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The Financial Repression Policy of the European Central Bank: Interest Income and Welfare Losses for German Savers[1]

INTRODUCTION

In the aftermath of the global financial and economic crisis, the ECB became deeply involved in activities aimed at stabilizing the financial system, over-leveraged banks, and over-indebted governments. This article addresses the costs of these monetary policy measures, which heavily exceed the typical distributional side effects of conventional monetary policy during a "normal" business and interest rate cycle. The empirical estimates presented refer to Germany.

THE BREAKDOWN OF THE FISHER-EFFECT AND THE FINANCIAL REPRESSION TAX IMPOSED BY THE CENTRAL BANK

As is well known, anticipated changes in inflation rates lead to corresponding or even proportional changes (Fisher-effect) in nominal interest rates in future savings contracts. However, since 2010 when the ECB intensified its bail-out operations in order to avoid bankruptcy in Greece, the Fisher-effect has evidently been distorted even for a prolonged time, as Figure 1 illustrates.

In a financial environment of excessive liquidity in the money (interbank) market, undercapitalized banks, and subdued credit demand on the part of the private sector, the main traditional channel of monetary policy may be clogged. Although commercial banks are still willing to absorb large quantities of base money (BM) provided by the central bank, no significant increase in credit granted to the non-bank sector will take place and, as a result, there will be no marked increase in (the growth rate of) money supply (m), i.e., no increase in non-bank liquidity, and no considerable increase in demand in the goods market. Neither CPI-inflation rates (π) nor nominal market interest rates (i) increase, as depicted in Figure 2.

By contrast, unless hoarding occurs, asset prices will increase, resulting in corresponding decreases in nominal interest rates in the capital markets. The losses of interest income, or even the erosion of the substance of savings due to artificially suppressed interest rates, can be interpreted as a special form of tax on financial assets imposed by the central bank ("financial repression tax"[2]).

TAXES ON SAVINGS AND THE PORTFOLIO REAL INTEREST RATE

However, the financial repression tax is not the only tax imposed on financial funds. Let us consider the case of a private household with financial assets worth of K_0 of which share $\beta = B_0/K_0$ is invested in interest bearing bonds B_0 and the rest in (non-interest bearing) money[3] M_0:

$$K_0 = B_0 + M_0 \quad (1)$$

After one period the household earns an average real (net) interest rate (r) on its financial portfolio to the amount of:

$$r = \frac{K_1}{K_0} - 1 = \frac{i\beta(1-\tau) - \pi}{1+\pi} \quad (2)$$

At a given portfolio structure β, a politically-intended reduction in the real portfolio (net) interest rate can principally be achieved by imposing three types of taxes on savings:

1. Increase in the tax rate of capital yields τ (capital yields tax, CYT)
2. Increase in the (CPI-) inflation rate π (inflation tax, INFT)
3. Decrease in the nominal interest rate on bonds (financial repression tax, FRT)

THE FISCAL VIEW: LOSSES OF INTEREST INCOME

In order to assess the effects of such a policy, we analyze three time periods:

1. Period A: 1992:1 to 1998:12 (Bundesbank regime)
2. Period B: 1999:1 to 2009:12 (ECB regime)
3. Period C: 2010:1 to 2014:12 (ECB low interest rate regime)

As the starting point of ECB's low interest rate regime we choose January 2010, when massive payments and the credibility problems of Greece became apparent and led to a first so called "rescue package" in May 2010 in order to avoid the official bankruptcy of the Greek government. Table 1 shows the corresponding data for the nominal interest rate, inflation rate and the real portfolio interest rate in the respective periods.

Interestingly, the change of the monetary responsibility from the Deutsche Bundesbank (period A) to the ECB (period B) did not alter the real portfolio interest rate of a representative portfolio of a German household in the first ten years after 1999. But this is not true as of 2010 onwards. Note that in period B and C the inflation rate remained unchanged, while nominal interest rates declined severely. Taking into account

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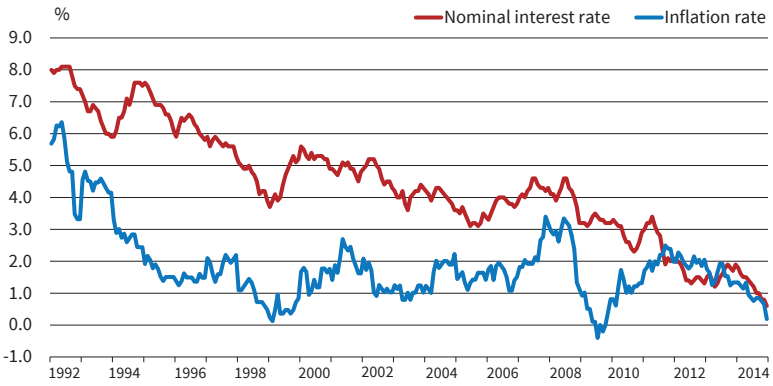
[2] Cf. among various others McKinnon (1973), Reinhardt (2012).

[3] Cf. Rösl (2014). As this study focuses on the influence of nominal and real interest rates by economic policy makers, we do not consider investment in stocks.

Figure 1

Nominal interest and inflation rates

Monthly data

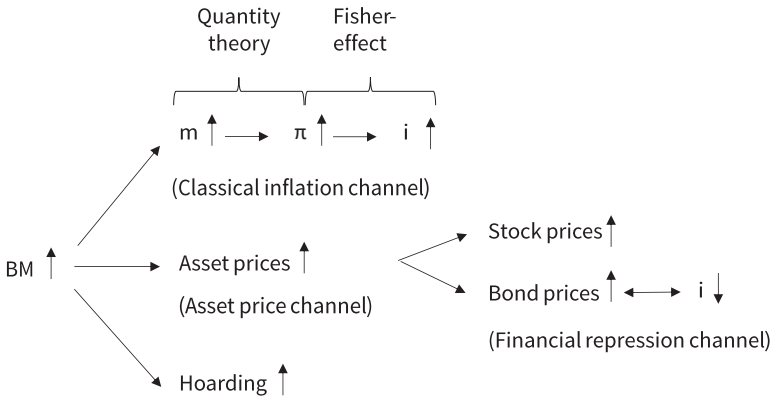


Note: Yield on public debt securities outstanding with an average maturity of 9–10 years. Consumer prices adjusted to calendar and seasonal effects.

Source: Deutsche Bundesbank. © ifo Institute

Figure 2

Transmission channels of base money



Source: The authors.

Table 1

Government bond yields and inflation rates in Germany

Period		A 1992–98	B 1999–2009	C 2010–14
Nominal interest rate*	i	0.064	0.042	0.020
Inflation rate**	π	0.026	0.015	0.015
Real portfolio interest rate***	r	0.011	0.010	-0.004

* Yield on public debt securities with average maturity of 9-10 years. ** Consumer prices adjusted to calendar and seasonal effects. *** Average real rate of return of portfolio after taxes.

Source: The authors.

that the capital yields tax rate also did not change during that period of time, the resulting reduction in the real portfolio interest rate since 2010 is clearly solely due to the financial repression policy of the ECB.

Table 2 shows the losses of interest income due to the three principle types of taxes: capital yield tax (CYT), inflation tax (INFT) and financial repression tax (FRT) in the "normal ECB regime" (period B) and the low interest rate regime of the ECB (period C). In order to separate the contributions of the different types of taxes, we start with a hypothetical base-scenario in which the nominal interest rate is set to 2.7% pa, being equivalent to the real interest rate on government bonds in the period 1999 – 2009. No capital yields taxes (τ) and no inflation (π) shall exist. According to the flow of funds statistics for Germany in 2013, the financial assets of German households add up to 5,000 billion EUR (K) and the share of interest bearing assets was 0.8 (ß).[4] In the next scenario, denoted CYT, we introduce a capital yields tax of $\tau = 0.264$ on nominal interest income.[5] In scenario CYT+INFT, inflation is introduced at a rate of $\pi = 1.5\%$ pa and, in line with the Fisher-effect, the nominal interest rate is increased to i = 4.2% pa. Both rates now correspond to their respective averages in the reference period B. In the low interest rate scenario CYT+INFT+FRT, in line with the observed averages in period C, the nominal interest rate is suppressed by the central bank to i = 2.0% pa, while the inflation rate remains at $\pi = 1.5\%$ pa.

Since 2010 German savers have faced a total sacrifice on interest income worth roughly 124 billion EUR per year. About half of this amount is due to the low interest rate monetary policy of the ECB (64 billion EUR), accounting for more than capital yields tax (28 billion EUR) and inflation tax (32 billion EUR) taken together.

WELFARE LOSS AND EXCESS BURDEN IN AN OLG MODEL

The foregone interest income calculated for German savers is not informative as far as the possible welfare losses for German households as a whole are concerned, since they do not take into account the reduction in the interest expenses of debtors in the economy, particularly on

[4] Currency in circulation and bank deposits as a percentage of total financial assets of the private household sector in Germany (average: 2008–2013); Cf. Deutsche Bundesbank (2014), p. 46.

[5] This rate results from the current German flat rate tax on capital income of 25% plus a 5.5% "solidarity surcharge" on capital yields.

Table 2

Loss of interest income due to different taxes (per year)

Period				B 1999–2009	C 2010–14
Types of taxes imposed		Base	CYT	CYT + INFT	CYT + INFT + FRT
Capital yields tax rate	τ	0	0.264	0.264	0.264
Inflation rate**	π	0	0	0.015	0.015
Nominal interest rate*	i	0.027	0.027	0.042	0.020
Real portfolio interest rate***	r	0.022	0.016	0.010	-0.003
Cumulated loss of interest income	€bn	0	28	60	124
			CYT	INFT	FRT
Additional loss of interest income	€bn		28	32	64
	ß=0.8; K = 5,000 €bn				

* Yield on public debt securities with average maturity of 9-10 years. ** Consumer prices adjusted to calendar and seasonal effects.
*** Average real rate of return of portfolio after taxes.

Source: The authors.

the part of the government sector.[6] To analyze the net welfare consequences, we use a simple overlapping generation model (OLG)[7] and we refer here to the same types of taxes (CYT, INFT, FRT) as before. With just two parameters, the OLG model is calibrated very parsimoniously: Generation length is set at T = 30 years and the discount rate of future consumption is set at 3% pa. The average values of the variables shown in Table 2 remain unchanged. Here, however, we do not reduce the nominal interest rate in the low interest rate scenario since 2010 by 2.2 pp. This would be reasonable if the low interest rate policy lasted for a whole generation. Erring on the side of caution, however, we assume that the low interest rate regime will continue for 11 years, from 2010 to 2020, until monetary policy returns to normal. In the OLG model, an interest rate decrease of 2.2 pp over 11 years is equivalent to a decline of 0.8 pp (from 4.2% to 3.4% pa) over a full generation.

Table 3 summarizes the corresponding welfare consequences. Accordingly, the capital yields tax creates a loss in consumer surplus (CS) of 4.8% of labor income. Adding inflation increases the loss in CS to 10.1% and the additional financial repression tax since 2010 increases the loss in CS to 14.1% of labor income, whereas government revenues from capital yield taxes, inflation tax and financial repression tax gradually increase to 11.1% of labor income. As a net effect, the deadweight loss (DWL) of taxing capital yields amounts to a moderate 0.4% of labor income. Adding inflation increases the DWL to 1.6%. Finally, financial repression due to subdued interest rates increases the excess burden to a sizeable 3% of labor income.

Relating these figures to German GDP data (around 2,700 billion EUR in 2013); the corresponding DWL is equivalent to 10 billion EUR in scenario CYT. Adding inflation in scenario CYT+INFT creates an additional excess burden of 33 billion EUR and a further financial repression tax on top (Scenario CYT+INFT+FRT) generates an additional excess burden of 37 billion EUR. By the way, if the regime of financial repression persisted over a full generation, the welfare loss would skyrocket to 123 billion EUR annually.

As Table 3 also shows, if the capital yields tax rises by one euro, an excess burden of nine cents is created. By contrast, government revenue raised by the inflation tax is comparatively more expensive: every euro of revenues creates an excess burden of 30 cents. By far the most inefficient way to boost government revenues is by suppressing interest rates. Every euro that reduces the interest bill of the government loads consumers with an excess burden of 53 cents. Here, an effect emphasized by Martin Feldstein is revealed most clearly: a distortion of the intertemporal allocation of consumption and savings (interest rate repression), which comes on top of already existing distortions (capital yields tax, inflation tax), creates a welfare loss that is by no means negligible any more. In other words, the small Harberger triangle of welfare economics turns into a large trapezoid.[8]

SUMMARY: SUBSTANTIAL COSTS AND WELFARE LOSSES OF LOW INTEREST RATE POLICY

Due to the low interest rate policy pursued in the euro area since 2010, German savers have lost an estimated interest income of around 65 EUR billion per year. However, this figure overstates the true burden, as this calculation does not take into account the relief cashed in by (mainly public) debtors due to cheaper net borrowing costs. Both aspects are an integral part of our analysis employing an overlapping generation model. According to our calculations, the monetary policy of ultra-low interest rates that has been conducted by the ECB since 2010 still imposes on Germany alone an additional excess burden of 37 billion EUR per year.

6 For the sake of simplicity in the model, we assume that the group of debtors only consists of the public sector. This assumption does not change the results in principle; see Feldstein (1999), Tödter and Ziebarth (1999) and Tödter and Manzke (2009), who used similar models to calculate the costs and benefits of disinflation.

7 For technical details see Rösl and Tödter (2015) and the groundbreaking work of Samuelson (1958).

8 Cf. Harberger (1964) and Feldstein (1999), p. 14.

Table 3

Welfare consequences due to different taxes on savings

Period				B 1999–2009	C 2010 –2014
Types of taxes imposed		Base	CYT	CYT + INFT	CYT + INFT+ FRT
Loss in consumer surplus (%)	CS		4.79	10.13	14.08
Government revenue (%)	TX		4.41	8.53	11.12
Deadweight loss (%)	DWL		0.38	1.60	2.96
Deadweight loss	€bn	0	10	43	80
Additional deadweight loss	€bn		10	33	37
Marginal tax inefficiency	Δλ Δλ = ΔDWL /ΔTX		0.09	0.30	0.53

Source: The authors.

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