42,00%
15	Starting Budget Income (Nominal)	420,00
16		
17	Starting Budget Deficite (% of GDP)	-6,00%
18		
19		
20	Marginal Debt / GDP	60,00%
21	Period of Debt Reduction	23

t	GDP (Nominal)	Budget Income	Debt	Cost of Public Debt	Budget Outcome (without Cost of Public Debt)	Debt Reduction	Debt / GDP	i
0	1 000,00	420,00	1 000,00	36,00	[illegible]	- 25,20	100,00%	[illegible]
[illegible]	[illegible]	[illegible]3,90	1 025,20	36,91	[illegible]	[illegible]	[illegible]%	0
2	1 092,03	458,65	1 050,82	37,83	446,86	- 26,04	96,23%	0
3	1 141,17	479,29	1 076,86	38,77	466,97	- 26,44	94,36%	0
4	1 192,52	500,86	1 103,30	39,72	487,98	- 26,84	92,52%	0
5	1 246,18	523,40	1 130,14	40,68	509,94	- 27,23	90,69%	0
6	1 302,26	546,95	1 157,36	41,67	532,88	- 27,60	88,87%	0
7	[illegible]	[illegible]1,56	1 184,97	42,66	556,86	[illegible]96	87,07%	0
8	1 422,10	597,28	[illegible]2,93	43,67	581,92	- 28,31	85,29%	0
9	1 486,10	624,16	[illegible]1,23	44,68	[illegible]	[illegible]	[illegible]	0
10	1 552,97	652,25	1 269,87	45,72	635,48	- 28,94	81,77%	0
11	1 622,85	681,60	1 298,81	46,76	664,07	- 29,23	80,03%	0
12	1 695,88	712,27	1 328,04	47,81	693,95	- 29,49	78,31%	0
13	1 772,20	744,32	1 357,54	48,87	725,18	- 29,73	76,60%	0
14	1 851,94	777,82	1 387,27	49,94	757,82	- 29,94	74,91%	0

=MAX(M:M)

=$B$4*(1+$B$11+$B$5)^E8

=G7*(1+$B$11+$B$5)

=H7-K7

=H8*($B$12)

=J7*(1+$B$11+$B$5)

=G8-J8-I8

=H8/F8

=IF(AND(L8>$B$20; L9<=$B$20);E8;0)