European Central Bank (ECB) Monetary Intermediation Cost

Abstract/Summary

The European Central Bank (ECB) controls the monetary policy for the seventeen nation Eurozone currency area. This paper puts forth the proposition that the monetary intermediation cost of the ECB is at least 99% inefficient (1 - bank reserve requirement) and is on the order of 2¾% of Eurozone GDP per year, compounded to 30% since the Euro introduction in 1999 that could be more efficiently handled by a full reserve credit banking system, development of 100% depositor owned institutions to exclusively hold demand deposits and direct issuance of new money creation, known as Seigniorage, to the people in the Eurozone based on a GDP index monetary standard.

It is believed that with the discovery of the Modigliani-Miller Financial Theorem in 1958 of the irrelevance of capital structure that proof of the superiority of the full reserve system has existed because of its lower monetary intermediation cost. There is no credit intermediation loss with a full reserve system and there would be a more efficient allocation of economic returns reducing and/or eliminating the current wealth transfer disparity caused by the fractional reserve system. The improvement to the Eurozone economy from conversion is expected to be the approximate amount of the reduced monetary intermediation cost, on the order of 2¾% of GDP per year from a 99% lower monetary intermediation cost (1-reserve requirement), improve the balance sheets of EU governments on the order of €13.8 trillion as of fiscal year 2011 and restore on the order of twelve to fifteen million jobs.

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To the people of Europe

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1. Introduction

The European Central Bank (ECB) controls the money stock of the seventeen nation Eurozone and supplies liquidity to a group of fractional reserve banks for the stated purpose of price stability and credit intermediation. The monetary intermediation cost of the ECB is at least 99%[1] inefficient and is on the order of 2¾% of Eurozone GDP per year[2], compounded to 30%[2] since the introduction of the Euro in 1999, that could be more efficiently handled by a full reserve credit banking system, development of 100% depositor owned institutions to exclusively hold demand deposits and direct issuance of new money creation, known as seigniorage, to the people in the Eurozone based on a GDP Index Standard. As will be shown in Section 3 there is no credit intermediation loss with a full reserve system and there would be a more efficient allocation of economic returns reducing and/or eliminating the current wealth transfer disparity caused by the fractional reserve system.

I. Intermediation Cost using ECB Reserve Requirement System		
European Central Bank (ECB) Monetary Issuance System	**€ Amount**	**Efficiency of Monetary Increase**
1. ECB acquires government issued debt	€ 1,000,000	1.0%
2. ECB Reserve Requirement[1]	1.0%	
3. Money Stock Increase via ECB Commercial Bank Loans	€100,000,000	100.0%
4. ECB Banks net Increased Loans (Intermediation Cost)	€ 99,000,000	99.0%

TABLE 1 DATA SOURCE: ECB Intermediation Cost Inefficiency Estimate 1% Reserve Requirement, Attachment 1(a).

II. Direct Monetary Expansion System to People using National Entity		
Direct Monetary Issuance System(Possible Commerce Ministry)	**€ Amount**	**Efficiency of Monetary Increase**
1. People issued bills directly from Government(Commerce Ministry	€ 1,000,000	100.0%
2. People/Government Portion of issued bills	100.0%	
3. Money Supply Increase to People via Direct Government Issue	€ 1,000,000	100.0%
4. ECB Banks net Increased Loans (Intermediation Cost)	€ 0	0.0%

TABLE 2 DATA SOURCE: ECB Intermediation Cost Inefficiency Estimate 1% Reserve Requirement, Attachment 1(a).

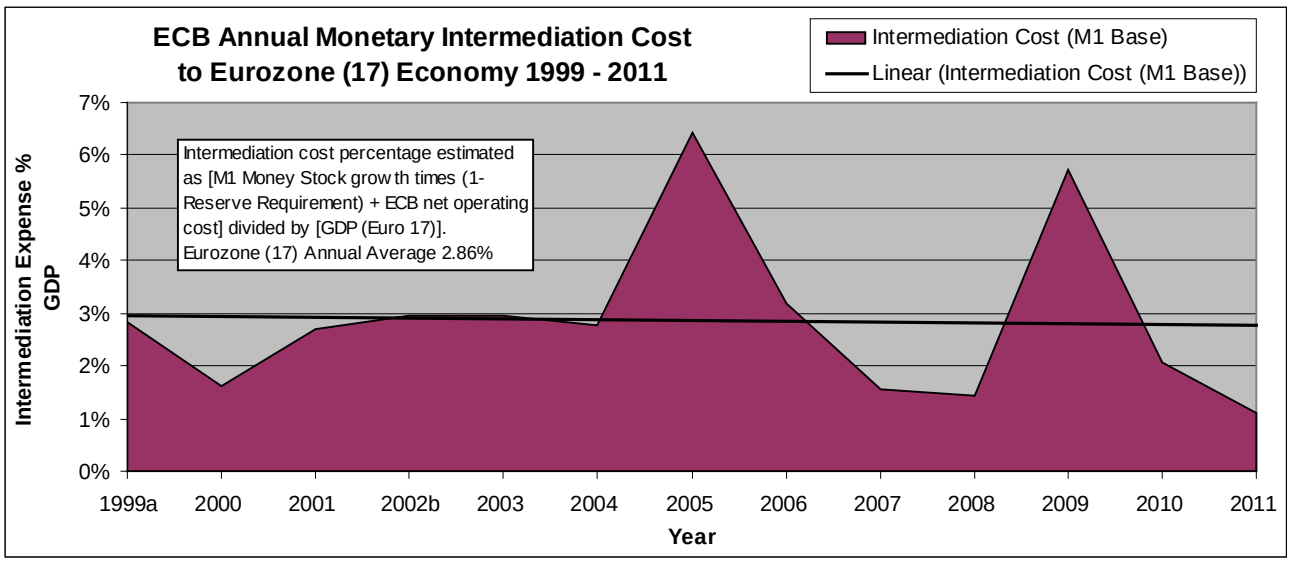

CHART 1 DATA SOURCE: ECB Eurozone (17) Intermediation Cost 1999 to 2011 using M1 Money Stock, Attachment 6.

[1] ECB Intermediation Cost Inefficiency Estimate with 1% Reserve Requirement, Attachment 1(a).
[2] ECB Annual and Compounded Monetary Intermediation Cost 1999 to 2011 using M1 Money Stock, Attachments 6 and 7.

ECB Eurozone (17) Monetary Intermediation Cost	€ Billions	% Percent
Economic (GDP) earnings 2011 w/o ECB intermediation expense	€ 9,425.3	100.0%
Economy earnings with ECB Intermediation expense deducted	€ 6,543.8	69.4%
ECB Intermediation Expense to Non Bank Economy since 1999	**€ 2,881.5**	**30.6%**
ECB Intermediation costs, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 30.6% of eurozone economic returns to banking sector from 1999 to 2011.		

TABLE 3 DATA SOURCE: ECB Compounded Intermediation Cost To Eurozone (17) Economy 1999 to 2011, Attachment 7.

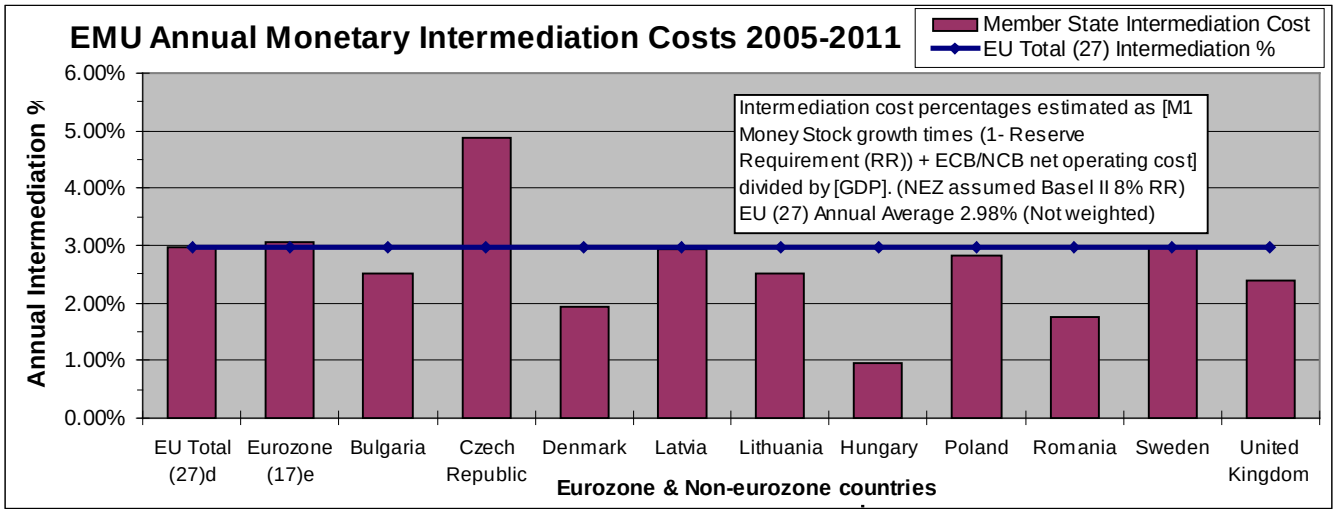

CHART 2 DATA SOURCE: ECB/NCB Annual & Compound Intermediation Cost to Economy 2005 to 2011, Supplement 1(a).

The chart below shows the impact of fractional reserve monetary leverage, which adds risk to the economic system in the form of increased variability of returns but does not change returns to the system, shown below as increased amplitudes of the business cycle. The compounding intermediation cost of the ECB/ESCB System debt based monetary system is also shown gradually increasing in size that is actually a reduction to system returns.

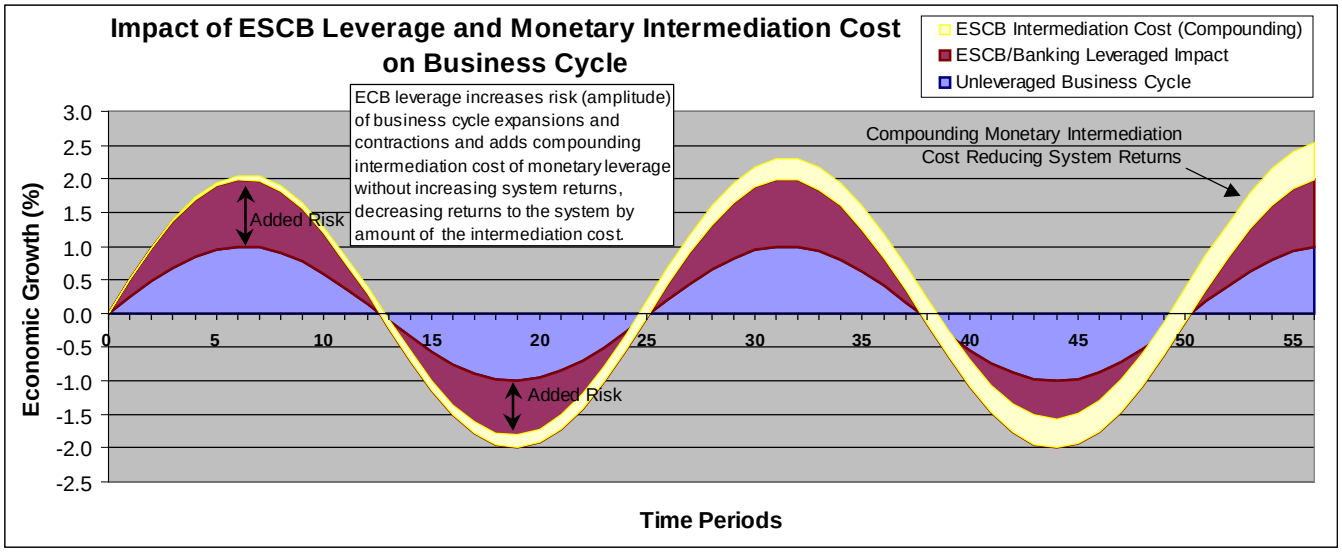

CHART 3 DATA SOURCE: Business Cycle with Leverage and Intermediation Added using Excel Sine Wave Graph.

It is believed that with the discovery of the Modigliani-Miller Financial Theorem[3] in 1958 of the irrelevance of capital structure that proof of the superiority of the full reserve system has existed because of its lower monetary intermediation cost. The improvement to the Eurozone economy from conversion is expected to be the approximate amount of the reduced monetary intermediation cost, on the order of 2¾% of GDP per year, improve the balance sheets of EU sovereign governments on the order of €13.8 trillion.[4], and restore on the order of twelve to fifteen million jobs.

A direct issue, 100% reserve system with a GDP index based monetary standard would result in a 99% lower monetary intermediation cost.[5] There is no credit intermediation loss from a full reserve system[6] and therefore it would absolutely reduce unnecessary leverage risk within the Eurozone, increase returns to the EU by the reduced intermediation cost and more equitably distribute the returns within the Eurozone.

A banking business model based on full reserve financial intermediation, time matched funding spread lending, is not a new concept. It has had historical support from at least five previous Nobel Prize winners, Milton Friedman, 1976, James Tobin, 1981, Maurice Allais, 1988, Merton Miller, 1990 and Frederick Soddy, 1921, a former Secretary of Agriculture and Vice President of the United States, Henry Wallace, at least one prominent national central banker, Mervyn King[7], retiring governor of the Bank of England and numerous distinguished economists and financial writers listed in Attachment 13 including Irving Fisher, one of the foremost economists of the first half of the 20th Century.[8]

[3] Modigliani-Miller Theorem from "The Cost of Capital, Corporation Finance and the Theory of Investment", *American Economic Review*, 48: 261-297, June 1958 and Merton H. Miller "Do the M&M propositions apply to banks?", *Journal of Banking & Finance* 1995. References 19 and 20.
[4] Section 9. Impact on sovereign debt from monetary conversion.
[5] ECB Intermediation Cost Inefficiency Estimate with 1% Reserve Requirement, Attachment 1(a).
[6] Fractional Reserve Analysis with 100% Reserve Requirement, Attachment 3(c).
[7] "Banking: From Bagehot to Basel, and Back Again", Buttonwood Gathering Speech October 25, 2010, Reference 17.
[8] Allen, William R., "Irving Fisher and the 100 Percent Reserve Proposal", *Journal of Law and Economics* vol. XXXVI (October 1993), Reference 1.

2. New money creation monetary intermediation cost issue

When the ECB system creates new money there is a general belief that it is made out of "nothing" or "thin air", this is not true, it comes out of the existing wealth stock. Money is a medium of exchange and represents value in trade. The aggregate value of money, assuming the money is accepted as a medium of exchange, equals total wealth divided by the total stock of money. If new money is created the total wealth has not changed so the value of the money must be reduced BUT first use and control of the new money is directly vested with the ECB system indicating a transfer of wealth to the ECB every time new money is created.

The Eurozone economy is constantly loosing and transferring wealth to the ECB banking system to sustain it, not "thin air" or domestic governments as is widely believed. In this process not only does the ECB dilute and transfer wealth to itself from the other sectors of the economy but charges the economy additional interest from which the wealth was diluted and taken. The Eurozone has no economic benefit from this structure, which is exclusively a transfer of wealth within the system without adding value to the system as a whole.

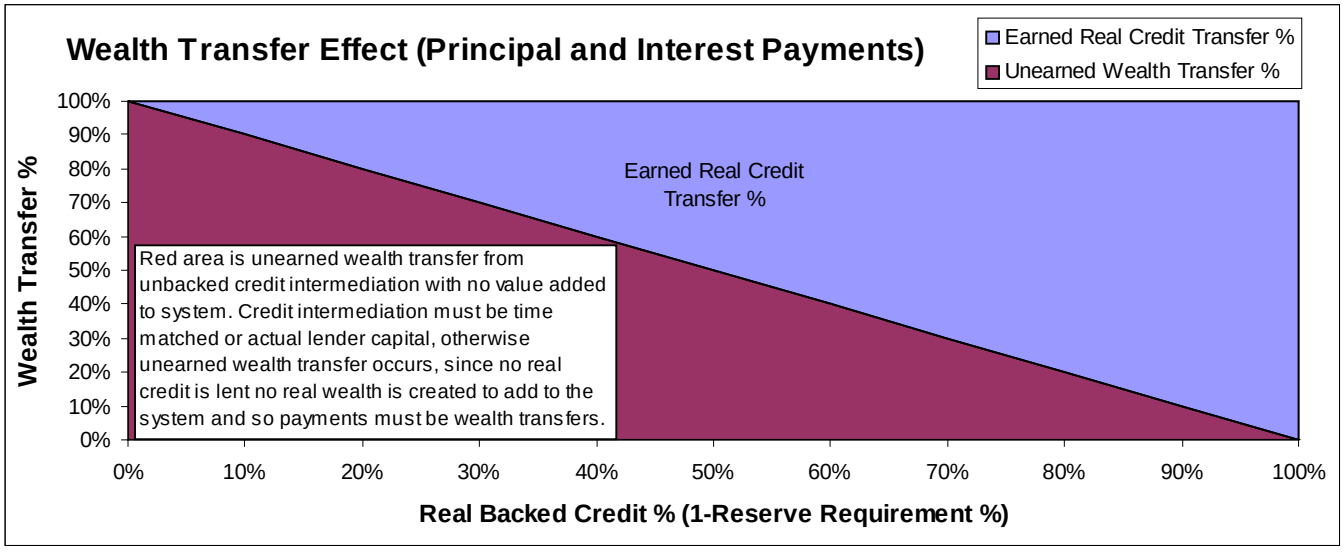

CHART 4 DATA SOURCE: Fractional Reserve Wealth Transfer and Earned Intermediation Schedule, Attachment 2.

ECB member banks utilising a 1.0% reserve requirement are 99%[9] (1 - applicable reserve requirement) beneficiaries of inflation by virtue of their first use of new money creation with the people and their elected governments involuntarily having their wealth transferred to the banking sector by the same amount since no new wealth has been created. The primary driver of unemployment and wealth inequality in the Europe is the constant inefficient capital transfer to the monetary issuing source.

ECB intermediation in the monetary creation process is unnecessary and reduces the overall return to the Eurozone economic system by the amount of its intermediation cost, estimated at approximately 2¾% of Eurozone GDP per year[10].

[9] ECB Intermediation Cost Inefficiency Estimate with 1% Reserve Requirement, Attachment 1(a).
[10] ECB Annual Monetary Intermediation Cost 1999 to 2011 using M1 Money Stock, Attachment 6

3. Confounding the fractional reserve system with credit intermediation

The fractional reserve banking system has been confounded with credit intermediation with material adverse effects on the economy because fractional reserve lending is unearned wealth transfer whereas full reserve lending is earned credit intermediation. The confounding is that these two things appear so closely associated that they are assumed causally related or the same thing.

If fractional reserve lending and credit were causally related or the same thing increasing fractional reserve lending would increase credit available to the system and for temporary periods this can appear to be the case but it is known from the M&M Theorem that leverage does not change the value of the system so the credit of the system cannot be increasing and must be limited and return to the base wealth of the system itself.

Fractional reserve lending has never added value to the system. The entire history of fractional reserve lending will never be able to show that it added value without wealth transfer outside of the lending process to sustain it. It is virtually impossible to see the confounding defect of the system mixing the appearance of true credit lending with the fractional reserve system of lending unbacked credit, effectively nothing. The only thing happening is wealth transfer via inflation and direct bailout from the rest of the system to the fractional reserve lending source with no increase in system value. **Since the fractional reserve source appears to add value via profits it is assumed to add value to the system under the profit motive theory. The profit is 99%+ inflationary wealth transfer from first use of new money creation. The only profit fractional reserve lending has ever made is inflationary wealth transfer from first use new money creation during expansions, foreclosure wealth transfer during credit contractions and direct bailout wealth transfer and has reduced the returns to the system by the amount of its intermediation cost.** To the extent commercial banks may have used time matched funding and lending of their own capital some true credit intermediation was added to the system, but it is small on a relative basis at approximately 1% (1 - Reserve Requirement).

In the fractional reserve lending system wealth transfer is (Loan Principal + Interest) x (1- Reserve Requirement). Inflation is the Principal portion of wealth transfer. In a 1% reserve system, 99% of the initial loan is inflation wealth transfer with interest repayment as 99% direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.

An example of direct lending compared to fractional reserve and full reserve lending follows to show the impact of fractional reserve wealth transfer and true credit intermediation. It is composed of Farmer A with a field that a crop is grown on, Farmer B with a Tractor that is rented to Farmer A and a Financial Intermediary that can lend Farmer A the amount of the tractor rent.

Initial Conditions

Item	Value (Initial Condition)
Crop Value	€ 1,500
Tractor Rent (Farmer B)	€ 500
Loan, if applicable	€ 500
Loan Interest to Rent Tractor (5%)	€ 25

I. Direct Lending (100% Full Reserve Lending - Farmer B is Lender of Real Credit - Tractor)

I. No Financial Intermediary (Real Asset Tractor Lending)				
	Farmer A	Farmer B	Intermediary	Total
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000
Tractor Rent	(€ 500)	€ 500		€ 0
Sell Crop	€ 1,500			€ 1,500
End (Cash)	€ 1,480	€ 980	€ 40	€ 2,500
Direct Net Earnings	€ 1,000	€ 500	€ 0	€ 1,500
% Earnings	66.67%	33.33%	0.00%	100.0%

TABLE 4 DATA SOURCE: Fractional Reserve Analysis with 1% Reserve Requirement, Attachment 3(a).

II. Fractional Reserve Lending (1% Reserve Requirement Financial Intermediation)

II. With 1% Reserve Financial Intermediation Added (1% Real Backing)				
	Farmer A	Farmer B	Intermediary	Total
Start (Cash)	€ 498	€ 498	€ 5	€ 1,000
Direct Net Earnings(Above)	€ 1,000	€ 500	€ 0	€ 1,500
Loan	€ 500		€ 500	€ 500
Loan Interest	(€ 25)		€ 25	€ 0
Pay Back Loan	(€ 500)		€ 500	€ 0
End (Cash)	€ 1,473	€ 998	€ 525	€ 2,995
Net Earnings	€ 975	€ 500	€ 520	€ 1,995
% Earnings	48.87%	25.06%	26.07%	100.00%
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				19.80%

TABLE 5 DATA SOURCE: Fractional Reserve Analysis with 1% Reserve Requirement, Attachment 3(a).

1% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 495.00	€ 495.00	99.00%		€ 495.00
Interest (Loan(a) x (c))	€ 25.00		€ 24.75	99.00%	€ 0.25	€ 25.00
Total	€ 525.00	€ 495.00	€ 519.75	99.00%	€ 0.25	€ 520.00
					Wealth Transfer (Unearned Return = ? (B))	€ 519.75
					Financial Intermediation Unearned Return % (Unearned Return/Total Return = ? (B)/? (D))	99.95%
					Intermediary Return on €5 Required Reserve Investment (Total Return/Start Cash)	10400.00%
					Earned Financial Intermediation (Interest x Reserve Requirement = ? (C))	€ 0.25
					Earned Financial Intermediation % of Total Return of €520 (Earned Return/Total Return)	0.05%

TABLE 6 DATA SOURCE: Fractional Reserve Analysis with 1% Reserve Requirement, Attachment 3(a).

III. Full Reserve Lending (100% Reserve Financial Intermediation)

II. With 100% Reserve Financial Intermediation Added (100% Real Backing)				
	Farmer A	Farmer B	Intermediary	Total
Start (Cash)	€ 250	€ 250	€ 500	€ 1,000
Direct Net Earnings(Above)	€ 1,000	€ 500	€ 0	€ 1,500
Loan	€ 500		€ 500	€ 500
Loan Interest	(€ 25)		€ 25	€ 0
Pay Back Loan	(€ 500)		€ 500	€ 0
End (Cash)	€ 1,225	€ 750	€ 525	€ 2,500
Net Earnings	€ 975	€ 500	€ 25	€ 1,500
% Earnings	65.00%	33.33%	1.67%	100.00%
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				0.00%

TABLE 7 DATA SOURCE: Fractional Reserve Analysis with 100% Reserve Requirement, Attachment 3(c).

100% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 0.00	€ 0.00	0.00%		€ 0.00
Interest (Loan(a) x (c))	€ 25.00		€ 0.00	0.00%	€ 25.00	€ 25.00
Total	€ 525.00	€ 0.00	€ 0.00	0.00%	€ 25.00	€ 25.00
Wealth Transfer (Unearned Return = ? (B))						€ 0.00
Financial Intermediation Unearned Return % (Unearned Return/Total Return = ? (B)/? (D))						0.00%
Intermediary Return on €500 Required Reserve Investment (Total Return/Start Cash)						5.00%
Earned Financial Intermediation (Interest x Reserve Requirement = ? (C))						€ 25.00
Earned Financial Intermediation % of Total Return of €25 (Earned Return/Total Return)						100.00%

TABLE 8 DATA SOURCE: Fractional Reserve Analysis with 100% Reserve Requirement, Attachment 3(c).

The intermediary does not add value to this system and only has earned income to the extent lending was backed by actual reserves. We know from the M&M Theorem that leverage does not add value to the system so leveraging credit does not add value and the appearance of profit must be wealth transfer.

In the real world Farmer A would not borrow money this way unless he thought he was getting something. Farmer A cannot tell the difference between real credit of Tractor lending and 99% unbacked, 1% reserve financial intermediation.

Fractional Reserve Wealth Transfer and Earned Intermediation Schedules – Attachment 2					
Reserve Requirement	**Wealth Transfer**	**Wealth Transfer (Unearned)**		**Earned Intermediation**	
		Principal	**Interest**	**Principal**	**Interest**
0.0%	100.0%	100.0%	100.0%		0.0%
10.0%	90.0%	90.0%	90.0%		10.0%
20.0%	80.0%	80.0%	80.0%		20.0%
30.0%	70.0%	70.0%	70.0%		30.0%
40.0%	60.0%	60.0%	60.0%		40.0%
50.0%	50.0%	50.0%	50.0%		50.0%
60.0%	40.0%	40.0%	40.0%		60.0%
70.0%	30.0%	30.0%	30.0%		70.0%
80.0%	20.0%	20.0%	20.0%		80.0%
90.0%	10.0%	10.0%	10.0%		90.0%
100.0%	0.0%	0.0%	0.0%		100.0%

4. Inability of ECB policy makers to forecast better than market or GDP index

The ECB team of economic forecasters is essentially equivalent to active management of mutual funds in the stock market that has been shown to have overwhelming odds against being able to keep pace with an index of the entire stock market.

The annual intermediation cost of the ECB Monetary System is estimated to be on the order of 2¾% of Eurozone GDP per year[11], primarily through member bank creation and first use of new money instead of a direct issue system to the people of the Eurozone. It is not believed ECB monetary policy management is adding value to the Eurozone economy according to the M&M Theorem of capital structure irrelevance so the intermediation cost of the ECB must be approximately a 99% (1 - applicable reserve requirement)[12] reduction of returns or transfer of wealth to fractional reserve banks in the Eurozone.

In order for active ECB monetary management to justify itself it would need to add economic performance to the Eurozone by at least the amount of its monetary intermediation cost, which it is not believed it is able to do. It should therefore be replaced with a GDP indexed based monetary system with a risk free rate of return or interest rate (r_f), that could be operated at much lower intermediation cost and would increase returns to the Eurozone economic system by the amount of the reduced intermediation cost, on the order of 2¾% of GDP per year from the improved efficiency of the monetary system.

Jack Bogle, who has written extensively on financial intermediation, has developed a Cost Matters Hypothesis (CMH) that is material to EU/EMU monetary policy:

"Gross return in the financial markets, minus the costs of financial intermediation, equals the net return actually delivered to investors. While truly staggering amounts of investment literature have been devoted to the EMH (the Efficient Market Hypothesis), precious little has been devoted to what I call the CMH - the Cost Matters Hypothesis. However, to explain the dire odds that investors face in their quest to beat the market we don't need the EMH. We need only the CMH. ***Whether markets are efficient or inefficient, investors as a group must fall short of the market return by precisely the amount of the aggregate costs they incur. It is the central fact of investing."***

John C. Bogle, Founder of the Vanguard Group, excepted from his book "Don't Count on It!", 2010, Part One Investment Illusions, Chapter 2 The Relentless Rules of Humble Arithmetic, page 26.

Monetary Intermediation Cost ECB (Estimated using M1)			
Year (End 12/31)	**GDP(17)[3]** (% Growth)	**Intermediation** (% GDP Cost)	**GDP-Intermediation** Net (% GDP) (r_f)
1998			
1999	4.512%	2.838%	1.674%
2000	5.206%	1.629%	3.577%
2001	4.439%	2.693%	1.746%
2002	3.474%	2.950%	0.523%
2003	2.948%	2.961%	-0.013%
2004	4.154%	2.770%	1.384%
2005	3.627%	6.419%	-2.792%
2006	5.151%	3.168%	1.983%
2007	5.433%	1.553%	3.880%
2008	2.371%	1.429%	0.942%
2009	-3.472%	5.721%	-9.193%
2010	2.885%	2.082%	0.803%
2011	2.662%	1.104%	1.558%
Averages	3.31%	2.86%	0.41%
Count(Years)	13	13	13

TABLE 9 DATA SOURCE: ECB Annual Intermediation Cost 1999 to 2011 using M1 Euro Money Stock, Attachment 6.

[11] ECB Annual Monetary Intermediation Cost 1999 to 2011 using M1 Money Stock, Attachment 6.
[12] ECB Intermediation Cost Inefficiency Estimate with 1% Reserve Requirement, Attachment 1(a).

5. Optimal quantity of money & GDP growth standard for go forward monetary system

The optimal quantity of money is believed to be the existing amount since it would have the least intermediation cost to change to in a new system. The optimal quantity of money for the go forward monetary system is therefore the amount currently in use.

GDP Based Standard Quantity of Money

It is believed a GDP based monetary standard would be the most efficient standard at this time and be easy to implement and maintained in the Eurozone and non-Eurozone. It could be implemented by taking the current amount of money in circulation in the Eurozone and/or national currency state and dividing it by the applicable current GDP and make that the standard quantity of money per unit of GDP. Increases in GDP would increase the money stock by a matching amount, which would be the risk free rate of return or interest rate (r_f), based on a money quantity per unit of GDP standard. It is believed the narrowest workable monetary measure would be most efficient.

Determination of GDP growth rates for monetary expansion would be completed by an acceptable statistical source such as the European Commission eurostat organisation.

Population Based Standard Quantity of Money

Robert de Fremery makes a strong case in his 1955 book *Money and Freedom* that markets would function most efficiently utilising a fixed standard measure of money and suggests a population based standard[13], which would simply be to take the current amount of money in circulation and divide it by the current population and make that the standard quantity of money per person. Increases in population would increase the money stock by a matching amount of money based on the money quantity per person standard.

A fixed quantity of money per person standard was not proposed at this time because a GDP growth standard provides a revenue source, the risk free rate of return or interest rate (r_f), to fund the non-lending 100% depositor owned depositories proposed in section 7.

[13] *Money and Freedom*, Robert de Fremery, 1955, Ch. 1 "Some Basic Economic Theory Concerning Money", Reference 6.

6. Why gold is not the answer for the monetary system

Gold backing is unnecessary for the monetary system to work efficiently and adds intermediation expense to maintain it in storage.

It is believed a unit of GDP standard would provide better results than a gold standard because it would be easier to maintain and would provide an easily measurable standard for money stock determination. The primary reason gold has been desirable for usage as money was that it had limited availability and was difficult to counterfeit making it a good medium of exchange. The supply of gold is not fixed however, nor is any commodity and therefore the price of the commodity backing the currency will fluctuate in value. Gold also has a history of being debased and because it is a commodity it can have wide value shifts making it unsuitable as a measure of value for medium of exchange use. The feature in its favor is its limited availability, however history has shown that gold based currencies have been debased over time and it is not useful as a standard of value.

With a fractional reserve system the right to convert currency to gold would decrease the money stock by more than the amount of the currency converted. The relationship between gold and the money stock is not one to one but one divided by the fractional reserve requirement percentage. At a 1% reserve requirement, converting €1 to gold would reduce the money stock by €100, a one-hundred to one relationship that is not sustainable so gold offers no currency/money stock/credit availability security at all without a 100% reserve standard.

The observed fact of history is that prices are based on the medium of exchange actually used, not the commodity backing it as evidenced by the historic periodic monetary devaluations in the United States of the dollar in terms of gold, which did not result in a matching increase in prices in the U.S. economy.[14]

A 100% reserve system does not need any underlying commodity backing the currency as long as there is a standard to determine the amount of currency in circulation, which a GDP monetary unit standard would provide.

[14] *Money and Freedom*, Robert de Fremery, 1955, Ch. 7 "Shall We Return to a Gold Standard--Now", Reference 6.

7. Transition process to full reserve monetary system

A supranational monetary union with a single and/or multiple currencies could be operated maintaining national sovereignty with the adoption of a GDP monetary standard applicable to all currencies within the union requiring only a common agreement at the supranational level of the monetary standard to be used. A monetary union is not believed to require a fiscal union or a central bank to be highly economically efficient as evidenced by the independent fiscal operation of the individual states within the United States that share a common currency without state level monetary control. Fiscal sovereignty within the Eurozone/Economic and Monetary Union (EMU) is expected to be maintained at the national level which is the same level that banking and financial stability supervision is maintained. It would also the least disruptive level if a member state ever departs the EMU.

It is anticipated the 100% reserve system would be implemented using existing currency and coinage in circulation since the conversion process between the existing and new monetary system would be done at par to minimize the intermediation cost of transition.

Commercial banks would be required to divide themselves into two entities, one being a 100% reserve cash only demand depository(ies)[15] that would not make any loans and the other being everything else that the bank does. The conversion process is described below with before and after balance sheets included in Attachments 8(a) to (e).

I. Eurozone (17) Commercial Banking System as of 12/31/2011
- **A.** Consolidated Commercial Banks Balance Sheet - Before Conversion (Existing) - Attachment 8(a)
- **B.** Consolidated Commercial Banks Balance Sheet - After Conversion, Before Split - Attachment 8(b)
- **C.** Consolidated Commercial Banks Balance Sheet - After, Depositor Owned Depositories - Attachment 8(c)
- **D.** Consolidated Commercial Banks Balance Sheet - After, Remaining Commercial Banks - Attachment 8(d)
- **E.** Sample Commercial Bank Balance Sheet Conversion - UniCredit, Italy - Attachment 8(e)

II. Eurosystem Consolidated Balance Sheet Conversion Estimate as of 12/31/2011 - Attachment 9

III. Eurozone (17) Central Governments Consolidated Balance Sheets as of 12/31/2011
- **A.** Before Bank Conversion - Attachment 10(a)
- **B.** After Bank Conversion - Attachment 10(b)

Non-Eurozone (10) commercial banking system before and after conversion spreadsheets are included in supplemental attachments 2(a) to (d) with central governments in supplemental attachments 3(a) & (b) and economic impact conversion estimates in supplemental attachments 4(a) to (c).

I. Commercial Banking System

Commercial banks would transfer, at no charge or fee, their demand deposit accounts to new independent depositor owned institutions. The accounts would be funded with existing bank cash plus bank holdings of EU sovereign government securities that would be credited to the demand deposit accounts and retired. The remaining fractional reserve shortage of approximately €13.8 trillion in demand deposit funds would be funded by monetary conversion loans from the applicable domestic sovereign government. The monetary conversion loans would be at a market rate for equivalent debt such as Fannie Mae and/or Freddie Mac issues in the United States at an estimated 25 basis points (0.25%) premium over an EU risk free interest rate (r_f), assumed to be the stabilised EU GDP growth rate, which would match the risk free seigniorage rate at the new depositories, and would be repaid as existing loans payoff. The banks would also receive a one-time monetary conversion release of bankruptcy liability due to their fractional reserve

[15] Suggested by among others David Hume in "Of Money", 1752, Reference 14.

demand deposit shortage of funds. The monetary conversion loan would have a laddered maturity structure to match existing loan and/or other asset repayment dates bringing systematic maturities into balance with no anticipated monetary inflation from the conversion process. Government receipts from repayment of the €13.8 trillion monetary loan would be dividended directly to EU citizens depository accounts and/or used to retire any remaining outstanding domestic national debt.

Monetary Bank Note to Domestic Sovereign Governments to cover fractional reserve cash shortage to fund deposits 100%[a]		**Total EZ** (€ Billions)
(as of December 31, 2011)	Total Deposits [L9+L10]	€ 16,353.85
	Less: Cash and cash balances with central banks [A1]	(€ 829.14)
	Less: Investments (available for sale [A4+A5])	(€ 2,448.32)
Bank note to gov't to cover fractional reserve deposit cash shortage[a]		**€ 13,076.39**

TABLE 10A DATA SOURCE: Eurozone (17) Commercial Banks Consolidated 2011 Balance Sheets, Attachment 8(a).

Monetary Bank Note to Domestic Sovereign Governments to cover fractional reserve cash shortage to fund deposits 100%[a]		**Total EU NEZ** (€ Billions)
(as of December 31, 2011)	Total Deposits [L9+L10]	€ 5,115.10
	Less: Cash and cash balances with central banks [A1]	(€ 620.81)
	Less: Investments (available for sale [A4+A5])	(€ 3,730.68)
Bank note to gov't to cover fractional reserve deposit cash shortage[a]		**€ 763.61**

TABLE 10B DATA SOURCE: Non-Eurozone (10) Commercial Banks Consolidated 2011 Balance Sheets, Supplement 2(a).

All government sponsored deposit insurance programs would end at the completion of bank conversion to full 100% reserve institutions. Placing funds with a commercial bank would be expected to have a premium return over the risk free deposit only institutions. Any public insurance of go forward commercial bank CD type deposits would be a credit substitution subsidy and is not needed since risk free depositor owned accounts would be available at the new deposit only institutions.

Any other material deposit taking institutions would have up to three months or an agreed to time period to convert their accounts to timed certificates of deposit or transfer them to a new depositor owned depository.

Commercial banks and other full reserve institutions would handle lending activity based on 100% time matched funds including certificates of deposit, funds raised in the bond market and from what ever other alternative sources of capital that were available to them including lending their own capital. Commercial banks would be expected to operate utilising a maturity matched positive spread funding/lending business model. For example, banks would use their own capital or a five year bond or CD to make a five year loan and charge a spread premium to do so at a lower cost than the borrower could do on their own. The ability of banks to leverage themselves would still be available as in theory a CD could be up to 100% loaned out. Market experience would be expected to determine the level of leverage banks would stabilise around after conversion.

The existing mismatched maturity banking business model is a variation of a market timing strategy of buy low and sell high with demand deposits being buy low assets and loans being sell high assets as opposed to a matched maturity buy and hold strategy, which is the prevailing view in investment theory today. It is believed financial laws of investing are universally applicable and apply to deposit investments within economic systems. Traditional finance, which in a nut shell is to match the duration of liabilities to assets - long to long and short to short, indicates that financing long-term assets with short term liabilities creates non-systematic business risk that can be diversified away by matched funding.

In the United States major financial institutions IndyMac, Washington Mutual, Bears Sterns and Lehman Brothers all failed in 2008 utilising mismatched maturity business models. These are business model risks, not systematic risks that the EU/Eurozone economic system can diversify away with matched funding at zero credit intermediation loss to the system as shown in section 3. There is no downside to conversion from a systematic point of view and the stability and profitability of the banking sector would also be expected to improve from an improved matched funding business model.

Deposit Only 100% Reserve Institutions

The new 100% deposit only institutions would be created out of existing commercial banks and exclusively hold all of the cash demand deposits used in the EU/Eurozone. Bank holdings of EU sovereign government securities would be credited to the demand deposit accounts and retired. The remaining fractional reserve shortage of approximately €13.8 trillion in demand deposit funds would be funded by a monetary conversion loan from the applicable domestic sovereign government. The banks would also receive a one-time monetary conversion release of bankruptcy liability due to their fractional reserve demand deposit shortage of funds.

The new deposit only institutions would be 100% owned by their depositors utilising the Vanguard mutual fund model, with regular annual public audits. The institutions would operate under a Board of Directors composed of elected deposit account holders. The deposit institutions would be expected to generate revenue by developing a debit card network similar to VISA and MasterCard that would have a minimal intermediary charge to cover system costs. A second source of revenue and expected to be the main source would be new money issued, known as Seigniorage, by existing or newly created national Ministries of Commerce, direct deposited on a pro rata basis to demand deposit account holders in accordance with the applicable GDP growth standard.

Expansions of the money stock, based on the GDP growth standard, would be voted on by national parliaments and signed into law by the executive. This process could also be automated requiring national governmental consideration only if the seigniorage payment were to be taxed in some manor. It is anticipated 2% to 4% or more annual increases to the money stock would be made based on a GDP growth standard. The payments would be anticipated to be made payable quarterly in arrears if the economy was expanding and could be called interest or a "Labour Dividend" to reflect that both labour and capital had combined to increase the productivity of the economy during the previous quarter. In the event of a GDP economic decline no interest or "Labour Dividend" would be paid until the economy had returned to net positive growth from the last dividend payment.

Direct issue would be at least a 99% improvement in the intermediation process of adding money to the EMU system and should have immediate and long-term positive improvements to the economy by virtue of the reduced intermediation cost. The risk free rate of return or interest (r_f) or "Labour Dividend" could be taxed, if necessary, at the time of issuance or taxed as a regular dividend or exempted as the increased money in circulation would be expected to increase revenues to domestic governments by the same approximate percentage as the increase of the "Labour Dividend".

A single seigniorage interest rate (r_f) would apply for the Eurozone with national currencies having their own rates until joining the Eurozone. Variations in GDP growth rates would appear to favor some countries outside the Eurozone in the short run with higher seigniorage payments but current financial theory of the efficient frontier of the indexed Eurozone approach[16] indicates that long-term all members

[16] Brealey, Richard, and Myers, Stewart, *Principles of Corporate Finance*, 1981 Chapter 8 "Risk and Return", pp. 134-152, Ref. 4.

would share equally in the benefits of growth and that variations in national GDP and growth rates other than the Eurozone rate could only be maintained by exposure to added market risk that could be diversified away by joining the Eurozone. Depositors could only achieve higher seigniorage rates by adding uncompensated exchange rate risk to the risk free return available in their currency area. It is expected that investment capital would be attracted to high GDP growth areas to rapidly decrease variations in EU GDP per capita. It is also expected there will always be some variation and shifting of GDP among the nations within the EU from natural market activity. It is not believed there is any economic benefit without matching added risk for any country to delay entering the Eurozone currency union.

A sample of how the system would have operated within the Eurozone for the last ten years along with a comparison showing actual M1 Money Stock growth is included in the two charts below along with a table showing the source numbers. M1 was selected for this example, any actual system would have to have an agreed upon measure of the money stock such as M_1, M_2, M_3 or some other well defined monetary measure. The total of demand deposits held at the proposed demand depositories could serve as the monetary standard. GDP is assumed to be the measure for economic performance.

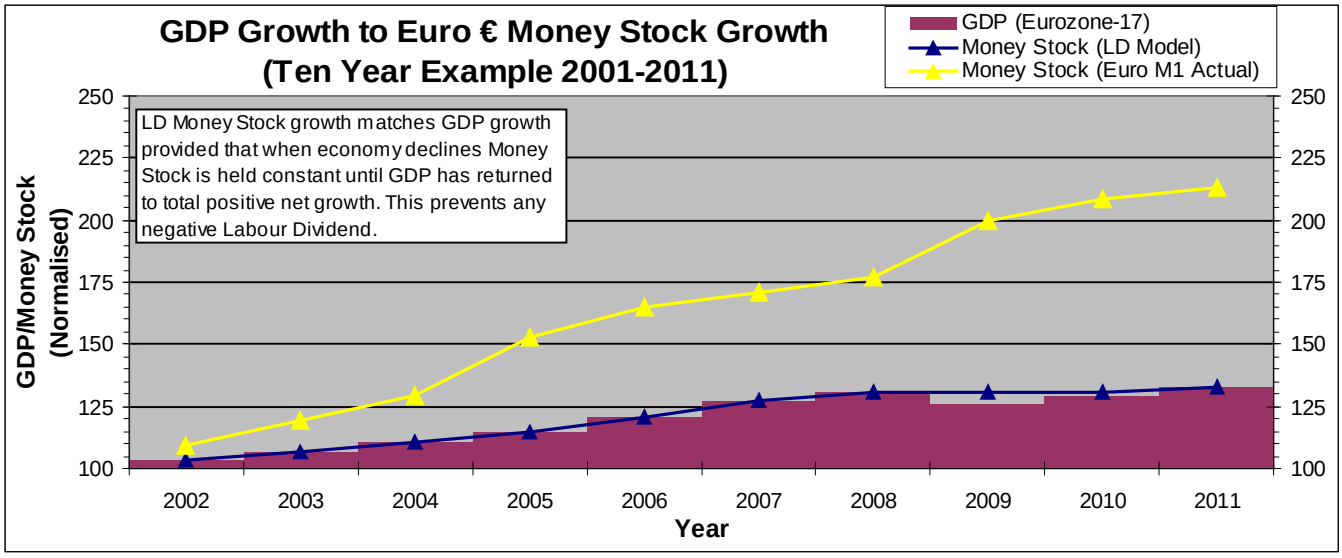

CHART 5 DATA SOURCE: Direct Issuance and First Use (Seigniorage) Money Stock, Attachment 12.

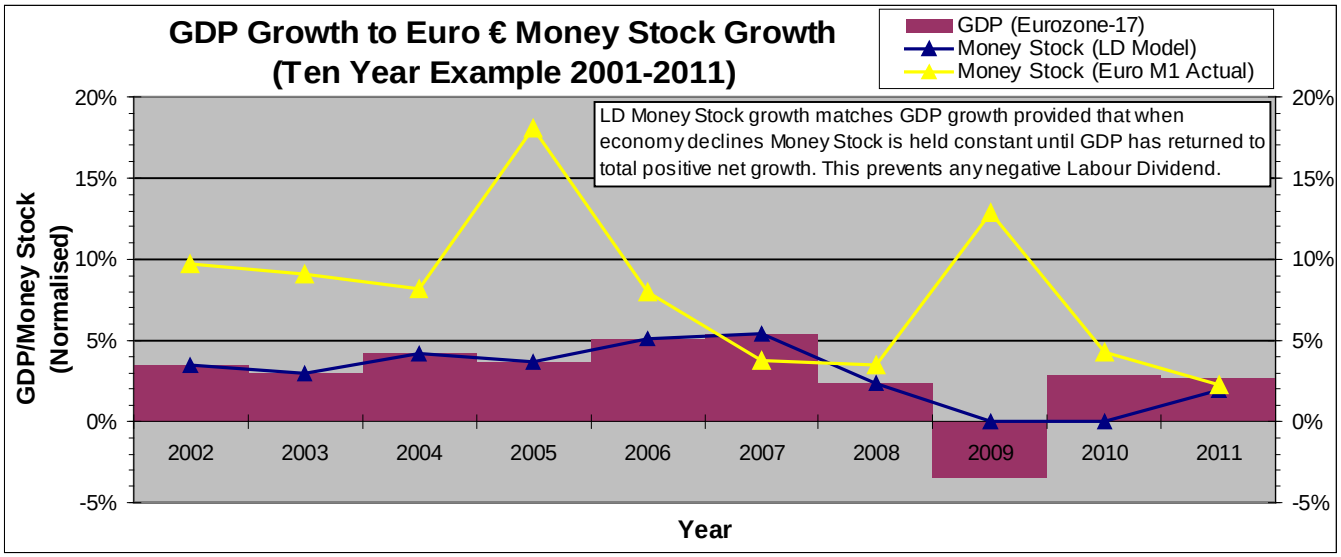

CHART 6 DATA SOURCE: Direct Issuance and First Use (Seigniorage) Money Stock, Attachment 12.

The size of the new 100% reserve demand deposit institutions is expected to be limited so that none are able to grow large enough to present any systematic risk. A preliminary estimate is that no deposit only institution should be allowed to grow larger than 1% to 1½% of total system monetary assets and that would be a factor to consider at the time of creation of the depositor owned institutions.

Cash demand deposit holding institutions will face overwhelming temptation to lend deposits based on what has happened in history. Probably the most well known case is the Bank of Amsterdam, which started as a 100% reserve institution in 1609 that went for years without audit and failed in 1790[17] after undisclosed lending activity was revealed requiring governmental/public support, effectively the public bailing itself out with added intermediation costs to boot, and from then on the bank declined and was closed in 1819. Therefore any institution holding cash deposits must be chartered to have deposit accounts fully owned by their depositors and never lend money or credit under any circumstances including even overnight lending. There would be no government provided deposit insurance because all deposits would be backed 100%. Protection of the depositor's accounts would be provided by the deposit owners themselves, utilising the Vanguard mutual fund model, with regular annual public audits.

Residents within the EU are anticipated to desire to hold their funds in some combination of both the risk free depository system and commercial banking system and that the most efficient way to handle this would be for the selection to be made at the individual citizen level.

II. European Central Banking (ESCB/Eurosystem/ECB/NCB) System

All central banks within the ESCB would be divided into two parts in the same manner as commercial banks with the ECB being divided by its capital key and distributed to the National Central Banks (NCBs). The deposit only portion of the NCBs would be assigned to national Treasury Ministries and assist with the financial operations of the national governments. The remaining operations of the central banks would be assigned to existing or newly created Ministries of Commerce with most functions sunsetting, meaning outstanding activities would not be renewed as they matured and were paid off.

The ability of the central banks to create unlimited uncollateralised lines of credit[18] to increase the money stock would be ended and lender of last resort would also be ended as no longer needed for systematic stability. Euro notes would be converted at par by book entry retirement of Eurosystem monetary assets with new Euro bill currency issued and backed by the people of the Eurozone. Remaining national currency countries would do the same with their NCB monetary assets. Existing Euro and national currency would continue in circulation since the conversion would be at par and replaced as part of routine currency maintenance to minimise the cost of the conversion process.

Eurosystem consolidated balance sheet change from 100% reserve euro monetary conversion	
(€ Millions) For Week Ending	12/31/2011
Euro Banknotes in circulation book entry replacement at par with Euro Bills [L-1]	€ 888,676
Plus: Liabilities to euro credit institutions for monetary operations retired [L-2]	€ 849,477
Less: Gold and gold receivables sold (or other selected assets) [A-1]	(€ 357,868)
Less: Euro Monetary Related Assets Retired [A-8, 4.1, 5, 6, 7.1, 7.2]	(€ 1,380,285)
Bonded debt to eurozone governments from funding 100% demand deposit conversion	€ 0
Source: Eurosystem consolidated balance sheet from ECB 2011 Annual Report pp. 200-201	

TABLE 11 DATA SOURCE: Eurosystem Consolidated Balance Sheet Conversion Estimate, Attachment 9.

[17] *Money and Freedom*, Robert de Fremery, 1955, Ch. 3 "Origin of Banking", Reference 6.
[18] European Central Bank (ECB), "Guideline of 30 December 2005 on a Trans-European Automated Real-time Gross settlement Express Transfer system" (TARGET) (ECB/2005/16) (2006/21/EC), p.7 Article 4(b)1&2, Reference 8.

ESCB check processing functions could be assigned to the new system of demand depositor owned institutions which would be expected to develop a network for processing checks and debit card transactions to finance their operations. ESCB check processing functions could also be assigned and/or divided among the remaining commercial banking organisations. It is believed the transaction network of the depositories should be maintained entirely separately from the commercial banking network.

III. EU/Eurozone Member National Governments

Monetary policy would be transferred to the Legislative Branch to be signed into law and administered by the Executive Branch, believed to be most naturally a function of the Ministry of Commerce. Increases in money stock to be handled in traditional legislative manner based on a GDP standard and administered by the Ministry of Commerce or closest related entity within the national government

Member states within the EU would maintain their own independent credit ratings but critically a member state default or withdrawal if it were ever to occur would not endanger the EU financial system as a whole. Market forces would self govern the ability of states to get into too much debt and the default risk would be limited to the borrowing member state and its lender(s). This would protect other EU member states economies as well as the EMU financial system from any potential sovereign state and/or financial intermediation institutional default.

A. Commerce Ministries

Existing or newly created Ministries of Commerce would maintain the money stocks for the depositories contained within their national borders and increase it by the net positive GDP growth of the applicable Eurozone or national economy. Ministries of Commerce would maintain domestic bank regulatory activity going forward and assume any remaining non-demand deposit operations of the sunsetting NCB.

B. Treasury Ministries

The mission statement of Treasury Ministries would be defined to manage national government finances and resources effectively. Managing government accounts, public debt, revenue collection and tax policy would be the functions of the Treasury Ministries. The deposit only portion of the national NCB would be assigned to the Treasury Ministry and assist with the financial operation of the federal level government.

8. Impact on international euro denominated contracts,private savings & domestic mortgages

International contracts denominated in euros are expected to remain in force without change. Private savings and domestic mortgages are also expected to be unaffected.

The banking sector will not experience any reduction in true credit intermediation profit only the loss of unearned wealth transfer that the fractional reserve system provides. Full reserve banking is expected to increase the stability of the banking system by removing mismatched asset/liability risk from current banking fractional reserve balance sheets.

The efficiency of the economy is expected to improve by the reduced intermediation cost and permanently remove the fractional reserve banking sector as a systematic risk to the go forward EU economy. The efficiency of credit intermediation, allocation of capital and rate of increase of standard of living are all expected to improve by the amount of the reduced monetary intermediation cost, on the order of 2¾% of Eurozone GDP per year[19].

[19] ECB Annual Monetary Intermediation Cost 1999 to 2011 using M1 Money Stock, Attachment 6.

9. Impact on sovereign debt from monetary conversion

The one-time conversion of fractional reserve deposits to full reserves will require EU banks to fully use their holdings of sovereign debt to be credited to funding their demand deposit liabilities. Additionally EU banks will need to borrow an approximate €13.84 trillion from EU sovereign governments to fully fund their demand deposit liabilities. The tables below ignore ECB holdings of sovereign debt that is expected to also be credited to 100% reserve deposit funding and retired, which would reduce the net bank loans but keep the same approximate sovereign benefit. The expected result of the conversion process is that most countries will have their sovereign debt fully retired with additional bank loan balances that would need to be retired upon repayment to keep the monetary system in balance and remove any inflationary impact from the conversion process.

December 31, 2011 **EU Eurozone (17) Country**		**2011 GDP**[1]	**Sovereign Liabilities Total**[2]	**Sovereign Liabilities/ GDP Ratio**	**Liabilities Reduction Monetary Conversion Bank Note**[3,a]	**Sovereign Liabilities Reduction**	**After Conversion Sovereign Liabilities Total**[b]	**After Conversion Sovereign Liabilities/ GDP Ratio**[b]
Native	**English**	(€ Billions)	(€ Billions)	(Percent %)	(€ Billions)	(Percent %)	(€ Billions)	(Percent %)
Belgique/België	Belgium	€ 369.84	€ 344.02	93.0%	(€ 468.80)	136.3%	(€ 124.78)	-33.7%
Deutschland	Germany	€ 2,592.60	€ 1,442.71	55.6%	(€ 3,632.99)	251.8%	(€ 2,190.28)	-84.5%
Eesti	Estonia	€ 15.95	€ 1.05	6.6%	(€ 12.29)	1167.9%	(€ 11.24)	-70.4%
Éire/Ireland	Ireland	€ 156.44	€ 164.74	105.3%	(€ 250.10)	151.8%	(€ 85.36)	-54.6%
Elláda	Greece	€ 215.09	€ 220.19	102.4%	(€ 223.69)	101.6%	(€ 3.50)	-1.6%
España	Spain	€ 1,063.36	€ 648.20	61.0%	(€ 2,020.72)	311.7%	(€ 1,372.52)	-129.1%
France	France	€ 1,996.58	€ 1,598.32	80.1%	(€ 2,454.35)	153.6%	(€ 856.03)	-42.9%
Italia	Italy	€ 1,580.22	€ 1,745.35	110.5%	(€ 1,137.71)	65.2%	€ 607.64	38.5%
Kýpros	Cyprus	€ 17.76	€ 20.25	114.0%	(€ 88.70)	438.1%	(€ 68.45)	-385.4%
Luxembourg	Luxembourg	€ 42.82	€ 8.59	20.1%	(€ 455.03)	5297.2%	(€ 446.44)	-1042.6%
Malta	Malta	€ 6.50	€ 5.50	84.7%	(€ 25.52)	463.6%	(€ 20.02)	-308.0%
Nederland	Netherlands	€ 601.97	€ 402.22	66.8%	(€ 1,100.30)	273.6%	(€ 698.08)	-116.0%
Österreich	Austria	€ 300.71	€ 222.51	74.0%	(€ 603.97)	271.4%	(€ 381.46)	-126.9%
Portugal	Portugal	€ 170.91	€ 156.59	91.6%	(€ 253.65)	162.0%	(€ 97.06)	-56.8%
Slovenija	Slovenia	€ 36.17	€ 18.99	52.5%	(€ 33.52)	176.5%	(€ 14.53)	-40.2%
Slovensko	Slovakia	€ 69.06	€ 30.87	44.7%	(€ 36.04)	116.8%	(€ 5.17)	-7.5%
Suomi/Finland	Finland	€ 189.37	€ 93.70	49.5%	(€ 279.01)	297.8%	(€ 185.31)	-97.9%
	TOTAL	€ 9,425.34	€ 7,123.81	75.6%	(€ 13,076.39)	183.6%	(€ 5,952.58)	-63.2%

TABLE 12 SOURCE: Sovereign Debt Impact from Fractional Reserve Banking Monetary Conversion, Attachment 11(b).

December 31, 2011 **EU Non-eurozone (10) Country** EU Member State Protocol Order		**2011 GDP**[1]	**2011 Sovereign Liabilities Total**[2]	**Sovereign Liabilities/ GDP Ratio**	**Liabilities Reduction Monetary Conversion Bank Note**[3,a]	**Sovereign Liabilities Reduction**	**After Conversion Sovereign Liabilities Total**[b]	**After Conversion Sovereign Liabilities/ GDP Ratio**[b]
Native	**English**	(€ Billions)	(€ Billions)	(Percent %)	(€ Billions)	(Percent %)	(€ Billions)	(Percent %)
Bulgarija	Bulgaria	€ 38.48	€ 8.48	22.0%	(€ 26.67)	314.6%	(€ 18.19)	-47.3%
Ceská republika	Czech Republic	€ 154.91	€ 64.07	41.4%	(€ 97.58)	152.3%	(€ 33.51)	-21.6%
Danmark	Denmark	€ 239.24	€ 121.40	50.7%	(€ 325.35)	268.0%	(€ 203.95)	-85.2%
Latvija	Latvia	€ 20.21	€ 9.33	46.1%	(€ 18.96)	203.3%	(€ 9.63)	-47.7%
Lietuva	Lithuania	€ 30.71	€ 12.86	41.9%	(€ 15.23)	118.4%	(€ 2.37)	-7.7%
Magyarország	Hungary	€ 100.51	€ 71.80	71.4%	(€ 85.72)	119.4%	(€ 13.92)	-13.8%
Polska	Poland	€ 370.01	€ 198.77	53.7%	(€ 150.74)	75.8%	€ 48.03	13.0%
România	Romania	€ 136.48	€ 49.63	36.4%	(€ 43.36)	87.4%	€ 6.27	4.6%
Sverige	Sweden[c]	€ 387.89	€ 150.40	38.8%	€ 0.00	0.0%	€ 150.40	38.8%
United Kingdom	United Kingdom[d]	€ 1,746.96	€ 1,774.60	101.6%	€ 0.00	0.0%	€ 1,774.60	101.6%
	TOTAL	€ 3,225.41	€ 2,461.34	76.3%	(€ 763.61)	31.0%	€ 1,697.73	52.6%

TABLE 13 SOURCE: Sovereign Debt Impact from Fractional Reserve Banking Monetary Conversion, Supplement 4(b).

10. Impact on economy and jobs from monetary conversion

Restoring the monetary intermediation cost of the ECB/ESCB's back to the EU member states economies is expected to improve economic performance by the amount of the reduced intermediation cost, on the order of 2¾% of GDP per year from the improved efficiency of the monetary system.

The ECB Fractional Reserve System has a 99% (1 - Reserve Requirement[20]) intermediation cost (wealth transfer effect) of new money creation, which is a loss of capital from the other sectors of the economy. Assuming a €750,000 of capital value per job creation, the total €9.24 trillion estimated capitalised intermediation cost represents an estimated 12,320,000 private sector jobs. Per NY Times 2009 €24,052 estimate, the €369.6 billion annual cost would be approximately 15,366,000 jobs. These estimates indicate the approximate intermediation cost of the ECB Fractional Reserve Monetary System is on the order of twelve to fifteen million recoverable jobs from conversion to a full reserve monetary system.

December 31, 2011		Intermediation Cost Average		Jobs Impact Estimates		
EU Eurozone (17) Country[1]		**Annual[2]** (A)	**Capitalized[3]** (B)	**Annual**	**Capitalized**	**Average**
Native	**English**	(€ Billions)	(€ Billions)	=(A)/NYT Est[4]	=(B)/€750000	=[(A)+(B)]/2
Belgique/België	Belgium	€ 10.54	€ 263.59	438,370	351,456	394,913
Deutschland	Germany	€ 81.96	€ 2,048.91	3,407,474	2,731,886	3,069,680
Eesti	Estonia	€ 0.48	€ 12.02	19,985	16,022	18,004
Éire/Ireland	Ireland	€ 5.30	€ 132.51	220,375	176,682	198,529
Elláda	Greece	€ 6.46	€ 161.50	268,592	215,339	241,965
España	Spain	€ 41.64	€ 1,041.00	1,731,248	1,388,000	1,559,624
France	France	€ 57.89	€ 1,447.36	2,407,053	1,929,815	2,168,434
Italia	Italy	€ 37.29	€ 932.17	1,550,263	1,242,898	1,396,580
Kýpros	Cyprus	€ 1.42	€ 35.62	59,245	47,499	53,372
Luxembourg	Luxembourg	€ 6.38	€ 159.41	265,103	212,542	238,823
Malta	Malta	€ 0.45	€ 11.30	18,798	15,071	16,934
Nederland	Netherlands	€ 21.73	€ 543.23	903,430	724,310	813,870
Österreich	Austria	€ 11.49	€ 287.24	477,694	382,984	430,339
Portugal	Portugal	€ 6.48	€ 162.00	269,416	216,000	242,708
Slovenija	Slovenia	€ 1.03	€ 25.72	42,777	34,296	38,536
Slovensko	Slovakia	€ 1.71	€ 42.69	71,003	56,926	63,964
Suomi/Finland	Finland	€ 5.94	€ 148.48	246,939	197,979	222,459
	TOTAL	€ 298.19	€ 7,454.78	12,397,765	9,939,705	11,168,735

TABLE 14 DATA SOURCE: Conversion Impact on Economy and Jobs, Attachment 11(a) - Assuming ECB 2% RR.

December 31, 2011		Intermediation Cost Average		Jobs Impact Estimates		
EU Non-eurozone (10) Country[1]		**Annual[2]** (A)	**Capitalized[3]** (B)	**Annual**	**Capitalized**	**Average**
Native	**English**	(€ Billions)	(€ Billions)	=(A)/NYT Est[4]	=(B)/€750000	=[(A)+(B)]/2
Bulgarija	Bulgaria	€ 1.15	€ 28.83	47,950	38,443	43,196
Ceská republika	Czech Republic	€ 5.41	€ 135.30	225,005	180,394	202,700
Danmark	Denmark	€ 5.20	€ 130.05	216,274	173,394	194,834
Latvija	Latvia	€ 0.76	€ 19.08	31,730	25,439	28,585
Lietuva	Lithuania	€ 0.87	€ 21.86	36,347	29,141	32,744
Magyarország	Hungary	€ 1.57	€ 39.25	65,281	52,338	58,810
Polska	Poland	€ 3.66	€ 91.53	152,217	122,037	137,127
România	Romania	€ 1.68	€ 41.96	69,779	55,944	62,862
Sverige	Sweden	€ 6.50	€ 162.51	270,263	216,679	243,471
United Kingdom	United Kingdom	€ 44.58	€ 1,114.49	1,853,466	1,485,986	1,669,726
	TOTAL	€ 71.39	€ 1,784.85	2,968,312	2,379,795	2,674,053

TABLE 15 DATA SOURCE: Conversion Impact on Economy and Jobs, Supplement 4(a) - Assuming Basel II 8% RR.

[20] ECB Reserve Requirement for Banks is 1%, Attachment 1(a)/Reference 7, Basel II is 8%, Attachment 1(b)/Reference 2.

11. How future financial emergencies would be handled

The same way they are handled now. What would change is the intermediation cost of introducing new money into the financial system. With a full reserve system there would no longer be deposit bank failures so the financial system would no longer be at risk. Much financial regulation could be retired since it would no longer be applicable, which should also improve economic system performance.

Sovereign state governments within the EU/Eurozone would handle emergencies by getting legislative approval signed into law by their executive in the following estimated order priority:

1) Traditional taxation,
2) Issue debt to the general market in the form of bonds, and
3) Taxing GDP monetary seigniorage payments issued to the people within their states with up to a 100% tax rate.

It is believed virtually all emergencies would be covered by traditional taxation and debt issuance. Once monetary seigniorage is issued directly to the people in item 3) it could be taxed in an emergency situation.

Insurance Companies Operating on the Fractional Reserve Business Model

Insurance providers are not part of the monetary system but do also operate utilizing the fractional reserve business model, usually 10% to 12%, meaning that a large loss all at once can result in losses of more than available reserves such as occurred to AIG, one of the world's largest insurance companies, in 2008. Insurance based on the fractional reserve model operates on the same principle as fractional reserve banking and does not add any systematic value in excess of reserves as shown in section 3. Therefore there should be no public insurance of private insurance companies because it is exclusively a wealth transfer with no value added to the economic system. All policy non-payment risk should be assumed by the policyholder as part of the due diligence process of purchasing insurance. Alternatively, insurance companies could be required to have the same full reserve capital requirement since the same fractional reserve wealth transfer principle applies. Writing a €1 million policy would require €1 million of matching at risk capital. The insurance company business model risk should be limited to the insurance industry and their customers and not continue as a systematic risk for the whole EU economy.

12. Conclusion

The European Central Bank's Monetary System is not the most efficient means of controlling the money stock in Europe. It adds unnecessary intermediation cost to the economy since no value is added from its money creation and fractional reserve activity and therefore lowers returns to the economy by the amount of its intermediation cost. It is believed that with the discovery of the Modigliani-Miller Financial Theorem in 1958 of the irrelevance of capital structure that proof of the superiority of the full reserve system has existed because of its lower monetary intermediation cost.

Replacing the European Central Bank (ECB) with a 100% reserve system and GDP based monetary standard would result in 99%[21] lower monetary intermediation cost, less structural leverage risk, a more stable economy, more efficient allocation of capital and a higher standard of living for all Europeans. Returning control of monetary policy to the people of Europe would restore transparency and accountability to the citizens and taxpayers of Eurozone member states. Unfair and unequal discretionary bailouts of some companies and not others would be eliminated and critically the constant involuntary wealth transfers from the other sectors of the Eurozone economies to the banking sector by the ECB's ability to create unlimited uncollateralised lines of credit would also be eliminated.[22]

At least five previous Nobel Prize winners, Milton Friedman, 1976, James Tobin, 1981, Maurice Allais, 1988, Merton Miller, 1990 and Frederick Soddy, 1921 along with Irving Fisher, one of the foremost economists of the first half of the 20th Century have all supported full reserve monetary systems[23].

As shown in Section 3 there is no credit intermediation loss with a full reserve system and there would be a more efficient allocation of capital and economic returns reducing and/or eliminating the current wealth transfer disparity caused by the fractional reserve system. The improvement to the economy is expected to be the approximate amount of the reduced monetary intermediation cost, on the order of 2¾% of Eurozone GDP per year[24]. Conversion to a full reserve monetary system is also estimated to improve the balance sheets of EU governments on the order of €13.8 trillion[25] as of fiscal year 2011 and restore on the order of twelve to fifteen million jobs.

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[22] European Central Bank (ECB), "Guideline of 30 December 2005 on a Trans-European Automated Real-time Gross settlement Express Transfer system" (TARGET) (ECB/2005/16) (2006/21/EC), p.7 Article 4(b)1&2, Reference 8.
[23] Historical Support for 100% Full Reserve Demand Deposit Banking, Attachment 13.
[24] ECB Annual Monetary Intermediation Cost 1999 to 2011 using M1 Money Stock, Attachment 6.
[25] Section 9. Impact on sovereign debt from monetary conversion.

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Attachment 1(a)

European Central Bank Monetary Intermediation Cost

ECB Intermediation Cost Inefficiency Estimate

(with Wealth Transfer Effect)

I. Intermediation Cost using ECB Reserve Requirement System			
European Central Bank (ECB) Monetary Issuance System	**€ Amount**	**Efficiency of Monetary Increase**	
1. ECB acquires government issued debt	€ 1,000,000	1.0%	**People/Gov't Benefit**
2. ECB Reserve Requirement[1]	1.0%		
3. Money Stock Increase via ECB Commercial Bank Loans	€100,000,000	100.0%	
4. ECB Banks net Increased Loans (Intermediation Cost)	€ 99,000,000	99.0%	**Intermediation Cost**

Intermediation Cost Inefficiency Utilizing European Central Bank (ECB) Monetary System

With the European Central Bank's approximate 1% fractional reserve lending requirement, 99% of the money supply increase is in the form of new ECB member bank loans with 1% of the increase to the government from new debt issuance indicating that the cost of using the European Central Bank's monetary expansion system as an intermediary to increase the money supply is 99%. The money supply increase dilutes the existing money stock and transfers wealth from the other sectors of the economy to the banking sector by the amount of the money supply increase. Money creation and first use, known as seigniorage, by the ECB is equivalent to 99% direct wealth transfer.

II. Direct Monetary Expansion System to People using National Entity			
Direct Monetary Issuance System(Possible Commerce Ministry)	**€ Amount**	**Efficiency of Monetary Increase**	
1. People issued bills directly from Government(Commerce Ministry)	€ 1,000,000	100.0%	**People/Gov't Benefit**
2. People/Government Portion of issued bills	100.0%		
3. Money Supply Increase to People via Direct Government Issue	€ 1,000,000	100.0%	
4. ECB Banks net Increased Loans (Intermediation Cost)	€ 0	0.0%	**Intermediation Cost**

Intermediation Efficiency Increase with Direct Issuance of Currency

With direct issuance of money supply increases to the Eurozone people and/or people holding Euro denominated demand deposit accounts, anticipated to most naturally be voted on by national governments based on a Eurozone GDP standard and administered by their Ministries of Commerce, 100% of the increase in the money supply goes direct to the European people with no intermediation loss. Direct issuance of money supply increases eliminating the intermediation cost of the ECB would be at least 98% more efficient than the current ECB system and eliminate the wealth transfer to the banking sector issue. If necessary states within the Eurozone could tax the new money seigniorage at issuance to the people, as a regular part of their income tax collection process or exempt since goes into economic system subject to regular taxation.

SOURCE:

1-European Central Bank (ECB) How to calculate the minimum reserve requirements as of date at http://www.ecb.int/mopo/implement/mr/html/calc.en.html

1/18/2012	1.0%
1/1/1999	2.0%

Overnight deposits, deposits with agreed maturity or period of notice up to 2 years, debt securities issued with maturity up to 2 years, money market paper.

Statistics on the minimum reserves are regularly published in Table 1.4 of the "Euro area statistics" section of the Monthly Bulletin of the ECB.

Attachment 1(b)

European Central Bank Monetary Intermediation Cost

Basel II Intermediation Cost Inefficiency Estimate

(with Wealth Transfer Effect)

I. Intermediation Cost using Basel II Reserve Requirement System			
European System Central Banks (ESCB) Monetary Issuance S	**€ Amount**	**Efficiency of Monetary Increase**	
1. ESCB acquires government issued debt	€ 1,000,000	8.0%	**People/Gov't Benefit**
2. Basel II Reserve Requirement (est.)[1]	8.0%		
3. Money Supply Increase via ESCB Commercial Bank Loans	€ 12,500,000	100.0%	
4. ESCB Banks net Increased Loans (Intermediation Cost)	€ 11,500,000	92.0%	**Intermediation Cost**

Intermediation Cost Inefficiency Utilizing European System Central Banks (ESCB) Monetary System

With the Basel II approximate 8% fractional reserve lending requirement (European Central Bank's 2% fractional reserve lending requirement), 92% of the money supply increase is in the form of new ESCB member bank loans with approximately 8% of the increase to the government from new debt issuance indicating that the cost of using the ESCB Basel II monetary expansion system as an intermediary to increase the money supply is 92%. The money supply increase dilutes the existing money stock and transfers wealth from the other sectors of the economy to the banking sector by the amount of the money supply increase. Money creation and first use, known as seigniorage, by the ESCB with Basel II reserve requirement is equivalent to 92% direct wealth transfer.

II. Direct Monetary Expansion System to People using National Entity			
Direct Monetary Issuance System(Possible Commerce Ministry)	**€ Amount**	**Efficiency of Monetary Increase**	
1. People issued bills directly from Government(Commerce Ministry)	€ 1,000,000	100.0%	**People/Gov't Benefit**
2. People/Government Portion of issued bills	100.0%		
3. Money Supply Increase to People via Direct Government Issue	€ 1,000,000	100.0%	
4. ESCB Banks net Increased Loans (Intermediation Cost)	€ 0	0.0%	**Intermediation Cost**

Intermediation Efficiency Increase with Direct Issuance of Currency

With direct issuance of money supply increases to the European people and/or people holding demand deposit accounts, anticipated to most naturally be voted on by national governments based on a National GDP standard and administered by their Ministries of Commerce, 100% of the increase in the money supply goes direct to the national people with no intermediation loss. Direct issuance of money supply increases eliminating the intermediation cost of the ESCB would be at least 92% more efficient than the current Basel II system and eliminate the wealth transfer to the banking sector issue. If necessary states within the Economic and Monetary Union (EMU) could tax the new money seigniorage at issuance to the people, as a regular part of their income tax collection process or exempt since it goes into economic system subject to regular taxation.

SOURCE:

1-Basel II: Revised international capital framework minimum reserve requirements as of date at http://www.bis.org/publ/bcbsca.htm

6/1/2006	8.0%

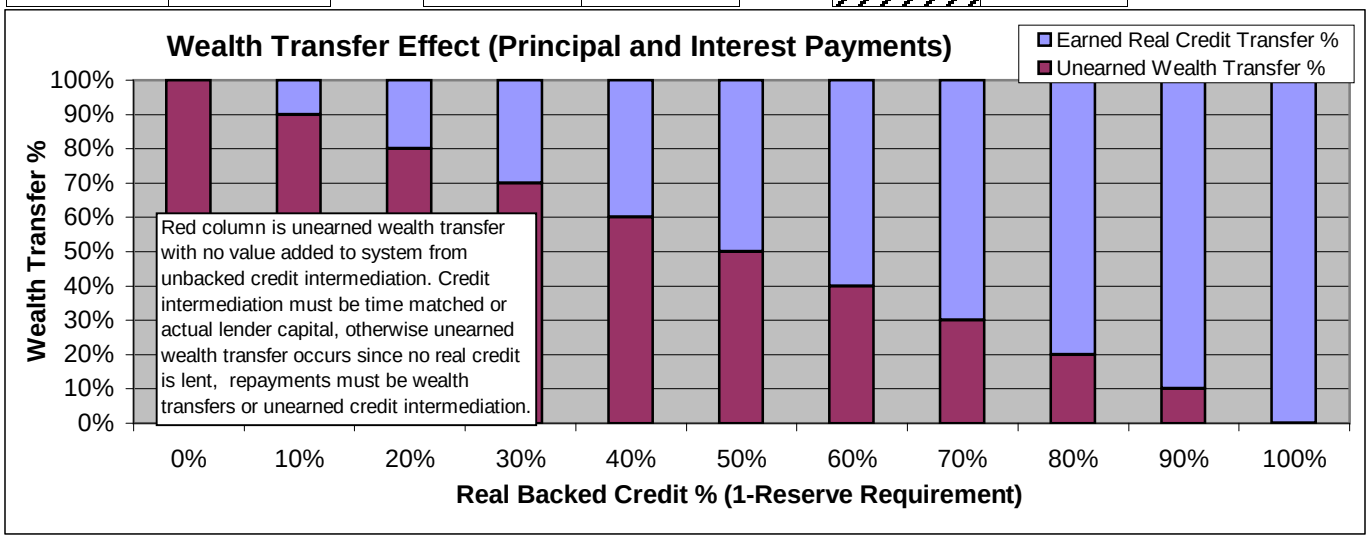
Attachment 2

European Central Bank Monetary Intermediation Cost

Fractional Reserve Intermediation Impact Schedules

Fractional Reserve Monetary Wealth Transfer and Earned Intermediation Schedules

Reserve Requirement	Wealth Transfer	Wealth Transfer (Unearned)		Earned Intermediation	
		Principal	Interest	Principal	Interest
0.0%	100.0%	100.0%	100.0%		0.0%
10.0%	90.0%	90.0%	90.0%		10.0%
20.0%	80.0%	80.0%	80.0%		20.0%
30.0%	70.0%	70.0%	70.0%		30.0%
40.0%	60.0%	60.0%	60.0%		40.0%
50.0%	50.0%	50.0%	50.0%		50.0%
60.0%	40.0%	40.0%	40.0%		60.0%
70.0%	30.0%	30.0%	30.0%		70.0%
80.0%	20.0%	20.0%	20.0%		80.0%
90.0%	10.0%	10.0%	10.0%		90.0%
100.0%	0.0%	0.0%	0.0%		100.0%



Notes:

1-A 100% reserve requirement does not mean a credit intermediary would not be able to lend, it means the intermediated credit, say a 5-year loan, would need to be 100% time matched with 5-year funds such as a 5-year certificate of deposit with the credit intermediary making a spread profit. Credit intermediary would also be able to lend their own capital without restriction and leverage on time matched basis up to 100%.

3-It is not possible to have credit intermediation on demand deposits, even overnight funds lending, because the funds can be withdrawn at any time and must be 100% available. Any and all lending of third party demand deposits is 0% credit intermediation and 100% wealth transfer to the lender system from the borrower system. Mismatched maturities implies a market timing strategy by lender, not considered modern financial theory.

4-To avoid the temptation to loan demand deposits, checking accounts and accounts subject to debit card withdrawals, it is believed new deposit only institutions should be created that are 100% owned by the depositors themselves so that if deposits are ever lent resulting in a loss that the depository owners would experience 100% of the loss without impacting the rest of the deposit only system. There would be no insurance for this type of loss, it would be up to the deposit owners to operate their depositories to protect their own money. Protection would come from a depositor owned board of directors and regular public audits. It is expected depository only institutions would be able to cover their costs through development of a debit card network and direct deposit of money supply expansions on a pro rata basis from "Labour Dividends" otherwise known as seigniorage.

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European Central Bank Monetary Intermediation Cost

Fractional Reserve Analysis with 1% ECB Reserve Requirement

(a) No Financial Intermediary to 1% ECB Reserve Requirement

No Financial Intermediary Analysis

When no financial intermediary is involved, intermediation must be real direct asset lending. In this example, Farmer B as Intermediary lends Farmer A a tractor to use for €500. Farmer A rents the tractor from Farmer B and grows a crop which is sold. In this system €1,500 of wealth is created from crop sale split €1,000 to Farmer A and €500 to Farmer B for use of the tractor with financial intermediary not participating at €0.

I. No Financial Intermediary (Real Asset Tractor Lending)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 498	€ 498	€ 5	€ 1,000	Begin Cash
Tractor Rent	(€ 500)	€ 500		€ 0	
Sell Crop	€ 1,500			€ 1,500	
End (Cash)	€ 1,498	€ 998	€ 5	€ 2,500	End Cash
Direct Net Earnings	€ 1,000	€ 500	€ 0	€ 1,500	Earnings (€)
% Earnings	66.67%	33.33%	0.00%	100.00%	Earnings (%)

II. With 1% Reserve Financial Intermediation Added (1% Real Backing)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 498	€ 498	€ 5	€ 1,000	Begin Cash
Direct Net Earnings(Above)	€ 1,000	€ 500	€ 0	€ 1,500	
Loan	€ 500		€ 500	€ 500	
Loan Interest	(€ 25)		€ 25	€ 0	
Pay Back Loan	(€ 500)		€ 500	€ 0	
End (Cash)	€ 1,473	€ 998	€ 525	€ 2,995	End Cash
Net Earnings	€ 975	€ 500	€ 520	€ 1,995	Earnings (€)
% Earnings	48.87%	25.06%	26.07%	100.00%	Earnings (%)
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				19.80%	**Inflation Cash**

1% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 495.00	€ 495.00	99.00%		€ 495.00
Interest (Loan(a) x (c))	€ 25.00		€ 24.75	99.00%	€ 0.25	€ 25.00
Total	€ 525.00	€ 495.00	€ 519.75	99.00%	€ 0.25	€ 520.00
Wealth Transfer (Unearned Return = ∑(B))						€ 519.75
Financial Intermediation Unearned Return % (Unearned Return/Total Return = ∑(B)/∑(D))						99.95%
Intermediary Return on €5 Required Reserve Investment (Total Return/Start Cash)						10400.00%
Earned Financial Intermediation (Interest x Reserve Requirement = ∑(C))						€ 0.25
Earned Financial Intermediation % of Total Return of €520 (Earned Return/Total Return)						0.05%

1% Fractional Reserve Financial Intermediation Analysis

In this 1% fractional reserve system the Financial Intermediary adds a €500 loan into the system 99% (1-reserve requirement) backed by no real or financial assets, increasing fractional reserve returns by €495 to €1,995 from the sale of the exact same crop now split €975 to Farmer A, €500 to Farmer B and €520 to the intermediary that added 1% real credit. Farmer A pays back a €500 loan and pays interest of €25 for 1% (€5) of true credit intermediation. In the real world Farmer A would not borrow money this way unless he thought he was getting something, in this case Farmer A might take this type of loan to maintain some liquidity during the growing period before crop harvest. The Financial Intermediary loan captures 26.07% of the system earnings in the form of inflation and interest in a 99% direct transfer of wealth since the same crop is produced.

Fractional Reserve Intermediation Analysis

In this system Wealth Transfer is (Loan Principal + Interest) x (1-Reserve Requirement)). Inflation is Principal portion of wealth transfer. In a 0% reserve system 100% of the loan repayment results in inflation with interest payments as direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.

Assumptions	
Initial System Cash	€ 1,000
Tractor Rent $	€ 500
Crop Sale Price	€ 1,500
(a)-Loan Amount $	€ 500
(b)-Reserve Requirement (RR)	1.00%
(c)-Interest Rate	5.00%

European Central Bank Monetary Intermediation Cost

Fractional Reserve Analysis with 8% Basel II Reserve Requirement

(b) No Financial Intermediary to 8% Basel II Reserve Requirement

No Financial Intermediary Analysis

When no financial intermediary is involved, intermediation must be real direct asset lending. In this example, Farmer B as Intermediary lends Farmer A a tractor to use for €500. Farmer A rents the tractor from Farmer B and grows a crop which is sold. In this system €1,500 of wealth is created from crop sale split €1,000 to Farmer A and €500 to Farmer B for use of the tractor with financial intermediary not participating at €0.

I. No Financial Intermediary (Real Asset Tractor Lending)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000	Begin Cash
Tractor Rent	(€ 500)	€ 500		€ 0	
Sell Crop	€ 1,500			€ 1,500	
End (Cash)	€ 1,480	€ 980	€ 40	€ 2,500	End Cash
Direct Net Earnings	€ 1,000	€ 500	€ 0	€ 1,500	Earnings (€)
% Earnings	66.67%	33.33%	0.00%	100.00%	Earnings (%)

II. With 8% Reserve Financial Intermediation Added (8% Real Backing)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000	Begin Cash
Direct Net Earnings(Above)	€ 1,000	€ 500	€ 0	€ 1,500	
Loan	€ 500		€ 500	€ 500	
Loan Interest	(€ 25)		€ 25	€ 0	
Pay Back Loan	(€ 500)		€ 500	€ 0	
End (Cash)	€ 1,455	€ 980	€ 525	€ 2,960	End Cash
Net Earnings	€ 975	€ 500	€ 485	€ 1,960	Earnings (€)
% Earnings	49.74%	25.51%	24.74%	100.00%	Earnings (%)
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				18.40%	**Inflation Cash**

8% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 460.00	€ 460.00	92.00%		€ 460.00
Interest (Loan(a) x (c))	€ 25.00		€ 23.00	92.00%	€ 2.00	€ 25.00
Total	€ 525.00	€ 460.00	€ 483.00	92.00%	€ 2.00	€ 485.00
					Wealth Transfer (Unearned Return = ∑(B))	€ 483.00
					Financial Intermediation Unearned Return % (Unearned Return/Total Return = ∑(B)/∑(D))	99.59%
					Intermediary Return on €40 Required Reserve Investment (Total Return/Start Cash)	1212.50%
					Earned Financial Intermediation (Interest x Reserve Requirement = ∑(C))	€ 2.00
					Earned Financial Intermediation % of Total Return of €485 (Earned Return/Total Return)	0.41%

8% Fractional Reserve Financial Intermediation Analysis

In this 8% fractional reserve system the Financial Intermediary adds a €500 loan into the system 92% (1-reserve requirement) backed by no real or financial assets, increasing fractional reserve returns by €460 to €1,960 from the sale of the exact same crop now split €975 to Farmer A, €500 to Farmer B and €485 to the intermediary that added 8% real credit. Farmer A pays back a €500 loan and pays interest of €25 for 8% (€40) of true credit intermediation. In the real world Farmer A would not borrow money this way unless he thought he was getting something, in this case Farmer A might take this type of loan to maintain some liquidity during the growing period before crop harvest. The Financial Intermediary loan captures 24.74% of the system earnings in the form of inflation and interest in a 92% direct transfer of wealth since the same crop is produced.

Fractional Reserve Intermediation Analysis

In this system Wealth Transfer is (Loan Principal + Interest) x (1-Reserve Requirement)). Inflation is Principal portion of wealth transfer. In a 0% reserve system 100% of the loan repayment results in inflation with interest payments as direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.

Assumptions	
Initial System Cash	€ 1,000
Tractor Rent $	€ 500
Crop Sale Price	€ 1,500
(a)-Loan Amount $	€ 500
(b)-Reserve Requirement (RR)	8.00%
(c)-Interest Rate	5.00%

European Central Bank Monetary Intermediation Cost

Fractional Reserve Analysis with 100% Reserve Requirement

(c) No Financial Intermediary to 100% Reserve Requirement

No Financial Intermediary Analysis

When no financial intermediary is involved, intermediation must be real direct asset lending. In this example, Farmer B as Intermediary lends Farmer A a tractor to use for €500. Farmer A rents the tractor from Farmer B and grows a crop which is sold. In this system €1,500 of wealth is created from crop sale split €1,000 to Farmer A and €500 to Farmer B for use of the tractor with financial intermediary not participating at €0.

I. No Financial Intermediary (Real Asset Tractor Lending)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 250	€ 250	€ 500	€ 1,000	Begin Cash
Tractor Rent	(€ 500)	€ 500		€ 0	
Sell Crop	€ 1,500			€ 1,500	
End (Cash)	€ 1,250	€ 750	€ 500	€ 2,500	End Cash
Direct Net Earnings	€ 1,000	€ 500	€ 0	€ 1,500	Earnings (€)
% Earnings	66.67%	33.33%	0.00%	100.00%	Earnings (%)

II. With 100% Reserve Financial Intermediation Added (100% Real Backing)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 250	€ 250	€ 500	€ 1,000	Begin Cash
Direct Net Earnings(Above)	€ 1,000	€ 500	€ 0	€ 1,500	
Loan	€ 500		€ 500	€ 500	
Loan Interest	(€ 25)		€ 25	€ 0	
Pay Back Loan	(€ 500)		€ 500	€ 0	
End (Cash)	€ 1,225	€ 750	€ 525	€ 2,500	End Cash
Net Earnings	€ 975	€ 500	€ 25	€ 1,500	Earnings (€)
% Earnings	65.00%	33.33%	1.67%	100.00%	Earnings (%)
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				0.00%	**Inflation Cash**

100% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 0.00	€ 0.00	0.00%		€ 0.00
Interest (Loan(a) x (c))	€ 25.00		€ 0.00	0.00%	€ 25.00	€ 25.00
Total	€ 525.00	€ 0.00	€ 0.00	0.00%	€ 25.00	€ 25.00
Wealth Transfer (Unearned Return = ∑(B))						€ 0.00
Financial Intermediation Unearned Return % (Unearned Return/Total Return = ∑(B)/∑(D))						0.00%
Intermediary Return on €500 Required Reserve Investment (Total Return/Start Cash)						5.00%
Earned Financial Intermediation (Interest x Reserve Requirement = ∑(C))						€ 25.00
Earned Financial Intermediation % of Total Return of €25 (Earned Return/Total Return)						100.00%

100% Fractional Reserve Financial Intermediation Analysis

In this 100% fractional reserve system the Financial Intermediary adds a €500 loan into the system 100% backed by real financial assets (intermediary start cash), increasing fractional reserve returns by €0 to the same €1,500 from the sale of the exact same crop now split €975 to Farmer A, €500 to Farmer B and €25 to the intermediary that added 100% real credit. Farmer A pays back a €500 loan and pays interest of €25 for 100% (€500) of true credit intermediation. In the real world Farmer A would take this type of loan to maintain some liquidity during the growing period before crop harvest. The Financial Intermediary loan captures 1.67% of the system earnings in the form of interest with no unearned transfer of wealth in the form of fractional reserve lending inflation since the same crop is produced with no cash added to the system.

Fractional Reserve Intermediation Analysis

In this system Wealth Transfer is (Loan Principal + Interest) x (1-Reserve Requirement)). Inflation is Principal portion of wealth transfer. In a 0% reserve system 100% of the loan repayment results in inflation with interest payments as direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.

Assumptions	
Initial System Cash	€ 1,000
Tractor Rent $	€ 500
Crop Sale Price	€ 1,500
(a)-Loan Amount $	€ 500
(b)-Reserve Requirement (RR)	100.00%
(c)-Interest Rate	5.00%

European Central Bank Monetary Intermediation Cost

Fractional Reserve Analysis with 8% Basel II Reserve Requirement

(d) Recession (25% Crop Failure from €1,500 to €1,125) with 8% Basel II Reserve Requirement

No Financial Intermediary Analysis

When no financial intermediary is involved, intermediation must be real direct asset lending. In this example, Farmer B as Intermediary lends Farmer A a tractor to use for €500. Farmer A rents the tractor from Farmer B and grows a crop which is sold. In this system €1,500 of wealth is created from crop sale split €1,000 to Farmer A and €500 to Farmer B for use of the tractor with financial intermediary not participating at €0.

I. No Financial Intermediary (Real Asset Tractor Lending)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000	Begin Cash
Tractor Rent	(€ 500)	€ 500		€ 0	
Sell Crop	€ 1,125			€ 1,125	
End (Cash)	€ 1,105	€ 980	€ 40	€ 2,125	End Cash
Direct Net Earnings	€ 625	€ 500	€ 0	€ 1,125	Earnings (€)
% Earnings	55.56%	44.44%	0.00%	100.00%	Earnings (%)

II. With 8% Reserve Financial Intermediation Added (8% Real Backing)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000	Begin Cash
Direct Net Earnings(Above)	€ 625	€ 500	€ 0	€ 1,125	
Loan	€ 500		€ 500	€ 500	
Loan Interest	(€ 25)		€ 25	€ 0	
Pay Back Loan	(€ 500)		€ 500	€ 0	
End (Cash)	€ 1,080	€ 980	€ 525	€ 2,585	End Cash
Net Earnings	€ 600	€ 500	€ 485	€ 1,585	Earnings (€)
% Earnings	37.85%	31.55%	30.60%	100.00%	Earnings (%)
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				21.65%	**Inflation Cash**

8% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 460.00	€ 460.00	92.00%		€ 460.00
Interest (Loan(a) x (c))	€ 25.00		€ 23.00	92.00%	€ 2.00	€ 25.00
Total	€ 525.00	€ 460.00	€ 483.00	92.00%	€ 2.00	€ 485.00
Wealth Transfer (Unearned Return = ∑(B))						€ 483.00
Financial Intermediation Unearned Return % (Unearned Return/Total Return = ∑(B)/∑(D))						99.59%
Intermediary Return on €40 Required Reserve Investment (Total Return/Start Cash)						1212.50%
Earned Financial Intermediation (Interest x Reserve Requirement = ∑(C))						€ 2.00
Earned Financial Intermediation % of Total Return of €485 (Earned Return/Total Return)						0.41%

8% Fractional Reserve Financial Intermediation Analysis

In this 8% fractional reserve system the Financial Intermediary adds a €500 loan into the system 92% (1-reserve requirement) backed by no real or financial assets, increasing fractional reserve returns by €460 to €1,585 from the sale of the exact same crop now split €600 to Farmer A, €500 to Farmer B and €485 to the intermediary that added 8% real credit. Farmer A pays back a €500 loan and pays interest of €25 for 8% (€40) of true credit intermediation. In the real world Farmer A would not borrow money this way unless he thought he was getting something, in this case Farmer A might take this type of loan to maintain some liquidity during the growing period before crop harvest. The Financial Intermediary loan captures 30.60% of the system earnings in the form of inflation and interest in a 92% direct transfer of wealth since the same crop is produced.

Fractional Reserve Intermediation Analysis

In this system Wealth Transfer is (Loan Principal + Interest) x (1-Reserve Requirement)). Inflation is Principal portion of wealth transfer. In a 0% reserve system 100% of the loan repayment results in inflation with interest payments as direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.

Assumptions	
Initial System Cash	€ 1,000
Tractor Rent $	€ 500
Crop Sale Price (at 25% Reduction)	€ 1,125
(a)-Loan Amount $	€ 500
(b)-Reserve Requirement (RR)	8.00%
(c)-Interest Rate	5.00%

European Central Bank Monetary Intermediation Cost

Fractional Reserve Analysis with 8% Basel II Reserve Requirement

(e) Depression (60% Crop Failure from €1,500 to €600) with 8% Basel II Reserve Requirement

No Financial Intermediary Analysis

When no financial intermediary is involved, intermediation must be real direct asset lending. In this example, Farmer B as Intermediary lends Farmer A a tractor to use for €500. Farmer A rents the tractor from Farmer B and grows a crop which is sold. In this system €1,500 of wealth is created from crop sale split €1,000 to Farmer A and €500 to Farmer B for use of the tractor with financial intermediary not participating at €0.

I. No Financial Intermediary (Real Asset Tractor Lending)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000	Begin Cash
Tractor Rent	(€ 500)	€ 500		€ 0	
Sell Crop	€ 600			€ 600	
End (Cash)	€ 580	€ 980	€ 40	€ 1,600	End Cash
Direct Net Earnings	€ 100	€ 500	€ 0	€ 600	Earnings (€)
% Earnings	16.67%	83.33%	0.00%	100.00%	Earnings (%)

II. With 8% Reserve Financial Intermediation Added (8% Real Backing)					
	Farmer A	Farmer B	Intermediary	Total	
Start (Cash)	€ 480	€ 480	€ 40	€ 1,000	Begin Cash
Direct Net Earnings(Above)	€ 100	€ 500	€ 0	€ 600	
Loan	€ 500		€ 500	€ 500	
Loan Interest	(€ 25)		€ 25	€ 0	
Pay Back Loan	(€ 500)		€ 500	€ 0	
End (Cash)	€ 555	€ 980	€ 525	€ 2,060	End Cash
Net Earnings	€ 75	€ 500	€ 485	€ 1,060	Earnings (€)
% Earnings	7.08%	47.17%	45.75%	100.00%	Earnings (%)
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				28.75%	**Inflation Cash**

8% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	€ 500.00	€ 460.00	€ 460.00	92.00%		€ 460.00
Interest (Loan(a) x (c))	€ 25.00		€ 23.00	92.00%	€ 2.00	€ 25.00
Total	€ 525.00	€ 460.00	€ 483.00	92.00%	€ 2.00	€ 485.00
				Wealth Transfer (Unearned Return = ∑(B))		€ 483.00
				Financial Intermediation Unearned Return % (Unearned Return/Total Return = ∑(B)/∑(D))		99.59%
				Intermediary Return on €40 Required Reserve Investment (Total Return/Start Cash)		1212.50%
				Earned Financial Intermediation (Interest x Reserve Requirement = ∑(C))		€ 2.00
				Earned Financial Intermediation % of Total Return of €485 (Earned Return/Total Return)		0.41%

8% Fractional Reserve Financial Intermediation Analysis

In this 8% fractional reserve system the Financial Intermediary adds a €500 loan into the system 92% (1-reserve requirement) backed by no real or financial assets, increasing fractional reserve returns by €460 to €1,060 from the sale of the exact same crop now split €75 to Farmer A, €500 to Farmer B and €485 to the intermediary that added 8% real credit. Farmer A pays back a €500 loan and pays interest of €25 for 8% (€40) of true credit intermediation. In the real world Farmer A would not borrow money this way unless he thought he was getting something, in this case Farmer A might take this type of loan to maintain some liquidity during the growing period before crop harvest. The Financial Intermediary loan captures 45.75% of the system earnings in the form of inflation and interest in a 92% direct transfer of wealth since the same crop is produced.

Fractional Reserve Intermediation Analysis

In this system Wealth Transfer is (Loan Principal + Interest) x (1-Reserve Requirement)). Inflation is Principal portion of wealth transfer. In a 0% reserve system 100% of the loan repayment results in inflation with interest payments as direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.

Assumptions	
Initial System Cash	€ 1,000
Tractor Rent $	€ 500
Crop Sale Price (at 60% Reduction)	€ 600
(a)-Loan Amount $	€ 500
(b)-Reserve Requirement (RR)	8.00%
(c)-Interest Rate	5.00%

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) € Money Stock History since 1980

a-First electronic Euro use January 1, 1999.
b-First circulation Euro use January 1, 2002.

		Euro Money Stock[1,a,b] (Not Seasonally Adjusted)						Inflation[2] (HICP Euro 17)		GDP[3] (Eurozone 17)	
		M1		M2		M3					
#	Year	(€ Billions)	% Change	(€ Billions)	% Change	(€ Billions)	% Change	Price Level	% Change	(€ Billions)	% Change
0	1980	€ 492.7		€ 1,198.0		€ 1,230.5					
1	1981	€ 519.1	5.4%	€ 1,308.3	9.2%	€ 1,356.9	10.3%				
2	1982	€ 570.6	9.9%	€ 1,449.9	10.8%	€ 1,511.6	11.4%				
3	1983	€ 628.7	10.2%	€ 1,579.3	8.9%	€ 1,647.6	9.0%				
4	1984	€ 682.4	8.5%	€ 1,710.9	8.3%	€ 1,788.8	8.6%				
5	1985	€ 732.8	7.4%	€ 1,833.6	7.2%	€ 1,927.9	7.8%				
6	1986	€ 795.9	8.6%	€ 1,955.3	6.6%	€ 2,058.9	6.8%				
7	1987	€ 853.4	7.2%	€ 2,080.9	6.4%	€ 2,221.6	7.9%				
8	1988	€ 925.6	8.5%	€ 2,232.9	7.3%	€ 2,410.0	8.5%				
9	1989	€ 1,015.2	9.7%	€ 2,419.1	8.3%	€ 2,659.9	10.4%				
10	1990	€ 1,128.5	11.2%	€ 2,658.7	9.9%	€ 2,979.9	12.0%				
11	1991	€ 1,171.5	3.8%	€ 2,808.4	5.6%	€ 3,204.6	7.5%				
12	1992	€ 1,215.3	3.7%	€ 2,939.9	4.7%	€ 3,433.2	7.1%				
13	1993	€ 1,287.9	6.0%	€ 3,150.3	7.2%	€ 3,651.8	6.4%				
14	1994	€ 1,343.1	4.3%	€ 3,243.8	3.0%	€ 3,735.8	2.3%				
15	1995	€ 1,423.1	6.0%	€ 3,397.5	4.7%	€ 3,937.4	5.4%			€ 5,576.40	
16	1996	€ 1,528.5	7.4%	€ 3,562.5	4.9%	€ 4,090.3	3.9%	84.15		€ 5,807.84	4.2%
17	1997	€ 1,626.9	6.4%	€ 3,687.1	3.5%	€ 4,267.3	4.3%	85.56	1.676%	€ 5,939.19	2.3%
18	1998	€ 1,785.4	9.7%	€ 3,920.1	6.3%	€ 4,472.0	4.8%	86.60	1.216%	€ 6,169.49	3.9%
19[a]	1999	€ 1,972.0	10.5%	€ 4,142.3	5.7%	€ 4,709.0	5.3%	87.62	1.178%	€ 6,447.85	4.5%
20	2000	€ 2,084.6	5.7%	€ 4,299.6	3.8%	€ 4,910.3	4.3%	89.54	2.191%	€ 6,783.55	5.2%
21[b]	2001	€ 2,279.0	9.3%	€ 4,684.4	8.9%	€ 5,446.7	10.9%	91.71	2.423%	€ 7,084.67	4.4%
22	2002	€ 2,499.4	9.7%	€ 4,981.4	6.3%	€ 5,807.8	6.6%	93.78	2.257%	€ 7,330.76	3.5%
23	2003	€ 2,727.1	9.1%	€ 5,298.0	6.4%	€ 6,180.9	6.4%	95.78	2.133%	€ 7,546.90	2.9%
24	2004	€ 2,948.9	8.1%	€ 5,632.3	6.3%	€ 6,568.2	6.3%	97.87	2.182%	€ 7,860.38	4.2%
25	2005	€ 3,482.1	18.1%	€ 6,168.7	9.5%	€ 7,130.7	8.6%	100.00	2.176%	€ 8,145.51	3.6%
26	2006	€ 3,758.6	7.9%	€ 6,743.8	9.3%	€ 7,802.0	9.4%	102.20	2.200%	€ 8,565.09	5.2%
27	2007	€ 3,901.3	3.8%	€ 7,436.9	10.3%	€ 8,691.9	11.4%	104.39	2.143%	€ 9,030.42	5.4%
28	2008	€ 4,035.7	3.4%	€ 8,103.1	9.0%	€ 9,425.2	8.4%	107.83	3.295%	€ 9,244.49	2.4%
29	2009	€ 4,556.2	12.9%	€ 8,275.1	2.1%	€ 9,381.5	-0.5%	108.15	0.297%	€ 8,923.51	-3.5%
30	2010	€ 4,750.8	4.3%	€ 8,471.3	2.4%	€ 9,572.9	2.0%	109.90	1.618%	€ 9,180.96	2.9%
31	2011	€ 4,856.5	2.2%	€ 8,670.2	2.3%	€ 9,794.3	2.3%	112.89	2.721%	€ 9,425.32	2.7%
AVERAGE (Compound)		7.66%		6.59%		6.92%			1.98%		3.33%
AVERAGE (Arithmetic)		7.7%	**Since 1981**	6.6%	**Since 1981**	7.0%	**Since 1981**		2.0%	**Since 1981**	3.4%
Count		31		31		31			15	(Nominal)	16
AVERAGE (Compound)		7.41%		6.81%		7.43%			1.45%		3.43%
AVERAGE (Arithmetic)		7.4%	**1981 to 1998**	6.8%	**1981 to 1998**	7.5%	**1981 to 1998**		1.4%	**1981 to 1998**	3.4%
Count		18		18		18			2	(Nominal)	3
AVERAGE (Compound)		8.00%		6.30%		6.22%			2.06%		3.31%
AVERAGE (Arithmetic)		8.1%	**Since 1999**	6.3%	**Since 1999**	6.3%	**Since 1999**		2.1%	**Since 1999**	3.3%
Count		13		13		13			13	(Nominal)	13

(Sign Change, more than one possible answer)

Monetary Definitions from ECB Monetary analysis at http://www.ecb.int/mopo/strategy/monan/html/index.en.html

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits.

M2 ("Intermediate" money) comprises M1 plus deposits with a maturity of up to two years and deposits redeemable at a period of notice of up to three months. Depending on their degree of moneyness, such deposits can be converted into components of narrow money, but in some cases there may be restrictions involved, such as the need for advance notification, delays, penalties or fees. The definition of M2 reflects the particular interest in analysing and monitoring a monetary aggregate that, in addition to currency, consists of deposits which are liquid.

M3 (Broad money) comprises M2 and marketable instruments issued by the MFI sector. Certain money market instruments, in particular money market fund (MMF) shares/units and repurchase agreements are included in this aggregate. A high degree of liquidity and price certainty make these instruments close substitutes for deposits. As a result of their inclusion, M3 is less affected by substitution between various liquid asset categories than narrower definitions of money, and is therefore more stable.

Sources:

1-Monetary statistics from European Central Bank (ECB) "Historical monetary statistics" Table download bsi_ma_historical.zip at https://stats.ecb.europa.eu/stats/download/bsi_ma_historical/bsi_ma_historical.zip

2-Inflation HICP (Harmonised Indices of Consumer Prices) - Annual Data [prc_hicp_aind] from eurostat at http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

(Expanded TIME dropdown box **Actions** "Select more elements" to include 1996 to 2000 data in addition to 2001-2010 data in standard set)

3-GDP for Eurozone from European Commission eurostat, Gross domestic product at market prices (tec00001) Update 9/22/2012 at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

Attachment 5

European Central Bank Monetary Intermediation Cost

European Central Bank (ECB) Operating Costs 1999 to 2011[1]

ECB operating costs estimated as: 1) Staff + 2) Administrative + 3) Depreciation. Banknote costs not included as net operating cost since assumed needed with or without ECB intermediation.

		European Central Bank (ECB) Operating Costs				
(N)		(a)	(b)	(c)	(d)	(e) = (a)+(b)+(c)
	Year	**Staff**	**Administrative**	**Depreciation**	**Banknotes[a,b,c]**	**Net Operating**
#	(End 12/31)	(€ Euros)	(€ Euros)	(€ Euros)	(€ Euros)	(€ Euros)
0	1998	€ 29,744,540	€ 30,229,686	€ 8,076,017		€ 68,050,243
1	1999	€ 61,022,091	€ 60,748,855	€ 10,468,901		€ 132,239,847
2	2000	€ 80,275,827	€ 82,808,524	€ 14,103,116		€ 177,187,467
3	2001	€ 97,288,818	€ 185,712,394	€ 20,142,392	€ 0	€ 303,143,604
4	2002	€ 120,003,344	€ 133,966,576	€ 17,738,206	€ 118,358,022	€ 271,708,126
5	2003	€ 129,886,988	€ 153,549,282	€ 30,410,140	€ 2,096,766	€ 313,846,410
6	2004	€ 161,192,939	€ 176,287,651	€ 33,655,824	€ 3,121,959	€ 371,136,414
7	2005	€ 153,048,314	€ 158,457,219	€ 31,888,637	€ 4,165,974	€ 343,394,170
8	2006	€ 160,847,043	€ 166,426,595	€ 29,162,141	€ 4,734,120	€ 356,435,779
9	2007	€ 168,870,244	€ 184,589,229	€ 26,478,405	€ 5,351,759	€ 379,937,878
10	2008	€ 174,200,469	€ 183,224,063	€ 23,284,586	€ 6,871,050	€ 380,709,118
11	2009	€ 187,314,707	€ 186,447,503	€ 21,042,602	€ 6,220,852	€ 394,804,812
12	2010	€ 196,470,934	€ 196,636,534	€ 13,601,111	€ 8,585,168	€ 406,708,579
13	2011	€ 216,065,185	€ 208,017,979	€ 11,488,672	€ 6,472,170	€ 435,571,836
	TOTALS	€ 1,936,231,443	€ 2,107,102,090	€ 291,540,750	€ 165,977,840	€ 4,334,874,283

Notes: a-First electronic Euro use January 1, 1999.
b-First circulation Euro use January 1, 2002.
c-Banknote production costs were capitalized prior to Euro currency being put into circulation and were expensed once notes began circulating in 2002.

Source: 1-Operating expenses from ECB Annual Reports Profit and Loss Statements at http://www.ecb.int/pub/annual/html/index.en.html

Attachment 6

European Central Bank Monetary Intermediation Cost

ECB Annual Monetary Intermediation Cost 1999 to 2011 using M1 Euro Money Stock[1]

Assumptions

a-ECB Bank Reserve Requirement (RR) 2.0%

				Intermediation Cost European Central Bank (Est.)					Monetary Intermediation Cost European Central Bank (Using M1)			
		(A)	(B) = $(A_N) - (A_{N-1})$	(C) = (B) x (1-RR[a])	(D)	$(E_N) = (C_N) + (D_N)$	(F)	$(G) = (F_N - F_{N-1})/F_{N-1}$	$(H_N) = (E_N) / (F_N)$	(I)	(J) = (G) - (H)
(N) #	Year (End 12/31)	MoneyStock M1[1] (€ Billions)	€ Increase Prior Year (€ Billions)	Money Stock Change Intermediation Cost (€ Billions)	Actual (Net) Budget[2] (€ Billions)	Total Annual Intermediation Cost (€ Billions)	GDP(17)[3] (€ Billions)	GDP(17)[3] (% Growth)	Intermediation (% GDP Cost)	Inflation % HICP (Annual)[4]	GDP-Intermediation Net (% GDP) (r_f)
0	1998	€ 1,785.4					€ 6,169.49				
1	1999[a]	€ 1,972.0	€ 186.6	€ 182.87	€ 0.13	€ 183.00	€ 6,447.85	4.512%	2.838%	1.178%	1.674%
2	2000	€ 2,084.6	€ 112.6	€ 110.35	€ 0.18	€ 110.53	€ 6,783.55	5.206%	1.629%	2.191%	3.577%
3	2001	€ 2,279.0	€ 194.4	€ 190.51	€ 0.30	€ 190.82	€ 7,084.67	4.439%	2.693%	2.423%	1.746%
4	2002[b]	€ 2,499.4	€ 220.4	€ 215.99	€ 0.27	€ 216.26	€ 7,330.76	3.474%	2.950%	2.257%	0.523%
5	2003	€ 2,727.1	€ 227.7	€ 223.15	€ 0.31	€ 223.46	€ 7,546.90	2.948%	2.961%	2.133%	-0.013%
6	2004	€ 2,948.9	€ 221.8	€ 217.36	€ 0.37	€ 217.74	€ 7,860.38	4.154%	2.770%	2.182%	1.384%
7	2005	€ 3,482.1	€ 533.2	€ 522.54	€ 0.34	€ 522.88	€ 8,145.51	3.627%	6.419%	2.176%	-2.792%
8	2006	€ 3,758.6	€ 276.5	€ 270.97	€ 0.36	€ 271.33	€ 8,565.09	5.151%	3.168%	2.200%	1.983%
9	2007	€ 3,901.3	€ 142.7	€ 139.85	€ 0.38	€ 140.23	€ 9,030.42	5.433%	1.553%	2.143%	3.880%
10	2008	€ 4,035.7	€ 134.4	€ 131.71	€ 0.38	€ 132.09	€ 9,244.49	2.371%	1.429%	3.295%	0.942%
11	2009	€ 4,556.2	€ 520.5	€ 510.09	€ 0.39	€ 510.48	€ 8,923.51	-3.472%	5.721%	0.297%	-9.193%
12	2010	€ 4,750.8	€ 194.6	€ 190.71	€ 0.41	€ 191.11	€ 9,180.96	2.885%	2.082%	1.618%	0.803%
13	2011	€ 4,856.5	€ 105.7	€ 103.59	€ 0.44	€ 104.02	€ 9,425.32	2.662%	1.104%	2.721%	1.558%
	TOTALS	€ 4,856.5	€ 3,071.1	€ 3,009.68	€ 4.27	€ 3,013.94	€ 105,569.4	3.31%	2.86%	2.06%	0.41%
	a-First electronic Euro use January 1, 1999			€ 231.51	- Averages -	€ 231.84	Count(Years)	13	13	13	13
	b-First circulation Euro use January 1, 2002.				Max	€ 522.88		Average Annual Compound Growth			
					Min	€ 104.02					

European Central Bank (ECB) Intermediation Cost Estimate

Intermediation cost percentage estimated as [Money Stock (M1) increase x (1 - Reserve Requirement) + ECB net operating cost] divided by [GDP(Euro 17)].

Notes

1-M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

2-ECB net operating costs estimated from Attachment 5 as: 1) Staff + 2) Administrative + 3) Depreciation. (Banknote costs not included as assumed needed with or without ECB intermediation.)

SOURCES:

1-Money Stock (M1) from eurostat European Commission at https://stats.ecb.europa.eu/stats/download/bsi_ma_historical/bsi_ma_historical.zip

2-ECB operations data from Publications Annual Reports Profit and Loss Statements at http://www.ecb.int/pub/annual/html/index.en.html

3-GDP (Euro 17) from eurostat, Gross domestic product at market prices (tec00001) Update 9/22/2012 at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

Attachment 7

European Central Bank Monetary Intermediation Cost

ECB Compounded Monetary Intermediation Cost 1999 to 2011 using M1 Euro Money Stock[4]

€ M1 Money Stock Basis

Assumptions

(a)-Net GDP Productivity Growth Rate to economy (GDP Growth Rate (c) minus Intermediation Cost (b)) - (r_f)	0.45%
(b)-Intermediation Cost Percentage[2]	2.86%
(c)-GDP Growth Rate (Net GDP + Intermediation Percentage)[2]	3.31%

GDP EARNINGS WITH ECB INTERMEDIATION EXPENSE INCLUDED

(N)		(A)	(B) = (A) x (c)	(C) = (A) x (b)	(D) = (A)+(B)+(C)	(E)=∑ (C) Compounded	
Period	Year	Net GDP[1] Begin Yr (€ Billions)	Productivity Growth (Net) (€ Billions)	ECB Intermediation Expense[2]	Net GDP[1] End Yr (€ Billions)	Compounded Intermediation Expense[3]	%
1	1999[a]	€ 6,169.5	€ 204.4	(€ 176.4)	€ 6,197.5	€ 176.4	2.8%
2	2000	€ 6,197.5	€ 205.4	(€ 177.2)	€ 6,225.7	€ 359.5	5.5%
3	2001	€ 6,225.7	€ 206.3	(€ 178.0)	€ 6,253.9	€ 549.4	8.1%
4	2002[b]	€ 6,253.9	€ 207.2	(€ 178.8)	€ 6,282.3	€ 746.4	10.6%
5	2003	€ 6,282.3	€ 208.2	(€ 179.6)	€ 6,310.9	€ 950.8	13.1%
6	2004	€ 6,310.9	€ 209.1	(€ 180.5)	€ 6,339.5	€ 1,162.8	15.5%
7	2005	€ 6,339.5	€ 210.1	(€ 181.3)	€ 6,368.3	€ 1,382.6	17.8%
8	2006	€ 6,368.3	€ 211.0	(€ 182.1)	€ 6,397.2	€ 1,610.5	20.1%
9	2007	€ 6,397.2	€ 212.0	(€ 182.9)	€ 6,426.3	€ 1,846.8	22.3%
10	2008	€ 6,426.3	€ 212.9	(€ 183.8)	€ 6,455.5	€ 2,091.7	24.5%
11	2009	€ 6,455.5	€ 213.9	(€ 184.6)	€ 6,484.8	€ 2,345.6	26.6%
12	2010	€ 6,484.8	€ 214.9	(€ 185.4)	€ 6,514.2	€ 2,608.8	28.6%
13	2011	€ 6,514.2	€ 215.9	(€ 186.3)	**€ 6,543.8**	**€ 2,881.5**	**30.6%**
	Compound Growth Rates		0.45%	0.45%	0.45%	23.97%	
	Count (Years)		13	13	13	13	

a-First electronic Euro use January 1, 1999.
b-First circulation Euro use January 1, 2002.

GDP EARNINGS WITH ECB INTERMEDIATION EXPENSE REMOVED

(N)		(A)	(B) = (A) x (c)	(C) = (A) x (b)	(D) = (A)+(B)+(C)
Period	Year	GDP[1] Begin Yr (€ Billions)	Productivity Growth(Total) (€ Billions)	ECB Intermediation Expense[2]	GDP[1] End Yr (€ Billions)
1	1999	€ 6,169.5	€ 204.4	€ 0.0	€ 6,373.9
2	2000	€ 6,373.9	€ 211.2	€ 0.0	€ 6,585.1
3	2001	€ 6,585.1	€ 218.2	€ 0.0	€ 6,803.3
4	2002	€ 6,803.3	€ 225.4	€ 0.0	€ 7,028.8
5	2003	€ 7,028.8	€ 232.9	€ 0.0	€ 7,261.7
6	2004	€ 7,261.7	€ 240.6	€ 0.0	€ 7,502.3
7	2005	€ 7,502.3	€ 248.6	€ 0.0	€ 7,750.9
8	2006	€ 7,750.9	€ 256.8	€ 0.0	€ 8,007.7
9	2007	€ 8,007.7	€ 265.3	€ 0.0	€ 8,273.1
10	2008	€ 8,273.1	€ 274.1	€ 0.0	€ 8,547.2
11	2009	€ 8,547.2	€ 283.2	€ 0.0	€ 8,830.4
12	2010	€ 8,830.4	€ 292.6	€ 0.0	€ 9,123.0
13	2011	€ 9,123.0	€ 302.3	€ 0.0	**€ 9,425.3**
Compound Growth Rates		3.31%	3.31%	N.A.	3.31%
Count (Years)		13	13	13	13

Notes

1-GDP (Euro 17) from eurostat, Gross domestic product at market prices (tec00001) Update 9/22/2012 at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
2-ECB M1 Intermediation expense estimates from attachment 4.
3-ECB M1 Intermediation expenses compounded at total growth rate.
4-Format adapted from "The Tyranny of Compounding Costs" at http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

ECB Eurozone (17) Monetary Intermediation Cost	€ Billions	% Percent
Economic (GDP) earnings 2011 w/o ECB intermediation expense	€ 9,425.3	100.0%
Economy earnings with ECB Intermediation expense deducted	€ 6,543.8	69.4%
ECB Intermediation Expense to Non Bank Economy since 1999	**€ 2,881.5**	**30.6%**

ECB Intermediation costs, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 30.6% of eurozone economic returns to banking sector from 1999 to 2011.

Attachment 8(a)

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) Banks Consolidated Balance Sheet Estimate[1] - Existing (Before Conversion)

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
European Union (EU) Member State Protocol Order	Native	Belgique/België	Deutschland	Eesti	Éire/Ireland	Elláda	España	France	Italia	Kýpros	Luxembourg	Malta	Nederland	Österreich	Portugal	Slovenija	Slovensko	Suomi/Finland
	English	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EZ**	BE	DE	EE	IE	EL/GR	ES	FR	IT	CY	LU	MT	NL	AT	PT	SI	SK	FI
Domestic credit institutions	2,705	10	1,655	4	4	11	102	14	58	5	10	10	29	643	55	10	4	81
Foreign-controlled subsidiaries and branches	727	7	82	14	27	29	128	3	9	33	131	16	63	64	54	11	26	30
Total Credit Institutions	**3,432**	**17**	**1,737**	**18**	**31**	**40**	**230**	**17**	**67**	**38**	**141**	**26**	**92**	**707**	**109**	**21**	**30**	**111**

ASSETS	Total EZ	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Cash																		
A1 Cash and cash balances with central banks	€ 829.14	€ 32.98	€ 41.26	€ 3.29	€ 21.78	€ 15.59	€ 152.33	€ 191.68	€ 53.30	€ 7.84	€ 54.68	€ 1.19	€ 199.66	€ 29.36	€ 9.57	€ 1.92	€ 0.75	€ 11.96
Total Cash	**€ 829.14**	**€ 32.98**	**€ 41.26**	**€ 3.29**	**€ 21.78**	**€ 15.59**	**€ 152.33**	**€ 191.68**	**€ 53.30**	**€ 7.84**	**€ 54.68**	**€ 1.19**	**€ 199.66**	**€ 29.36**	**€ 9.57**	**€ 1.92**	**€ 0.75**	**€ 11.96**
Investments (available for sale to cover demand deposits)																		
A4 Financial assets designated at fair value through profit or loss[3]	€ 587.96	€ 12.77	€ 334.47	€ 0.61	€ 16.04	€ 0.47	€ 20.72	€ 95.36	€ 31.20	€ 0.30	€ 18.60	€ 1.45	€ 25.04	€ 27.47	€ 2.95	€ 0.30	€ 0.21	
A5 Available-for-sale financial assets	€ 1,860.36	€ 150.17	€ 296.79	€ 0.01	€ 62.96	€ 17.71	€ 287.35	€ 393.23	€ 209.41	€ 4.33	€ 92.20	€ 10.51	€ 207.78	€ 65.49	€ 52.91	€ 5.33	€ 4.18	
Total Investments	**€ 2,448.32**	**€ 162.94**	**€ 631.26**	**€ 0.62**	**€ 79.00**	**€ 18.18**	**€ 308.07**	**€ 488.59**	**€ 240.61**	**€ 4.63**	**€ 110.80**	**€ 11.96**	**€ 232.82**	**€ 92.96**	**€ 55.86**	**€ 5.63**	**€ 4.39**	**€ 0.00**
Loans																		
A6 Loans and receivables (including finance leases)	€ 16,029.68	€ 687.33	€ 2,702.26	€ 15.17	€ 597.16	€ 336.75	€ 2,555.78	€ 3,438.55	€ 1,997.30	€ 98.88	€ 582.11	€ 33.07	€ 1,897.71	€ 617.25	€ 391.12	€ 40.49	€ 38.75	
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 2,565.80	(€ 2.03)	€ 2,027.00	€ 0.00	(€ 88.98)	(€ 16.28)	€ 131.83	€ 188.70	(€ 65.49)	(€ 5.31)	(€ 38.80)	(€ 0.36)	€ 21.00	€ 197.39	(€ 9.28)	€ 0.00	(€ 0.04)	€ 226.45
A12 Total loans and advances	**€ 18,595.48**	**€ 685.30**	**€ 4,729.26**	**€ 15.17**	**€ 508.18**	**€ 320.47**	**€ 2,687.61**	**€ 3,627.25**	**€ 1,931.81**	**€ 93.57**	**€ 543.31**	**€ 32.71**	**€ 1,918.71**	**€ 814.64**	**€ 381.84**	**€ 40.49**	**€ 38.71**	**€ 226.45**
Other Assets																		
A2 Financial assets held for trading, net of [A3] Derivatives	€ 1,465.45	€ 39.94	€ 475.15	€ 0.03	€ 7.93	€ 3.77	€ 100.19	€ 638.31	€ 81.47	€ 0.39	€ 4.34	€ 0.25	€ 96.22	€ 12.36	€ 3.91	€ 0.24	€ 0.95	€ 0.00
A3 Derivatives held for trading	€ 3,818.67	€ 157.92	€ 1,219.35	€ 0.06	€ 448.07	€ 5.74	€ 192.42	€ 1,233.92	€ 179.65	€ 0.44	€ 12.93	€ 0.28	€ 155.74	€ 30.46	€ 8.29	€ 0.22	€ 0.45	€ 172.73
A7 Held-to-maturity investments[4]	€ 313.46	€ 13.29	€ 11.56	€ 0.29	€ 7.00	€ 12.32	€ 80.95	€ 64.94	€ 18.80	€ 8.14	€ 12.07	€ 4.10	€ 21.82	€ 34.94	€ 12.68	€ 2.31	€ 8.25	
A8 Derivatives – Hedge accounting	€ 291.44	€ 8.46	€ 61.99	-	€ 10.43	€ 1.32	€ 44.23	€ 72.85	€ 30.96	€ 0.01	€ 4.25	€ 0.03	€ 39.92	€ 8.83	€ 1.47	€ 0.11	€ 0.01	€ 6.57
A9 Tangible and intangible assets	€ 418.31	€ 9.98	€ 42.87	€ 0.09	€ 2.70	€ 10.63	€ 90.12	€ 115.57	€ 79.18	€ 2.43	€ 3.02	€ 0.23	€ 31.41	€ 19.73	€ 6.20	€ 1.07	€ 0.86	€ 2.22
A10 Intangible assets	€ 189.95	€ 2.91	€ 21.34	€ 0.01	€ 1.13	€ 3.08	€ 41.31	€ 52.93	€ 47.54	€ 1.21	€ 1.40	€ 0.03	€ 6.64	€ 8.04	€ 1.32	€ 0.23	€ 0.25	€ 0.58
A11 Investments in associates, subsidiaries and joint ventures	€ 157.31	€ 5.38	€ 7.11	€ 0.03	€ 2.69	€ 1.43	€ 49.01	€ 45.61	€ 19.04	€ 0.41	€ 0.01	€ 0.20	€ 6.77	€ 12.82	€ 4.05	€ 0.17	€ 0.26	€ 2.32
A_ Other assets unknown (plug figure to balance total assets)[1]	€ 1,862.19	€ 28.06	€ 754.52	€ 0.10	€ 104.06	€ 32.19	€ 169.04	€ 142.59	€ 112.07	€ 6.35	€ 48.39	€ 0.82	€ 122.45	€ 102.17	€ 27.49	€ 0.54	€ 0.39	€ 210.96
Total Other Assets	**€ 8,516.78**	**€ 265.94**	**€ 2,593.89**	**€ 0.61**	**€ 584.01**	**€ 70.48**	**€ 767.27**	**€ 2,366.72**	**€ 568.71**	**€ 19.38**	**€ 86.41**	**€ 5.94**	**€ 480.97**	**€ 229.35**	**€ 65.41**	**€ 4.89**	**€ 11.42**	**€ 395.38**
A15 Total assets [full sample]	**€ 30,389.72**	**€ 1,147.16**	**€ 7,995.67**	**€ 19.69**	**€ 1,192.97**	**€ 424.72**	**€ 3,915.28**	**€ 6,674.24**	**€ 2,794.43**	**€ 125.42**	**€ 795.20**	**€ 51.80**	**€ 2,832.16**	**€ 1,166.31**	**€ 512.68**	**€ 52.93**	**€ 55.27**	**€ 633.79**

LIABILITIES & EQUITY	Total EZ	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Deposits (Assume/Treat as all demand deposits)																		
L9 Total deposits from credit institutions	€ 4,221.27	€ 130.23	€ 1,295.47	€ 4.64	€ 111.97	€ 44.74	€ 483.34	€ 658.68	€ 386.55	€ 26.93	€ 354.84	€ 20.22	€ 273.05	€ 207.51	€ 74.65	€ 13.97	€ 2.26	€ 132.22
L10 Total deposits (other than from credit institutions)	€ 12,132.58	€ 534.49	€ 3,010.04	€ 11.56	€ 238.91	€ 212.72	€ 1,997.78	€ 2,475.94	€ 1,045.07	€ 74.24	€ 265.67	€ 18.45	€ 1,259.73	€ 518.78	€ 244.43	€ 27.10	€ 38.92	€ 158.75
Total Deposits	**€ 16,353.85**	**€ 664.72**	**€ 4,305.51**	**€ 16.20**	**€ 350.88**	**€ 257.46**	**€ 2,481.12**	**€ 3,134.62**	**€ 1,431.62**	**€ 101.17**	**€ 620.51**	**€ 38.67**	**€ 1,532.78**	**€ 726.29**	**€ 319.08**	**€ 41.07**	**€ 41.18**	**€ 290.97**
Debt/Borrowing																		
L11 Total debt certificates (including bonds)	€ 4,703.15	€ 101.39	€ 1,124.93	€ 0.02	€ 116.79	€ 15.90	€ 541.64	€ 1,007.55	€ 595.04	€ 0.46	€ 66.33	€ 0.12	€ 720.57	€ 230.72	€ 75.03	€ 3.71	€ 3.61	€ 99.34
Total Debt/Borrowing	**€ 4,703.15**	**€ 101.39**	**€ 1,124.93**	**€ 0.02**	**€ 116.79**	**€ 15.90**	**€ 541.64**	**€ 1,007.55**	**€ 595.04**	**€ 0.46**	**€ 66.33**	**€ 0.12**	**€ 720.57**	**€ 230.72**	**€ 75.03**	**€ 3.71**	**€ 3.61**	**€ 99.34**
Other Liabilities (Non-Deposit/Non- Debt)																		
L_ Other Liabilities (Non-Deposit/Non-Debt) (plug to bal. liabilities)[1]	€ 7,852.30	€ 328.27	€ 2,254.08	€ 1.04	€ 657.78	€ 153.87	€ 666.21	€ 2,215.51	€ 580.28	€ 17.99	€ 62.21	€ 2.91	€ 461.79	€ 130.01	€ 92.44	€ 4.16	€ 4.58	€ 219.17
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 7,852.30**	**€ 328.27**	**€ 2,254.08**	**€ 1.04**	**€ 657.78**	**€ 153.87**	**€ 666.21**	**€ 2,215.51**	**€ 580.28**	**€ 17.99**	**€ 62.21**	**€ 2.91**	**€ 461.79**	**€ 130.01**	**€ 92.44**	**€ 4.16**	**€ 4.58**	**€ 219.17**
L12 Total liabilities [full sample]	**€ 28,909.30**	**€ 1,094.38**	**€ 7,684.52**	**€ 17.26**	**€ 1,125.45**	**€ 427.23**	**€ 3,688.97**	**€ 6,357.68**	**€ 2,606.94**	**€ 119.62**	**€ 749.05**	**€ 41.70**	**€ 2,715.14**	**€ 1,087.02**	**€ 486.55**	**€ 48.94**	**€ 49.37**	**€ 609.48**
Equity																		
E1 Total equity	€ 1,480.38	€ 52.78	€ 311.15	€ 2.43	€ 67.52	(€ 2.51)	€ 226.31	€ 316.55	€ 187.49	€ 5.80	€ 46.14	€ 10.10	€ 117.02	€ 79.29	€ 26.14	€ 3.99	€ 5.89	€ 24.29
Total Equity	**€ 1,480.38**	**€ 52.78**	**€ 311.15**	**€ 2.43**	**€ 67.52**	**(€ 2.51)**	**€ 226.31**	**€ 316.55**	**€ 187.49**	**€ 5.80**	**€ 46.14**	**€ 10.10**	**€ 117.02**	**€ 79.29**	**€ 26.14**	**€ 3.99**	**€ 5.89**	**€ 24.29**
% Equity to Total Assets	4.9%	4.6%	3.9%	12.3%	5.7%	-0.6%	5.8%	4.7%	6.7%	4.6%	5.8%	19.5%	4.1%	6.8%	5.1%	7.5%	10.7%	3.8%
Total Liabilities & Equity ([L12]+[E1])	**€ 30,389.68**	**€ 1,147.16**	**€ 7,995.67**	**€ 19.69**	**€ 1,192.97**	**€ 424.72**	**€ 3,915.28**	**€ 6,674.23**	**€ 2,794.43**	**€ 125.42**	**€ 795.19**	**€ 51.80**	**€ 2,832.16**	**€ 1,166.31**	**€ 512.69**	**€ 52.93**	**€ 55.26**	**€ 633.77**

Deposit Funding Analysis	Total EZ	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
% Deposit Reserve Est.([Total Cash] ÷ [Total Deposits])	5.1%	5.0%	1.0%	20.3%	6.2%	6.1%	6.1%	6.1%	3.7%	7.7%	8.8%	3.1%	13.0%	4.0%	3.0%	4.7%	1.8%	4.1%
% Deposits to Total Assets (Est.)	53.8%	57.9%	53.8%	82.3%	29.4%	60.6%	63.4%	47.0%	51.2%	80.7%	78.0%	74.7%	54.1%	62.3%	62.2%	77.6%	74.5%	45.9%
% Deposit Shortage to Total Assets ([Bank Note] ÷ [Total Assets])	43.0%	40.9%	45.4%	62.4%	21.0%	52.7%	51.6%	36.8%	40.7%	70.7%	57.2%	49.3%	38.9%	51.8%	49.5%	63.3%	65.2%	44.0%
Monetary Bank Note to Domestic Sovereign Governments to cover fractional reserve cash shortage to fund deposits 100%[a]	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
(as of December 31, 2011) Total Deposits [L9+L10]	€ 16,353.85	€ 664.72	€ 4,305.51	€ 16.20	€ 350.88	€ 257.46	€ 2,481.12	€ 3,134.62	€ 1,431.62	€ 101.17	€ 620.51	€ 38.67	€ 1,532.78	€ 726.29	€ 319.08	€ 41.07	€ 41.18	€ 290.97
Less: Cash and cash balances with central banks [A1]	(€ 829.14)	(€ 32.98)	(€ 41.26)	(€ 3.29)	(€ 21.78)	(€ 15.59)	(€ 152.33)	(€ 191.68)	(€ 53.30)	(€ 7.84)	(€ 54.68)	(€ 1.19)	(€ 199.66)	(€ 29.36)	(€ 9.57)	(€ 1.92)	(€ 0.75)	(€ 11.96)
Less: Investments (available for sale [A4+A5])	(€ 2,448.32)	(€ 162.94)	(€ 631.26)	(€ 0.62)	(€ 79.00)	(€ 18.18)	(€ 308.07)	(€ 488.59)	(€ 240.61)	(€ 4.63)	(€ 110.80)	(€ 11.96)	(€ 232.82)	(€ 92.96)	(€ 55.86)	(€ 5.63)	(€ 4.39)	€ 0.00
Bank note to gov't to cover fractional reserve deposit cash shortage[a]	**€ 13,076.39**	**€ 468.80**	**€ 3,632.99**	**€ 12.29**	**€ 250.10**	**€ 223.69**	**€ 2,020.72**	**€ 2,454.35**	**€ 1,137.71**	**€ 88.70**	**€ 455.03**	**€ 25.52**	**€ 1,100.30**	**€ 603.97**	**€ 253.65**	**€ 33.52**	**€ 36.04**	**€ 279.01**
[(L9+L10)-(A1+A4+A5)]	€ 12,794.57																	

Notes

1-ECB Consolidated banking data - Reference period: end-2011 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 17 countries using the Euro in the Eurozone. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2011 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 17 countries using Euro in the Eurozone.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

ECB: European Central Bank Eurosystem
(Home > Statistics > Monetary and financial statistics > Consolidated banking data)
Consolidated banking data / Reference period: end-2011
http://www.ecb.int/stats/money/consolidated/html/index.en.html

CBD Statistics on Consolidated Banking Data (Blank cell indicates missing data)
Table 11a - Country-level indicators: selected balance sheet items - 2011
(all banks; EUR billions)
From Source: FSC (Financial Stability Board)

Attachment 8(b)

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) Banks Consolidated Balance Sheet Estimate[1] - Step 1 Conversion to 100% Deposit Reserves

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	**Country**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
European Union (EU) Member State Protocol Order	**Native**	Belgique/België	Deutschland	Eesti	Éire/Ireland	Elláda	España	France	Italia	Kýpros	Luxembourg	Malta	Nederland	Österreich	Portugal	Slovenija	Slovensko	Suomi/Finland
	English	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EZ**	BE	DE	EE	IE	EL/GR	ES	FR	IT	CY	LU	MT	NL	AT	PT	SI	SK	FI
Domestic credit institutions	2,705	10	1,655	4	4	11	102	14	58	5	10	10	29	643	55	10	4	81
Foreign-controlled subsidiaries and branches	727	7	82	14	27	29	128	3	9	33	131	16	63	64	54	11	26	30
Total Credit Institutions	**3,432**	**17**	**1,737**	**18**	**31**	**40**	**230**	**17**	**67**	**38**	**141**	**26**	**92**	**707**	**109**	**21**	**30**	**111**

ASSETS	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 829.14	€ 32.98	€ 41.26	€ 3.29	€ 21.78	€ 15.59	€ 152.33	€ 191.68	€ 53.30	€ 7.84	€ 54.68	€ 1.19	€ 199.66	€ 29.36	€ 9.57	€ 1.92	€ 0.75	€ 11.96
Cash from Bonded Debt to Domestic Sovereign Government[5]	**€ 13,076.39**	**€ 468.80**	**€ 3,632.99**	**€ 12.29**	**€ 250.10**	**€ 223.69**	**€ 2,020.72**	**€ 2,454.35**	**€ 1,137.71**	**€ 88.70**	**€ 455.03**	**€ 25.52**	**€ 1,100.30**	**€ 603.97**	**€ 253.65**	**€ 33.52**	**€ 36.04**	**€ 279.01**
Investments (sold for cash to cover deposits)																		
A4 Financial assets designated at fair value through profit or loss[3]	€ 587.96	€ 12.77	€ 334.47	€ 0.61	€ 16.04	€ 0.47	€ 20.72	€ 95.36	€ 31.20	€ 0.30	€ 18.60	€ 1.45	€ 25.04	€ 27.47	€ 2.95	€ 0.30	€ 0.21	
A5 Available-for-sale financial assets	€ 1,860.36	€ 150.17	€ 296.79	€ 0.01	€ 62.96	€ 17.71	€ 287.35	€ 393.23	€ 209.41	€ 4.33	€ 92.20	€ 10.51	€ 207.78	€ 65.49	€ 52.91	€ 5.33	€ 4.18	
Total Cash	**€ 16,353.85**	**€ 664.72**	**€ 4,305.51**	**€ 16.20**	**€ 350.88**	**€ 257.46**	**€ 2,481.12**	**€ 3,134.62**	**€ 1,431.62**	**€ 101.17**	**€ 620.51**	**€ 38.67**	**€ 1,532.78**	**€ 726.29**	**€ 319.08**	**€ 41.07**	**€ 41.18**	**€ 290.97**
Loans																		
A6 Loans and receivables (including finance leases)	€ 16,029.68	€ 687.33	€ 2,702.26	€ 15.17	€ 597.16	€ 336.75	€ 2,555.78	€ 3,438.55	€ 1,997.30	€ 98.88	€ 582.11	€ 33.07	€ 1,897.71	€ 617.25	€ 391.12	€ 40.49	€ 38.75	
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 2,565.80	(€ 2.03)	€ 2,027.00	€ 0.00	(€ 88.98)	(€ 16.28)	€ 131.83	€ 188.70	(€ 65.49)	(€ 5.31)	(€ 38.80)	(€ 0.36)	€ 21.00	€ 197.39	(€ 9.28)	€ 0.00	(€ 0.04)	€ 226.45
A12 Total loans and advances	**€ 18,595.48**	**€ 685.30**	**€ 4,729.26**	**€ 15.17**	**€ 508.18**	**€ 320.47**	**€ 2,687.61**	**€ 3,627.25**	**€ 1,931.81**	**€ 93.57**	**€ 543.31**	**€ 32.71**	**€ 1,918.71**	**€ 814.64**	**€ 381.84**	**€ 40.49**	**€ 38.71**	**€ 226.45**
Other Assets																		
A2 Financial assets held for trading, net of [A3] Derivatives	€ 1,465.45	€ 39.94	€ 475.15	€ 0.03	€ 7.93	€ 3.77	€ 100.19	€ 638.31	€ 81.47	€ 0.39	€ 4.34	€ 0.25	€ 96.22	€ 12.36	€ 3.91	€ 0.24	€ 0.95	€ 0.00
A3 Derivatives held for trading	€ 3,818.67	€ 157.92	€ 1,219.35	€ 0.06	€ 448.07	€ 5.74	€ 192.42	€ 1,233.92	€ 179.65	€ 0.44	€ 12.93	€ 0.28	€ 155.74	€ 30.46	€ 8.29	€ 0.22	€ 0.45	€ 172.73
A7 Held-to-maturity investments[4]	€ 313.46	€ 13.29	€ 11.56	€ 0.29	€ 7.00	€ 12.32	€ 80.95	€ 64.94	€ 18.80	€ 8.14	€ 12.07	€ 4.10	€ 21.82	€ 34.94	€ 12.68	€ 2.31	€ 8.25	
A8 Derivatives – Hedge accounting	€ 291.44	€ 8.46	€ 61.99	-	€ 10.43	€ 1.32	€ 44.23	€ 72.85	€ 30.96	€ 0.01	€ 4.25	€ 0.03	€ 39.92	€ 8.83	€ 1.47	€ 0.11	€ 0.01	€ 6.57
A9 Tangible and intangible assets	€ 418.31	€ 9.98	€ 42.87	€ 0.09	€ 2.70	€ 10.63	€ 90.12	€ 115.57	€ 79.18	€ 2.43	€ 3.02	€ 0.23	€ 31.41	€ 19.73	€ 6.20	€ 1.07	€ 0.86	€ 2.22
A10 Intangible assets	€ 189.95	€ 2.91	€ 21.34	€ 0.01	€ 1.13	€ 3.08	€ 41.31	€ 52.93	€ 47.54	€ 1.21	€ 1.40	€ 0.03	€ 6.64	€ 8.04	€ 1.32	€ 0.23	€ 0.25	€ 0.58
A11 Investments in associates, subsidiaries and joint ventures	€ 157.31	€ 5.38	€ 7.11	€ 0.03	€ 2.69	€ 1.43	€ 49.01	€ 45.61	€ 19.04	€ 0.41	€ 0.01	€ 0.20	€ 6.77	€ 12.82	€ 4.05	€ 0.17	€ 0.26	€ 2.32
A_ Other assets unknown (plug figure to balance total assets)[1]	€ 1,862.19	€ 28.06	€ 754.52	€ 0.10	€ 104.06	€ 32.19	€ 169.04	€ 142.59	€ 112.07	€ 6.35	€ 48.39	€ 0.82	€ 122.45	€ 102.17	€ 27.49	€ 0.54	€ 0.39	€ 210.96
Total Other Assets	**€ 8,516.78**	**€ 265.94**	**€ 2,593.89**	**€ 0.61**	**€ 584.01**	**€ 70.48**	**€ 767.27**	**€ 2,366.72**	**€ 568.71**	**€ 19.38**	**€ 86.41**	**€ 5.94**	**€ 480.97**	**€ 229.35**	**€ 65.41**	**€ 4.89**	**€ 11.42**	**€ 395.38**
A15 Total assets [full sample]	**€ 43,466.11**	**€ 1,615.96**	**€ 11,628.66**	**€ 31.98**	**€ 1,443.07**	**€ 648.41**	**€ 5,936.00**	**€ 9,128.59**	**€ 3,932.14**	**€ 214.12**	**€ 1,250.23**	**€ 77.32**	**€ 3,932.46**	**€ 1,770.28**	**€ 766.33**	**€ 86.45**	**€ 91.31**	**€ 912.80**

LIABILITIES & EQUITY	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 4,221.27	€ 130.23	€ 1,295.47	€ 4.64	€ 111.97	€ 44.74	€ 483.34	€ 658.68	€ 386.55	€ 26.93	€ 354.84	€ 20.22	€ 273.05	€ 207.51	€ 74.65	€ 13.97	€ 2.26	€ 132.22
L10 Total deposits (other than from credit institutions)	€ 12,132.58	€ 534.49	€ 3,010.04	€ 11.56	€ 238.91	€ 212.72	€ 1,997.78	€ 2,475.94	€ 1,045.07	€ 74.24	€ 265.67	€ 18.45	€ 1,259.73	€ 518.78	€ 244.43	€ 27.10	€ 38.92	€ 158.75
Total Deposits	**€ 16,353.85**	**€ 664.72**	**€ 4,305.51**	**€ 16.20**	**€ 350.88**	**€ 257.46**	**€ 2,481.12**	**€ 3,134.62**	**€ 1,431.62**	**€ 101.17**	**€ 620.51**	**€ 38.67**	**€ 1,532.78**	**€ 726.29**	**€ 319.08**	**€ 41.07**	**€ 41.18**	**€ 290.97**
Debt/Borrowing																		
L11 Total debt certificates (including bonds)	€ 4,703.15	€ 101.39	€ 1,124.93	€ 0.02	€ 116.79	€ 15.90	€ 541.64	€ 1,007.55	€ 595.04	€ 0.46	€ 66.33	€ 0.12	€ 720.57	€ 230.72	€ 75.03	€ 3.71	€ 3.61	€ 99.34
Bonded Monetary Debt to Domestic Sovereign Government[5]	**€ 13,076.39**	**€ 468.80**	**€ 3,632.99**	**€ 12.29**	**€ 250.10**	**€ 223.69**	**€ 2,020.72**	**€ 2,454.35**	**€ 1,137.71**	**€ 88.70**	**€ 455.03**	**€ 25.52**	**€ 1,100.30**	**€ 603.97**	**€ 253.65**	**€ 33.52**	**€ 36.04**	**€ 279.01**
Total Debt/Borrowing	**€ 17,779.54**	**€ 570.19**	**€ 4,757.92**	**€ 12.31**	**€ 366.89**	**€ 239.59**	**€ 2,562.36**	**€ 3,461.90**	**€ 1,732.75**	**€ 89.16**	**€ 521.36**	**€ 25.64**	**€ 1,820.87**	**€ 834.69**	**€ 328.68**	**€ 37.23**	**€ 39.65**	**€ 378.35**
Other Liabilities (Non-Deposit/Non- Debt)																		
L_ Other Liabilities (Non-Deposit/Non-Debt)(plug to bal. liabilities)[1]	€ 7,852.30	€ 328.27	€ 2,254.08	€ 1.04	€ 657.78	€ 153.87	€ 666.21	€ 2,215.51	€ 580.28	€ 17.99	€ 62.21	€ 2.91	€ 461.79	€ 130.01	€ 92.44	€ 4.16	€ 4.58	€ 219.17
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 7,852.30**	**€ 328.27**	**€ 2,254.08**	**€ 1.04**	**€ 657.78**	**€ 153.87**	**€ 666.21**	**€ 2,215.51**	**€ 580.28**	**€ 17.99**	**€ 62.21**	**€ 2.91**	**€ 461.79**	**€ 130.01**	**€ 92.44**	**€ 4.16**	**€ 4.58**	**€ 219.17**
L12 Total liabilities [full sample]	**€ 41,985.69**	**€ 1,563.18**	**€ 11,317.51**	**€ 29.55**	**€ 1,375.55**	**€ 650.92**	**€ 5,709.69**	**€ 8,812.03**	**€ 3,744.65**	**€ 208.32**	**€ 1,204.08**	**€ 67.22**	**€ 3,815.44**	**€ 1,690.99**	**€ 740.20**	**€ 82.46**	**€ 85.41**	**€ 888.49**
Equity																		
E1 Total equity	€ 1,480.38	€ 52.78	€ 311.15	€ 2.43	€ 67.52	(€ 2.51)	€ 226.31	€ 316.55	€ 187.49	€ 5.80	€ 46.14	€ 10.10	€ 117.02	€ 79.29	€ 26.14	€ 3.99	€ 5.89	€ 24.29
Total Equity	**€ 1,480.38**	**€ 52.78**	**€ 311.15**	**€ 2.43**	**€ 67.52**	**(€ 2.51)**	**€ 226.31**	**€ 316.55**	**€ 187.49**	**€ 5.80**	**€ 46.14**	**€ 10.10**	**€ 117.02**	**€ 79.29**	**€ 26.14**	**€ 3.99**	**€ 5.89**	**€ 24.29**
% Equity to Total Assets	3.4%	3.3%	2.7%	7.6%	4.7%	-0.4%	3.8%	3.5%	4.8%	2.7%	3.7%	13.1%	3.0%	4.5%	3.4%	4.6%	6.5%	2.7%
Total Liabilities & Equity ([L12]+[E1])	**€ 43,466.07**	**€ 1,615.96**	**€ 11,628.66**	**€ 31.98**	**€ 1,443.07**	**€ 648.41**	**€ 5,936.00**	**€ 9,128.58**	**€ 3,932.14**	**€ 214.12**	**€ 1,250.22**	**€ 77.32**	**€ 3,932.46**	**€ 1,770.28**	**€ 766.34**	**€ 86.45**	**€ 91.30**	**€ 912.78**

Deposit Funding Analysis	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
December 31, 2011	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Total Deposits [L9+L10]	€ 16,353.85	€ 664.72	€ 4,305.51	€ 16.20	€ 350.88	€ 257.46	€ 2,481.12	€ 3,134.62	€ 1,431.62	€ 101.17	€ 620.51	€ 38.67	€ 1,532.78	€ 726.29	€ 319.08	€ 41.07	€ 41.18	€ 290.97
Less: Total Cash Assets	(16,353.85)	(€ 664.72)	(€ 4,305.51)	(€ 16.20)	(€ 350.88)	(€ 257.46)	(2,481.12)	(3,134.62)	(1,431.62)	(€ 101.17)	(€ 620.51)	(€ 38.67)	(€ 1,532.78)	(€ 726.29)	(€ 319.08)	(€ 41.07)	(€ 41.18)	(€ 290.97)
Shortage/(Surplus)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Deposit Funding Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
% Deposits to Total Assets (Est.)	37.6%	41.1%	37.0%	50.7%	24.3%	39.7%	41.8%	34.3%	36.4%	47.2%	49.6%	50.0%	39.0%	41.0%	41.6%	47.5%	45.1%	31.9%

Notes

1-ECB Consolidated banking data - Reference period: end-2011 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 17 countries using the Euro in the Eurozone. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2011 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 17 countries using Euro in the Eurozone.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

ECB: European Central Bank Eurosystem
(Home > Statistics > Monetary and financial statistics > Consolidated banking data)
Consolidated banking data / Reference period: end-2011
http://www.ecb.int/stats/money/consolidated/html/index.en.html

CBD Statistics on Consolidated Banking Data (Blank cell indicates missing data)
Table 11a - Country-level indicators: selected balance sheet items - 2011
(all banks; EUR billions)
From Source: FSC (Financial Stability Board)

Attachment 8(c)

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) Banks Consolidated Balance Sheet Estimate[1] - Step 2(a) Split Portion to Depositor owned Depositories

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	**Country**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
European Union (EU) Member State Protocol Order	**Native**	Belgique/België	Deutschland	Eesti	Éire/Ireland	Elláda	España	France	Italia	Kýpros	Luxembourg	Malta	Nederland	Österreich	Portugal	Slovenija	Slovensko	Suomi/Finland
	English	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EZ**	BE	DE	EE	IE	EL/GR	ES	FR	IT	CY	LU	MT	NL	AT	PT	SI	SK	FI
Domestic credit institutions	2,705	10	1,655	4	4	11	102	14	58	5	10	10	29	643	55	10	4	81
Foreign-controlled subsidiaries and branches	727	7	82	14	27	29	128	3	9	33	131	16	63	64	54	11	26	30
Total Credit Institutions	**3,432**	**17**	**1,737**	**18**	**31**	**40**	**230**	**17**	**67**	**38**	**141**	**26**	**92**	**707**	**109**	**21**	**30**	**111**

ASSETS	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 829.14	€ 32.98	€ 41.26	€ 3.29	€ 21.78	€ 15.59	€ 152.33	€ 191.68	€ 53.30	€ 7.84	€ 54.68	€ 1.19	€ 199.66	€ 29.36	€ 9.57	€ 1.92	€ 0.75	€ 11.96
Cash from Bonded Debt to Domestic Sovereign Government[a]	**€ 13,076.39**	**€ 468.80**	**€ 3,632.99**	**€ 12.29**	**€ 250.10**	**€ 223.69**	**€ 2,020.72**	**€ 2,454.35**	**€ 1,137.71**	**€ 88.70**	**€ 455.03**	**€ 25.52**	**€ 1,100.30**	**€ 603.97**	**€ 253.65**	**€ 33.52**	**€ 36.04**	**€ 279.01**
Investments (sold for cash to cover deposits)																		
A4 Financial assets designated at fair value through profit or loss[3]	€ 587.96	€ 12.77	€ 334.47	€ 0.61	€ 16.04	€ 0.47	€ 20.72	€ 95.36	€ 31.20	€ 0.30	€ 18.60	€ 1.45	€ 25.04	€ 27.47	€ 2.95	€ 0.30	€ 0.21	
A5 Available-for-sale financial assets	€ 1,860.36	€ 150.17	€ 296.79	€ 0.01	€ 62.96	€ 17.71	€ 287.35	€ 393.23	€ 209.41	€ 4.33	€ 92.20	€ 10.51	€ 207.78	€ 65.49	€ 52.91	€ 5.33	€ 4.18	
Total Cash	**€ 16,353.85**	**€ 664.72**	**€ 4,305.51**	**€ 16.20**	**€ 350.88**	**€ 257.46**	**€ 2,481.12**	**€ 3,134.62**	**€ 1,431.62**	**€ 101.17**	**€ 620.51**	**€ 38.67**	**€ 1,532.78**	**€ 726.29**	**€ 319.08**	**€ 41.07**	**€ 41.18**	**€ 290.97**
Loans																		
A6 Loans and receivables (including finance leases)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A12 Total loans and advances	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Other Assets																		
A2 Financial assets held for trading, net of [A3] Derivatives	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	
A3 Derivatives held for trading	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A7 Held-to-maturity investments[4]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	
A8 Derivatives – Hedge accounting	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A9 Tangible and intangible assets (to depositories for start-up)[5]	€ 209.16	€ 4.99	€ 21.44	€ 0.05	€ 1.35	€ 5.32	€ 45.06	€ 57.79	€ 39.59	€ 1.22	€ 1.51	€ 0.12	€ 15.71	€ 9.87	€ 3.10	€ 0.54	€ 0.43	€ 1.11
A10 Intangible assets	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A11 Investments in associates, subsidiaries and joint ventures	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A_ Other assets unknown (plug figure to balance total assets)[1]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Other Assets	**€ 209.16**	**€ 4.99**	**€ 21.44**	**€ 0.05**	**€ 1.35**	**€ 5.32**	**€ 45.06**	**€ 57.79**	**€ 39.59**	**€ 1.22**	**€ 1.51**	**€ 0.12**	**€ 15.71**	**€ 9.87**	**€ 3.10**	**€ 0.54**	**€ 0.43**	**€ 1.11**
A15 Total assets [full sample]	**€ 16,563.01**	**€ 669.71**	**€ 4,326.95**	**€ 16.25**	**€ 352.23**	**€ 262.78**	**€ 2,526.18**	**€ 3,192.41**	**€ 1,471.21**	**€ 102.39**	**€ 622.02**	**€ 38.79**	**€ 1,548.49**	**€ 736.16**	**€ 322.18**	**€ 41.61**	**€ 41.61**	**€ 292.08**

LIABILITIES & EQUITY	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 4,221.27	€ 130.23	€ 1,295.47	€ 4.64	€ 111.97	€ 44.74	€ 483.34	€ 658.68	€ 386.55	€ 26.93	€ 354.84	€ 20.22	€ 273.05	€ 207.51	€ 74.65	€ 13.97	€ 2.26	€ 132.22
L10 Total deposits (other than from credit institutions)	€ 12,132.58	€ 534.49	€ 3,010.04	€ 11.56	€ 238.91	€ 212.72	€ 1,997.78	€ 2,475.94	€ 1,045.07	€ 74.24	€ 265.67	€ 18.45	€ 1,259.73	€ 518.78	€ 244.43	€ 27.10	€ 38.92	€ 158.75
Total Deposits	**€ 16,353.85**	**€ 664.72**	**€ 4,305.51**	**€ 16.20**	**€ 350.88**	**€ 257.46**	**€ 2,481.12**	**€ 3,134.62**	**€ 1,431.62**	**€ 101.17**	**€ 620.51**	**€ 38.67**	**€ 1,532.78**	**€ 726.29**	**€ 319.08**	**€ 41.07**	**€ 41.18**	**€ 290.97**
Debt/Borrowing																		
L11 Total debt certificates(including bonds)(for A9 start-up assets)[5]	€ 209.16	€ 4.99	€ 21.44	€ 0.05	€ 1.35	€ 5.32	€ 45.06	€ 57.79	€ 39.59	€ 1.22	€ 1.51	€ 0.12	€ 15.71	€ 9.87	€ 3.10	€ 0.54	€ 0.43	€ 1.11
Bonded Monetary Debt to Domestic Sovereign Government[a]	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Total Debt/Borrowing	**€ 209.16**	**€ 4.99**	**€ 21.44**	**€ 0.05**	**€ 1.35**	**€ 5.32**	**€ 45.06**	**€ 57.79**	**€ 39.59**	**€ 1.22**	**€ 1.51**	**€ 0.12**	**€ 15.71**	**€ 9.87**	**€ 3.10**	**€ 0.54**	**€ 0.43**	**€ 1.11**
Other Liabilities (Non-Deposit/Non- Debt)																		
L_ Other Liabilities (Non-Deposit/Non-Debt)(plug to bal. liabilities)[1]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
L12 Total liabilities [full sample]	**€ 16,563.01**	**€ 669.71**	**€ 4,326.95**	**€ 16.25**	**€ 352.23**	**€ 262.78**	**€ 2,526.18**	**€ 3,192.41**	**€ 1,471.21**	**€ 102.39**	**€ 622.02**	**€ 38.79**	**€ 1,548.49**	**€ 736.16**	**€ 322.18**	**€ 41.61**	**€ 41.61**	**€ 292.08**
Equity																		
E1 Total equity	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Equity	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
% Equity to Total Assets	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Liabilities & Equity ([L12]+[E1])	**€ 16,563.01**	**€ 669.71**	**€ 4,326.95**	**€ 16.25**	**€ 352.23**	**€ 262.78**	**€ 2,526.18**	**€ 3,192.41**	**€ 1,471.21**	**€ 102.39**	**€ 622.02**	**€ 38.79**	**€ 1,548.49**	**€ 736.16**	**€ 322.18**	**€ 41.61**	**€ 41.61**	**€ 292.08**

Deposit Funding Analysis	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
December 31, 2011	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Total Deposits [L9+L10]	€ 16,353.85	€ 664.72	€ 4,305.51	€ 16.20	€ 350.88	€ 257.46	€ 2,481.12	€ 3,134.62	€ 1,431.62	€ 101.17	€ 620.51	€ 38.67	€ 1,532.78	€ 726.29	€ 319.08	€ 41.07	€ 41.18	€ 290.97
Less: Total Cash Assets	(16,353.85)	(€ 664.72)	(€ 4,305.51)	(€ 16.20)	(€ 350.88)	(€ 257.46)	(2,481.12)	(3,134.62)	(1,431.62)	(€ 101.17)	(€ 620.51)	(€ 38.67)	(€ 1,532.78)	(€ 726.29)	(€ 319.08)	(€ 41.07)	(€ 41.18)	(€ 290.97)
Shortage/(Surplus)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Deposit Funding Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
% Deposits to Total Assets (Est.)	98.7%	99.3%	99.5%	99.7%	99.6%	98.0%	98.2%	98.2%	97.3%	98.8%	99.8%	99.7%	99.0%	98.7%	99.0%	98.7%	99.0%	99.6%

Notes

1-ECB Consolidated banking data - Reference period: end-2010 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 17 countries using the Euro in the Eurozone. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2010 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 17 countries using Euro in the Eurozone.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

5-Start-up for depository locations and FF&E estimated % of A9 Tangible & intangible assets at 50.0% Also assigned depositories matching amount of bank L11 Total debt certificates, reducing remaining commercial bank debt by matching amount.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

ECB: European Central Bank Eurosystem
(Home > Statistics > Monetary and financial statistics > Consolidated banking data)
Consolidated banking data / Reference period: end-2011
http://www.ecb.int/stats/money/consolidated/html/index.en.html

CBD Statistics on Consolidated Banking Data (Blank cell indicates missing data)
Table 11a - Country-level indicators: selected balance sheet items - 2011
(all banks; EUR billions)
From Source: FSC (Financial Stability Board)

Attachment 8(d)

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) Banks Consolidated Balance Sheet Estimate[1] - Step 2(b) Split Portion to Remaining Commercial Banking Operations

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	**Country**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
European Union (EU) Member State Protocol Order	**Native**	Belgique/België	Deutschland	Eesti	Éire/Ireland	Elláda	España	France	Italia	Kýpros	Luxembourg	Malta	Nederland	Österreich	Portugal	Slovenija	Slovensko	Suomi/Finland
	English	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EZ**	BE	DE	EE	IE	EL/GR	ES	FR	IT	CY	LU	MT	NL	AT	PT	SI	SK	FI
Domestic credit institutions	2,705	10	1,655	4	4	11	102	14	58	5	10	10	29	643	55	10	4	81
Foreign-controlled subsidiaries and branches	727	7	82	14	27	29	128	3	9	33	131	16	63	64	54	11	26	30
Total Credit Institutions	**3,432**	**17**	**1,737**	**18**	**31**	**40**	**230**	**17**	**67**	**38**	**141**	**26**	**92**	**707**	**109**	**21**	**30**	**111**

ASSETS	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Cash from Bonded Debt to Domestic Sovereign Government[a]	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Investments (sold for cash to cover deposits)																		
A4 Financial assets designated at fair value through profit or loss[3]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	
A5 Available-for-sale financial assets	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	
Total Cash	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Loans																		
A6 Loans and receivables (including finance leases)	€ 16,029.68	€ 687.33	€ 2,702.26	€ 15.17	€ 597.16	€ 336.75	€ 2,555.78	€ 3,438.55	€ 1,997.30	€ 98.88	€ 582.11	€ 33.07	€ 1,897.71	€ 617.25	€ 391.12	€ 40.49	€ 38.75	
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 2,565.80	(€ 2.03)	€ 2,027.00	€ 0.00	(€ 88.98)	(€ 16.28)	€ 131.83	€ 188.70	(€ 65.49)	(€ 5.31)	(€ 38.80)	(€ 0.36)	€ 21.00	€ 197.39	(€ 9.28)	€ 0.00	(€ 0.04)	€ 226.45
A12 Total loans and advances	**€ 18,595.48**	**€ 685.30**	**€ 4,729.26**	**€ 15.17**	**€ 508.18**	**€ 320.47**	**€ 2,687.61**	**€ 3,627.25**	**€ 1,931.81**	**€ 93.57**	**€ 543.31**	**€ 32.71**	**€ 1,918.71**	**€ 814.64**	**€ 381.84**	**€ 40.49**	**€ 38.71**	**€ 226.45**
Other Assets																		
A2 Financial assets held for trading, net of [A3] Derivatives	€ 1,465.45	€ 39.94	€ 475.15	€ 0.03	€ 7.93	€ 3.77	€ 100.19	€ 638.31	€ 81.47	€ 0.39	€ 4.34	€ 0.25	€ 96.22	€ 12.36	€ 3.91	€ 0.24	€ 0.95	€ 0.00
A3 Derivatives held for trading	€ 3,818.67	€ 157.92	€ 1,219.35	€ 0.06	€ 448.07	€ 5.74	€ 192.42	€ 1,233.92	€ 179.65	€ 0.44	€ 12.93	€ 0.28	€ 155.74	€ 30.46	€ 8.29	€ 0.22	€ 0.45	€ 172.73
A7 Held-to-maturity investments[4]	€ 313.46	€ 13.29	€ 11.56	€ 0.29	€ 7.00	€ 12.32	€ 80.95	€ 64.94	€ 18.80	€ 8.14	€ 12.07	€ 4.10	€ 21.82	€ 34.94	€ 12.68	€ 2.31	€ 8.25	
A8 Derivatives – Hedge accounting	€ 291.44	€ 8.46	€ 61.99	-	€ 10.43	€ 1.32	€ 44.23	€ 72.85	€ 30.96	€ 0.01	€ 4.25	€ 0.03	€ 39.92	€ 8.83	€ 1.47	€ 0.11	€ 0.01	€ 6.57
A9 Tangible and intangible assets (remaining not to depositories)[5]	€ 209.16	€ 4.99	€ 21.44	€ 0.05	€ 1.35	€ 5.32	€ 45.06	€ 57.79	€ 39.59	€ 1.22	€ 1.51	€ 0.12	€ 15.71	€ 9.87	€ 3.10	€ 0.54	€ 0.43	€ 1.11
A10 Intangible assets	€ 189.95	€ 2.91	€ 21.34	€ 0.01	€ 1.13	€ 3.08	€ 41.31	€ 52.93	€ 47.54	€ 1.21	€ 1.40	€ 0.03	€ 6.64	€ 8.04	€ 1.32	€ 0.23	€ 0.25	€ 0.58
A11 Investments in associates, subsidiaries and joint ventures	€ 157.31	€ 5.38	€ 7.11	€ 0.03	€ 2.69	€ 1.43	€ 49.01	€ 45.61	€ 19.04	€ 0.41	€ 0.01	€ 0.20	€ 6.77	€ 12.82	€ 4.05	€ 0.17	€ 0.26	€ 2.32
A_ Other assets unknown (plug figure to balance total assets)[1]	€ 1,862.19	€ 28.06	€ 754.52	€ 0.10	€ 104.06	€ 32.19	€ 169.04	€ 142.59	€ 112.07	€ 6.35	€ 48.39	€ 0.82	€ 122.45	€ 102.17	€ 27.49	€ 0.54	€ 0.39	€ 210.96
Total Other Assets	**€ 8,307.63**	**€ 260.95**	**€ 2,572.46**	**€ 0.57**	**€ 582.66**	**€ 65.17**	**€ 722.21**	**€ 2,308.94**	**€ 529.12**	**€ 18.17**	**€ 84.90**	**€ 5.83**	**€ 465.27**	**€ 219.49**	**€ 62.31**	**€ 4.35**	**€ 10.99**	**€ 394.27**
A15 Total assets [full sample]	**€ 26,903.11**	**€ 946.25**	**€ 7,301.72**	**€ 15.74**	**€ 1,090.84**	**€ 385.64**	**€ 3,409.82**	**€ 5,936.19**	**€ 2,460.93**	**€ 111.74**	**€ 628.21**	**€ 38.54**	**€ 2,383.98**	**€ 1,034.13**	**€ 444.15**	**€ 44.85**	**€ 49.70**	**€ 620.72**

LIABILITIES & EQUITY	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
L10 Total deposits (other than from credit institutions)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Deposits	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Debt/Borrowing																		
L11 Total debt certificates (including bonds)	€ 4,703.15	€ 101.39	€ 1,124.93	€ 0.02	€ 116.79	€ 15.90	€ 541.64	€ 1,007.55	€ 595.04	€ 0.46	€ 66.33	€ 0.12	€ 720.57	€ 230.72	€ 75.03	€ 3.71	€ 3.61	€ 99.34
Less:A9 Tangible and intangible assets (to depositories for start-up)[5]	(€ 209.16)	(€ 4.99)	(€ 21.44)	(€ 0.05)	(€ 1.35)	(€ 5.32)	(€ 45.06)	(€ 57.79)	(€ 39.59)	(€ 1.22)	(€ 1.51)	(€ 0.12)	(€ 15.71)	(€ 9.87)	(€ 3.10)	(€ 0.54)	(€ 0.43)	(€ 1.11)
Bonded Monetary Debt to Domestic Sovereign Government[a]	**€ 13,076.39**	**€ 468.80**	**€ 3,632.99**	**€ 12.29**	**€ 250.10**	**€ 223.69**	**€ 2,020.72**	**€ 2,454.35**	**€ 1,137.71**	**€ 88.70**	**€ 455.03**	**€ 25.52**	**€ 1,100.30**	**€ 603.97**	**€ 253.65**	**€ 33.52**	**€ 36.04**	**€ 279.01**
Total Debt/Borrowing	**€ 17,570.39**	**€ 565.20**	**€ 4,736.49**	**€ 12.27**	**€ 365.54**	**€ 234.28**	**€ 2,517.30**	**€ 3,404.12**	**€ 1,693.16**	**€ 87.95**	**€ 519.85**	**€ 25.53**	**€ 1,805.17**	**€ 824.83**	**€ 325.58**	**€ 36.70**	**€ 39.22**	**€ 377.24**
Other Liabilities (Non-Deposit/Non- Debt)																		
L_ Other Liabilities (Non-Deposit/Non-Debt)(plug to bal. liabilities)[1]	€ 7,852.30	€ 328.27	€ 2,254.08	€ 1.04	€ 657.78	€ 153.87	€ 666.21	€ 2,215.51	€ 580.28	€ 17.99	€ 62.21	€ 2.91	€ 461.79	€ 130.01	€ 92.44	€ 4.16	€ 4.58	€ 219.17
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 7,852.30**	**€ 328.27**	**€ 2,254.08**	**€ 1.04**	**€ 657.78**	**€ 153.87**	**€ 666.21**	**€ 2,215.51**	**€ 580.28**	**€ 17.99**	**€ 62.21**	**€ 2.91**	**€ 461.79**	**€ 130.01**	**€ 92.44**	**€ 4.16**	**€ 4.58**	**€ 219.17**
L12 Total liabilities [full sample]	**€ 25,422.69**	**€ 893.47**	**€ 6,990.57**	**€ 13.31**	**€ 1,023.32**	**€ 388.15**	**€ 3,183.51**	**€ 5,619.63**	**€ 2,273.44**	**€ 105.94**	**€ 582.06**	**€ 28.44**	**€ 2,266.96**	**€ 954.84**	**€ 418.02**	**€ 40.86**	**€ 43.80**	**€ 596.41**
Equity																		
E1 Total equity	€ 1,480.38	€ 52.78	€ 311.15	€ 2.43	€ 67.52	(€ 2.51)	€ 226.31	€ 316.55	€ 187.49	€ 5.80	€ 46.14	€ 10.10	€ 117.02	€ 79.29	€ 26.14	€ 3.99	€ 5.89	€ 24.29
Total Equity	**€ 1,480.38**	**€ 52.78**	**€ 311.15**	**€ 2.43**	**€ 67.52**	**(€ 2.51)**	**€ 226.31**	**€ 316.55**	**€ 187.49**	**€ 5.80**	**€ 46.14**	**€ 10.10**	**€ 117.02**	**€ 79.29**	**€ 26.14**	**€ 3.99**	**€ 5.89**	**€ 24.29**
% Equity to Total Assets	5.5%	5.6%	4.3%	15.4%	6.2%	-0.7%	6.6%	5.3%	7.6%	5.2%	7.3%	26.2%	4.9%	7.7%	5.9%	8.9%	11.9%	3.9%
Total Liabilities & Equity ([L12]+[E1])	**€ 26,903.07**	**€ 946.25**	**€ 7,301.72**	**€ 15.74**	**€ 1,090.84**	**€ 385.64**	**€ 3,409.82**	**€ 5,936.18**	**€ 2,460.93**	**€ 111.74**	**€ 628.20**	**€ 38.54**	**€ 2,383.98**	**€ 1,034.13**	**€ 444.16**	**€ 44.85**	**€ 49.69**	**€ 620.70**

Deposit Funding Analysis	**Total EZ**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
December 31, 2011	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Total Deposits [L9+L10]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Less: Total Cash Assets	0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Shortage/(Surplus)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
% Deposits to Total Assets (Est.)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes

1-ECB Consolidated banking data - Reference period: end-2010 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 17 countries using the Euro in the Eurozone. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2010 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 17 countries using Euro in the Eurozone.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

5-Start-up for depository locations and FF&E estimated % of A9 Tangible & intangible assets at 50.0% Also assigned depositories matching amount of bank L11 Total debt certificates, reducing remaining commercial bank debt by matching amount.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

ECB: European Central Bank Eurosystem
(Home > Statistics > Monetary and financial statistics > Consolidated banking data)
Consolidated banking data / Reference period: end-2011
http://www.ecb.int/stats/money/consolidated/html/index.en.html

CBD Statistics on Consolidated Banking Data (Blank cell indicates missing data)
Table 11a - Country-level indicators: selected balance sheet items - 2011
(all banks; EUR billions)
From Source: FSC (Financial Stability Board)

European Central Bank Monetary Intermediation Cost

ECB/Basel II Member Bank Conversion (Sample Bank Estimate)

Assumptions

2-Short-term Reserves for Non-Demand Deposit Accounts (Minimum Req'd) 100.00%

UniCredit Group, Milan, Italy[1]

December 31, 2011

	I. Conversion to 100% Reserve Demand Deposits				II. Split into Deposit Only and Commercial Bank		
	December 31, 2011				December 31, 2011		
ASSETS	**Existing (Before)**	**Funds Transfers →**	**Converted Form (After) →**		**Depositor Owned Depository**	**Commercial Intermediary**	**Reconciliation Total**
CASH	(€ Millions)	→	DEMAND SECTION	% Demand Deposits	DEMAND SECTION		
10. Cash and cash balances	€ 9,728	€ 263,004	€ 272,732	100.0%	€ 272,732	€ 0	€ 272,732
Total Cash	€ 9,728	€ 263,004	€ 272,732	→	€ 272,732	€ 0	€ 272,732
INVESTMENTS		→	NON-DEMAND SECTION	% Non-Demand Deposits		NON-DEMAND SECTION	
Short-term gov't securities for non-demand deposits[2]	$0	$257,453	$257,453	100.0%		$257,453	$257,453
20.,30.,40.& 50. Fin. Assets (Gov't&Central Bank)[3]	€ 55,511	(€ 55,511)	€ 0	→		€ 0	€ 0
20. Financial assets held for trading, net gov't	€ 126,937	€ 0	€ 126,937	→		€ 126,937	€ 126,937
30. Financial assets at fair value, net gov't	€ 26,188	€ 0	€ 26,188	→		€ 26,188	€ 26,188
40. Available-for-sale financial assets, net gov't	€ 15,783	€ 0	€ 15,783	→		€ 15,783	€ 15,783
50. Held-to-maturity investments, net gov't	€ 2,375	€ 0	€ 2,375	→		€ 2,375	€ 2,375
80. Hedging derivatives	€ 16,241	€ 0	€ 16,241	→		€ 16,241	€ 16,241
90. Changes in fair value portfolio hedged items (+/-)	€ 1,828	€ 0	€ 1,828	→		€ 1,828	€ 1,828
Total Investments	€ 244,863	€ 201,943	€ 446,806	→	€ 0	€ 446,806	€ 446,806
LOANS		→					
60. Loans & Receivables-Banks	€ 56,365	€ 0	€ 56,365	→		€ 56,365	€ 56,365
70. Loans & Receivables-Customers(Governments)[3]	€ 10,688	(€ 10,688)	€ 0	→		€ 0	€ 0
70. Loans & Receivables-Customers, non gov't	€ 548,865	€ 0	€ 548,865	→		€ 548,865	€ 548,865
Total Loans	€ 615,918	(€ 10,688)	€ 605,230	→	€ 0	€ 605,230	€ 605,230
OTHER ASSETS		→					
100. Investments in associates and joint ventures	€ 3,555	€ 0	€ 3,555	→		€ 3,555	€ 3,555
110. Insurance reserves attributable to reinsurers	€ 1	€ 0	€ 1	→		€ 1	€ 1
120. Property, plant and equipment[7]	€ 12,198	€ 0	€ 12,198	Start-up(Est.)[7]	€ 6,099	€ 6,099	€ 12,198
130. Intangible Assets	€ 15,685	€ 0	€ 15,685	→		€ 15,685	€ 15,685
140. Tax Assets	€ 14,346	€ 0	€ 14,346	→		€ 14,346	€ 14,346
150. Non-current assets & disposal held for sale	€ 345	€ 0	€ 345	→		€ 345	€ 345
160. Other Assets	€ 10,129	€ 0	€ 10,129	→		€ 10,129	€ 10,129
Total Other Assets	€ 56,259	€ 0	€ 56,259	→	€ 6,099	€ 50,160	€ 56,259
Total Assets	**€ 926,769**	**€ 454,259**	**€ 1,381,028**	**Total Assets**	**€ 278,831**	**€ 1,102,197**	**€ 1,381,028**
LIABILITIES & EQUITY					**LIABILITIES & EQUITY**		
DEMAND DEPOSITS (CASH EQUIVALENTS)		→	DEMAND SECTION	→	DEMAND SECTION		
10. Deposits from banks - central banks & demand	€ 50,995	€ 0	€ 50,995	→	€ 50,995		€ 50,995
20. Deposits from customers - current & demand	€ 221,737	€ 0	€ 221,737	→	€ 221,737	€ 0	€ 221,737
Total Demand Deposits	€ 272,732	€ 0	€ 272,732	→	€ 272,732	€ 0	€ 272,732
NON-DEMAND DEPOSITS		→	NON-DEMAND SECTION			NON-DEMAND SECTION	
10. Deposits from banks,non central bank&demand	€ 80,811	€ 0	€ 80,811	→		€ 80,811	€ 80,811
20. Deposits from customers, non current & demand	€ 176,643	€ 0	€ 176,643	→		€ 176,643	€ 176,643
Total Non-Demand Deposits[4]	€ 257,453	€ 0	€ 257,453	→	€ 0	€ 257,453	€ 257,453
NON-DEPOSIT LIABILITIES		→					
Bonded Debt to Eurozone Governments[5]	€ 0	**€ 454,259**	**€ 454,259**	→		**€ 454,259**	**€ 454,259**
30. Debt securities in issue[7]	€ 162,990	€ 0	€ 162,990	For Start-up[7]	€ 6,099	€ 156,891	€ 162,990
40. Financial liabilities held for trading	€ 123,286	€ 0	€ 123,286	→		€ 123,286	€ 123,286
50. Financial liabilities at fair value through profit/loss	€ 786	€ 0	€ 786	→		€ 786	€ 786
60. Hedging derivatives	€ 13,209	€ 0	€ 13,209	→		€ 13,209	€ 13,209
70. Changes in fair value portfolio hedged items (+/-)	€ 4,841	€ 0	€ 4,841	→		€ 4,841	€ 4,841
80. Tax liabilities	€ 6,210	€ 0	€ 6,210	→		€ 6,210	€ 6,210
90. Liabilities in disposal assets(150.) held for sale	€ 252	€ 0	€ 252	→		€ 252	€ 252
100. Other Liabilities[6]	€ 20,416	€ 0	€ 20,416	→		€ 20,416	€ 20,416
110. Provision for employee severence pay	€ 1,089	€ 0	€ 1,089	→		€ 1,089	€ 1,089
120. Provisions for risks and charges	€ 8,496	€ 0	€ 8,496	→		€ 8,496	€ 8,496
130. Insurance reserves	€ 210	€ 0	€ 210	→		€ 210	€ 210
140. Revaluation reserves	(€ 3,843)	€ 0	(€ 3,843)	→		(€ 3,843)	(€ 3,843)
170. Reserves	€ 15,565	€ 0	€ 15,565	→		€ 15,565	€ 15,565
Total Non-Deposit Liabilities	€ 353,506	€ 454,259	€ 807,765	→	€ 6,099	€ 801,666	€ 807,765
Total Liabilities	**€ 883,692**	**€ 454,259**	**€ 1,337,950**	**Total Liabilities**	**€ 278,831**	**€ 1,059,119**	**€ 1,337,950**
EQUITY		→				**EQUITY**	
180. Share premium	€ 36,823	€ 0	€ 36,823	→	€ 0	€ 36,823	€ 36,823
190. Issued capital	€ 12,148	€ 0	€ 12,148	→	€ 0	€ 12,148	€ 12,148
200. Treasury shares (-)	(€ 7)	€ 0	(€ 7)	→	€ 0	(€ 7)	(€ 7)
210. Minorities (+/-)	€ 3,318	€ 0	€ 3,318	→	€ 0	€ 3,318	€ 3,318
220. Net Profit (Loss) for the year (+/-)	(€ 9,206)	€ 0	(€ 9,206)	→	€ 0	(€ 9,206)	(€ 9,206)
Total Equity	€ 43,076	€ 0	€ 43,076	**Total Equity**	€ 0	€ 43,076	€ 43,076
Total Liabilities & Equity	**€ 926,768**	**€ 454,259**	**€ 1,381,027**	→	**€ 278,831**	**€ 1,102,196**	**€ 1,381,027**
Equity to Assets Ratio	4.65%	→	3.12%		0.00%	3.91%	3.12%

NOTES

1-UniCredit considered representative Eurozone bank. Bank conversion into depositor owned depositories and intermediation bank is a general estimation and not intended as a detailed plan.
2-Short-term reserves for non-demand deposit accounts estimated at 100% to handle activity until conversion to CD's or transfer to depositor owned depositories. Reserves included with loan from Eurozone gov'ts.
3-Government and Central Bank securities would be retired at par (no imparement) as a book entry and netted with government borrowing required to fully fund cash demand deposit accounts.
4-Savings accounts at UniCredit converted to time deposits such as CD's or transferred to new Depository within a reasonable transition period, say up to three months.
5-Bonded debt to sovereign national governments at market rate for equivalent debt secured by Loan Assets and/or other assets and would be repaid as loans payoff, est. at 0.25% premium over risk free rate.
6-Some "Other Liabilities" may be considered demand liabilities, in which case they would require 100% reserves also and transfer to the new Depository Institution.
7-Start-up for depository locations and FF&E estimated % of Asset 120. Property, plant and equipment at 50.0%

SOURCE:

1-UniCredit Group 2011 Annual Report Consolidated Financial Statements pp. 131-522 at https://www.unicreditgroup.eu/en/investors/financial-reports.html
https://www.unicreditgroup.eu/content/dam/unicreditgroup/documents/en/investors/financial-reports/2012/2011%20Consolidated%20Reports%20and%20Accounts.pdf

Attachment 9

European Central Bank Monetary Intermediation Cost

Eurosystem Consolidated Balance Sheet Conversion Estimate[1]

(Eurosystem is composed of European Central Bank (ECB) and 17 member national central banks (NCBs) using euro currency)
December 31, 2011

	I. Conversion to 100% Reserve Demand Deposits			→	II. Split into Depositories and Remaining Banks		
	December 31, 2011				December 31, 2011		
	Existing	Funds Transfers	Converted Form	→	Treasury Cap Key	ESCB Remaining/	Reconciliation
ASSETS	**(Before)**	**→**	**(After)**	**→**	**% Depositories[5]**	**Sunset Banks[6]**	**Total**
EURO CASH EQUIVALENTS	(€ Millions)	→	DEMAND SECTION		DEMAND SECTION		
1 Gold and gold receivables	€ 423,458	(€ 357,868)	€ 65,590	% DD Deposits	$65,590	$0	$65,590
Total Cash	€ 423,458	(€ 357,868)	€ 65,590	100.00%	$65,590	$0	$65,590
EURO MONETARY RELATED ASSETS		→					
8 General government debt	€ 33,926	(€ 33,926)	€ 0	→		$0	$0
4.1 Claims on non-euro residents,Balances w/banks,	€ 25,355	(€ 25,355)	€ 0	→		$0	$0
5 Lending to euro credit institutions monetary operati	€ 863,568	(€ 863,568)	€ 0	→		$0	$0
6 Other claims on euro credit institutions	€ 78,653	(€ 78,653)	€ 0	→		$0	$0
7.1 Securities held for monetary policy purposes	€ 273,854	(€ 273,854)	€ 0	→		$0	$0
7.2 Securities of euro area residents - Other	€ 344,910	(€ 104,929)	€ 239,981	→		$239,981	$239,981
Total Euro Monetary Related Assets	€ 1,620,266	(€ 1,380,285)	€ 239,981	→	$0	$239,981	$239,981
EURO OTHER ASSETS		→					
9 Other assets	€ 346,694	€ 0	€ 346,694	→		$346,694	$346,694
Total Euro Other Assets	€ 346,694	€ 0	€ 346,694	→	$0	$346,694	$346,694
FOREIGN CURRENCY ASSETS		→					
2.1 Receivables from the IMF	€ 85,655	€ 0	€ 85,655	→		$85,655	$85,655
2.2 Balances with banks, security investments, loans	€ 158,968	€ 0	€ 158,968	→		$158,968	$158,968
3 Claims euro area residents in foreign currency	€ 98,226	€ 0	€ 98,226	Start-up(Est.)[5]	$0	$98,226	$98,226
Total Foreign Currency Assets	€ 342,849	€ 0	€ 342,849	→	$0	$342,849	$342,849
Total Assets	**€ 2,733,267**	**(€ 1,738,153)**	**€ 995,114**	**Total Assets**	**$65,590**	**$929,524**	**$995,114**
Totals/sub-totals may not add up due to rounding							
LIABILITIES & EQUITY							
EURO DEPOSITS		→	DEMAND SECTION		DEMAND SECTION		
5.1 Liabilities to euro area residents - Gen. Gov't	€ 65,590	€ 0	€ 65,590	→	$65,590		$65,590
Total Euro Deposits	€ 65,590	€ 0	€ 65,590	→	$65,590	$0	$65,590
EURO MONETARY LIABILITIES		→					
1 Banknotes in circulation[2]	€ 888,676	(€ 888,676)	€ 0	→		$0	$0
2 Liabilities to euro credit institutions monetary opera	€ 849,477	(€ 849,477)	€ 0	→		$0	$0
Total Euro Monetary Liabilities	€ 1,738,153	(€ 1,738,153)	€ 0	→	$0	$0	$0
EURO OTHER LIABILITIES		→					
3 Other Liabilities to euro area credit institutions	€ 2,423	€ 0	€ 2,423	→		$2,423	$2,423
4 Debt certificates issued	€ 0	€ 0	€ 0	→		$0	$0
5.2 Liabilities to other euro area residents - Other	€ 14,137	€ 0	€ 14,137	→		$14,137	$14,137
6 Liabilities to non-euro residents	€ 156,876	€ 0	€ 156,876	→		$156,876	$156,876
9 Counterpart of special drawing rights by IMF	€ 55,942	€ 0	€ 55,942	→		$55,942	$55,942
10 Other liabilities	€ 209,582	€ 0	€ 209,582	→		$209,582	$209,582
11 Revaluation accounts (Unrealized gains gold&othe	€ 394,013	€ 0	€ 394,013	→		$394,013	$394,013
Total Other Euro Liabilities	€ 832,973	€ 0	€ 832,973	→	$0	$832,973	$832,973
Total Euro Currency Liabilities	€ 2,636,716	(€ 1,738,153)	€ 898,563	→	$65,590	$832,973	$898,563
FOREIGN CURRENCY LIABILITIES		→					
7 Liabilities to euro residents in foreign currency	€ 4,546	€ 0	€ 4,546	→		$4,546	$4,546
8 Liabilities non-euro residents in foreign currency	€ 9,027	€ 0	€ 9,027	For Start-up[5]	$0	$9,027	$9,027
Total Foreign Currency Liabilities	€ 13,573	€ 0	€ 13,573	→	$0	$13,573	$13,573
Total Liabilities	**€ 2,650,289**	**(€ 1,738,153)**	**€ 912,136**	**Total Liabilities**	**$65,590**	**$846,546**	**$912,136**
EQUITY/CAPITAL		→					
12 Capital and Reserves	€ 82,978	€ 0	€ 82,978	→	$0	$82,978	$82,978
Total Capital/Equity	€ 82,978	€ 0	€ 82,978	**Total Capital**	$0	$82,978	$82,978
Total Liabilities & Equity/Capital	**€ 2,733,267**	**(€ 1,738,153)**	**€ 995,114**	→	**$65,590**	**$929,524**	**$995,114**
Totals/sub-totals may not add up due to roun Equity to Assets Ratio	3.04%	→	8.34%			8.93%	8.34%

NOTES

1-General estimation of Eurosystem Central Banks conversion into domestic Treasury owned depositories by capital key % and remaining sunset banks.
2-Government and monetary related assets would be credited and retired against Euro Notes which would be booked at par for new Euro Bills issued by the people.
3-Investment sales and loan payoffs and would be credited to Eurosystem remaining banks/governments and retired.
4-Some "Other Liabilities" may be considered deposit liabilities, in which case they would require 100% reserves also and transfer to the new Treasury Deposit Institution.
5-Domestic Depository Banks would be assigned to national Treasury Departments according to ECB capital key % holdings.
6-Remaining operations of the Eurosystem would be assigned to domestic Ministries of Commerce according to capital key percentages and/or sunset.

Sources:
Eurosystem consolidated balance sheet from ECB 2011 Annual Report pp. 200-201 at
http://www.ecb.int/pub/annual/html/index.en.html
http://www.ecb.int/pub/pdf/annrep/ar2011en.pdf
Eurosystem consolidated weekly financial statements at
http://www.ecb.int/press/pr/wfs/

Eurosystem consolidated balance sheet change from 100% reserve euro monetary conversion		
(€ Millions)	For Week Ending	12/31/2011
Euro Banknotes in circulation book entry replacement at par with Euro Bills [L-1]		€ 888,676
Plus: Liabilities to euro credit institutions for monetary operations retired [L-2]		€ 849,477
Less: Gold and gold receivables sold (or other selected assets) [A-1]		(€ 357,868)
Less: Euro Monetary Related Assets Retired [A-8, 4.1, 5, 6, 7.1, 7.2]		(€ 1,380,285)
Bonded debt to eurozone governments from funding 100% demand deposit conversion		€ 0
Source: Eurosystem consolidated balance sheet from ECB 2011 Annual Report pp. 200-201		

Attachment 10(a)

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) Central Governments Consolidated Balance Sheets - Before Bank Conversion

December 31, 2011

European Union (EU) Member State Protocol Order	Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Native	Belgique/België	Deutschland	Eesti	Éire/Ireland	Elláda	España	France	Italia	Kýpros	Luxembourg	Malta	Nederland	Österreich	Portugal	Slovenija	Slovensko	Suomi/Finland
	English	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
ASSETS	Total EZ	BE	DE	EE	IE	EL/GR	ES	FR	IT	CY	LU	MT	NL	AT	PT	SI	SK	FI
Current Assets	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F1 Monetary gold and special drawing rights (SDRs)	0.00	0.00		0.00	0.00		0.00			0.00	0.00	0.00	0.00		0.00		0.00	0.00
F2 Currency and deposits (assets)	288,827.12	3,027.00	88,577.00	369.60	16,574.00	9,960.00	45,451.00	37,676.00	43,186.41	1,759.60	2,350.00	633.40	3,604.00	5,784.00	14,368.00	3,837.00	679.11	10,991.00
F331 Short-term-Securities other than shares, ex. financial derivatives	6,365.90	1,160.00	0.00	184.80	13.00	0.00	0.00	4,952.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	0.00	3.10	50.00
F41 Short-term - Loans (assets)	33,537.41	697.00	8,960.00	4.10	885.00	0.00	0.00	465.00	0.00	0.00	0.00	58.95	19,114.00	2,512.00	818.00	23.00	0.36	0.00
Total Current Assets	**328,730.43**	**4,884.00**	**97,537.00**	**558.50**	**17,472.00**	**9,960.00**	**45,451.00**	**43,093.00**	**43,186.41**	**1,759.60**	**2,350.00**	**692.35**	**22,718.00**	**8,297.00**	**15,188.00**	**3,860.00**	**682.57**	**11,041.00**
Long-term Assets																		
F332 Long-term-Securities other than shares, ex. financial derivatives	137,471.27	0.00	96,056.00	349.30	7,193.00	0.00	15,619.00	4,215.00	913.50	0.00	253.00	0.00	12,031.00	337.00	50.00	129.00	187.47	138.00
F42 Long-term - Loans (assets)	326,048.96	5,915.00	75,322.00	257.10	5,280.00	5,496.00	62,946.00	36,194.00	67,849.69	748.50	491.00	91.63	31,284.00	13,879.00	4,514.00	749.00	1,987.04	13,045.00
Total Long-term Assets	**463,520.23**	**5,915.00**	**171,378.00**	**606.40**	**12,473.00**	**5,496.00**	**78,565.00**	**40,409.00**	**68,763.19**	**748.50**	**744.00**	**91.63**	**43,315.00**	**14,216.00**	**4,564.00**	**878.00**	**2,174.51**	**13,183.00**
Other Assets																		
F34 Financial derivatives (assets)	(4,869.00)	0.00	(16,981.00)	0.00	703.00	0.00	0.00	243.00	0.00	0.00	0.00	0.00	9,260.00	1,433.00	469.00	4.00	0.00	0.00
F5 Shares and other equity (assets) - No detail available	866,789.26	34,299.00	107,624.00	3,957.90	23,770.00	33,098.00	86,197.00	280,495.00	104,277.23	1,776.05	9,708.00	842.26	74,560.00	27,163.00	30,751.00	9,235.00	8,261.82	30,774.00
F62 Prepayments insurance premiums&reserves for outstanding claim	438.70		259.00	0.90	0.00	15.00	0.00		138.80	0.00		0.00	0.00	0.00	19.00	6.00	0.00	0.00
F7 Other accounts receivable/payable (assets)	400,274.18	8,176.00	59,457.00	969.40	6,594.00	16,474.00	71,625.00	99,183.00	80,627.00	340.00	1,590.00	481.44	28,739.00	7,399.00	12,339.05	1,660.00	515.29	4,105.00
Total Other Assets	**1,262,633.14**	**42,475.00**	**150,359.00**	**4,928.20**	**31,067.00**	**49,587.00**	**157,822.00**	**379,921.00**	**185,043.03**	**2,116.05**	**11,298.00**	**1,323.70**	**112,559.00**	**35,995.00**	**43,578.05**	**10,905.00**	**8,777.11**	**34,879.00**
Total Assets (F_TOT)	**2,054,883.80**	**53,274.00**	**419,274.00**	**6,093.10**	**61,012.00**	**65,043.00**	**281,838.00**	**463,423.00**	**296,992.63**	**4,624.15**	**14,392.00**	**2,107.68**	**178,592.00**	**58,508.00**	**63,330.05**	**15,643.00**	**11,634.19**	**59,103.00**

LIABILITIES & EQUITY	Total EZ	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
Current Liabilities	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F2 Currency and deposits (liabilities)	346,287.94	1,477.00	10,913.00	0.00	15,218.00	820.00	3,685.00	75,017.00	214,181.73	7,447.49	221.00	45.84	485.00		15,225.00	123.00	925.88	503.00
F331 Short-term-Securities other than shares, ex. financial derivatives	626,121.45	38,193.00	103,790.00	0.00	3,993.00	14,889.00	89,518.00	175,992.00	130,106.24	1,432.14	0.00	256.17	43,388.00	4,032.00	11,630.00	28.00	1,047.90	7,826.00
F41 Short-term - Loans (liabilities)	177,552.20	8,382.00	135,832.00	6.60	440.00	2,195.00	276.00	572.00	1,761.24	0.72	356.00	48.64	21,366.00	563.00	2,690.00	20.00	0.00	3,043.00
Total Current Liabilities	**1,149,961.59**	**48,052.00**	**250,535.00**	**6.60**	**19,651.00**	**17,904.00**	**93,479.00**	**251,581.00**	**346,049.21**	**8,880.35**	**577.00**	**350.65**	**65,239.00**	**4,595.00**	**29,545.00**	**171.00**	**1,973.78**	**11,372.00**
Long-term Liabilities																		
F332 Long-term-Securities other than shares, ex. financial derivatives	5,354,879.63	277,254.01	1,127,319.00	85.30	75,885.00	93,309.00	520,416.00	1,239,357.00	1,319,338.40	7,831.29	4,296.00	4,368.91	297,163.01	190,696.00	77,418.00	15,472.00	26,322.71	78,348.00
F42 Long-term - Loans (liabilities)	417,999.75	6,313.00	61,327.00	398.00	64,009.00	102,087.00	10,990.00	17,630.00	53,822.53	3,515.31	2,512.00	200.87	21,775.00	21,594.00	45,657.00	1,084.00	1,642.04	3,443.00
Total Long-term Liabilities	**5,772,879.38**	**283,567.01**	**1,188,646.00**	**483.30**	**139,894.00**	**195,396.00**	**531,406.00**	**1,256,987.00**	**1,373,160.93**	**11,346.60**	**6,808.00**	**4,569.78**	**318,938.01**	**212,290.00**	**123,075.00**	**16,556.00**	**27,964.75**	**81,791.00**
Other Liabilities																		
F34 Financial derivatives (liabilities)	3,768.10	0.00	0.00	0.10	811.00	2,134.00	0.00	243.00	646.00	0.00	0.00	0.00	0.00	1,483.00	913.00	0.00	0.00	(2,462.00)
F5 Shares and other equity (liabilities)	2,292.00	0.00	0.00	0.00			2,250.00			0.00		0.00	0.00	0.00		42.00	0.00	
F61 Net equity households in life insurance reserves & pension res.	(1.00)	0.00	0.00	0.00	(1.00)		0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
F7 Other accounts receivable/payable (liabilities)	194,907.29	12,403.00	3,526.00	562.30	4,388.00	4,753.00	21,066.00	89,507.00	25,498.00	20.40	1,205.00	584.51	18,041.00	4,144.00	3,058.79	2,222.00	927.29	3,001.00
Total Other Liabilities	**200,966.39**	**12,403.00**	**3,526.00**	**562.40**	**5,198.00**	**6,887.00**	**23,316.00**	**89,750.00**	**26,144.00**	**20.40**	**1,205.00**	**584.51**	**18,041.00**	**5,627.00**	**3,971.79**	**2,264.00**	**927.29**	**539.00**
Total Liabilities (F_TOT)	**7,123,807.36**	**344,022.01**	**1,442,707.00**	**1,052.30**	**164,743.00**	**220,187.00**	**648,201.00**	**1,598,318.00**	**1,745,354.14**	**20,247.35**	**8,590.00**	**5,504.94**	**402,218.01**	**222,512.00**	**156,591.79**	**18,991.00**	**30,865.82**	**93,702.00**
Equity																		
BF90 Net Financial Assets (Total Assets - Total Liabilities)	(5,068,923.54)	(290,748.01)	(1,023,433.00)	5,040.80	(103,731.00)	(155,144.00)	(366,363.00)	(1,134,895.00)	(1,448,361.50)	(15,623.20)	5,802.00	(3,397.25)	(223,626.01)	(164,004.00)	(93,261.74)	(3,348.00)	(19,231.63)	(34,599.00)
BF90 Total Net Financial Assets	**(5,068,923.54)**	**(290,748.01)**	**(1,023,433.00)**	**5,040.80**	**(103,731.00)**	**(155,144.00)**	**(366,363.00)**	**(1,134,895.00)**	**(1,448,361.50)**	**(15,623.20)**	**5,802.00**	**(3,397.25)**	**(223,626.01)**	**(164,004.00)**	**(93,261.74)**	**(3,348.00)**	**(19,231.63)**	**(34,599.00)**
Total Liabilities & Equity (Total Assets Match)	**2,054,883.82**	**53,274.00**	**419,274.00**	**6,093.10**	**61,012.00**	**65,043.00**	**281,838.00**	**463,423.00**	**296,992.64**	**4,624.15**	**14,392.00**	**2,107.69**	**178,592.00**	**58,508.00**	**63,330.05**	**15,643.00**	**11,634.19**	**59,103.00**
Equity to Assets Ratio	-246.7%	-545.8%	-244.1%	82.7%	-170.0%	-238.5%	-130.0%	-244.9%	-487.7%	-337.9%	40.3%	-161.2%	-125.2%	-280.3%	-147.3%	-21.4%	-165.3%	-58.5%

Notes

1-Blank cell indicates data not available.

2-INDIC_NA Codes used for Asset and Liability line item identification.

Source

eurostat European Commission

Database / Government statistics (gov) / Quarterly government finance statistics (gov_q) / Quarterly financial accounts for general government (gov_q_ggfa) - then use select data - S1311 central government only

http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/database

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_q_ggfa&lang=en

Attachment 10(b)

European Central Bank Monetary Intermediation Cost

EU Eurozone (17) Central Governments Consolidated Balance Sheets - After Bank Conversion

December 31, 2011

European Union (EU) Member State Protocol Order	Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Native	Belgique/België	Deutschland	Eesti	Éire/Ireland	Elláda	España	France	Italia	Kýpros	Luxembourg	Malta	Nederland	Österreich	Portugal	Slovenija	Slovensko	Suomi/Finland
	English	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
ASSETS	Total EZ	BE	DE	EE	IE	EL/GR	ES	FR	IT	CY	LU	MT	NL	AT	PT	SI	SK	FI
Current Assets	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F1 Monetary gold and special drawing rights (SDRs)	0.00	0.00		0.00	0.00		0.00			0.00	0.00	0.00	0.00		0.00		0.00	0.00
F2 Currency and deposits (assets)	288,827.12	3,027.00	88,577.00	369.60	16,574.00	9,960.00	45,451.00	37,676.00	43,186.41	1,759.60	2,350.00	633.40	3,604.00	5,784.00	14,368.00	3,837.00	679.11	10,991.00
F331 Short-term-Securities other than shares, ex. financial derivatives	6,365.90	1,160.00	0.00	184.80	13.00	0.00	0.00	4,952.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	0.00	3.10	50.00
F41 Short-term - Loans (assets)	33,537.41	697.00	8,960.00	4.10	885.00	0.00	0.00	465.00	0.00	0.00	0.00	58.95	19,114.00	2,512.00	818.00	23.00	0.36	0.00
Total Current Assets	**328,730.43**	**4,884.00**	**97,537.00**	**558.50**	**17,472.00**	**9,960.00**	**45,451.00**	**43,093.00**	**43,186.41**	**1,759.60**	**2,350.00**	**692.35**	**22,718.00**	**8,297.00**	**15,188.00**	**3,860.00**	**682.57**	**11,041.00**
Long-term Assets																		
F332 Long-term-Securities other than shares, ex. financial derivatives	137,471.27	0.00	96,056.00	349.30	7,193.00	0.00	15,619.00	4,215.00	913.50	0.00	253.00	0.00	12,031.00	337.00	50.00	129.00	187.47	138.00
F42 Long-term - Loans (assets)	326,048.96	5,915.00	75,322.00	257.10	5,280.00	5,496.00	62,946.00	36,194.00	67,849.69	748.50	491.00	91.63	31,284.00	13,879.00	4,514.00	749.00	1,987.04	13,045.00
Bonded Bank Debt to Domestic Sovereign Government[1]	**13,076,390.00**	**468,800.00**	**3,632,990.00**	**12,290.00**	**250,100.00**	**223,690.00**	**2,020,720.00**	**2,454,350.00**	**1,137,710.00**	**88,700.00**	**455,030.00**	**25,520.00**	**1,100,300.00**	**603,970.00**	**253,650.00**	**33,520.00**	**36,040.00**	**279,010.00**
Total Long-term Assets	**13,539,910.23**	**474,715.00**	**3,804,368.00**	**12,896.40**	**262,573.00**	**229,186.00**	**2,099,285.00**	**2,494,759.00**	**1,206,473.19**	**89,448.50**	**455,774.00**	**25,611.63**	**1,143,615.00**	**618,186.00**	**258,214.00**	**34,398.00**	**38,214.51**	**292,193.00**
Other Assets																		
F34 Financial derivatives (assets)	(4,869.00)	0.00	(16,981.00)	0.00	703.00	0.00	0.00	243.00	0.00	0.00	0.00	0.00	9,260.00	1,433.00	469.00	4.00	0.00	0.00
F5 Shares and other equity (assets)	866,789.26	34,299.00	107,624.00	3,957.90	23,770.00	33,098.00	86,197.00	280,495.00	104,277.23	1,776.05	9,708.00	842.26	74,560.00	27,163.00	30,751.00	9,235.00	8,261.82	30,774.00
F62 Prepayments insurance premiums&reserves for outstanding claims	438.70		259.00	0.90	0.00	15.00	0.00		138.80	0.00		0.00	0.00	0.00	19.00	6.00	0.00	0.00
F7 Other accounts receivable/payable (assets)	400,274.18	8,176.00	59,457.00	969.40	6,594.00	16,474.00	71,625.00	99,183.00	80,627.00	340.00	1,590.00	481.44	28,739.00	7,399.00	12,339.05	1,660.00	515.29	4,105.00
Total Other Assets	**1,262,633.14**	**42,475.00**	**150,359.00**	**4,928.20**	**31,067.00**	**49,587.00**	**157,822.00**	**379,921.00**	**185,043.03**	**2,116.05**	**11,298.00**	**1,323.70**	**112,559.00**	**35,995.00**	**43,578.05**	**10,905.00**	**8,777.11**	**34,879.00**
Total Assets (F_TOT)	**15,131,273.80**	**522,074.00**	**4,052,264.00**	**18,383.10**	**311,112.00**	**288,733.00**	**2,302,558.00**	**2,917,773.00**	**1,434,702.63**	**93,324.15**	**469,422.00**	**27,627.68**	**1,278,892.00**	**662,478.00**	**316,980.05**	**49,163.00**	**47,674.19**	**338,113.00**

LIABILITIES & EQUITY	Total EZ	Belgium	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Luxembourg	Malta	Netherlands	Austria	Portugal	Slovenia	Slovakia	Finland
Current Liabilities	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F2 Currency and deposits (liabilities)	346,287.94	1,477.00	10,913.00	0.00	15,218.00	820.00	3,685.00	75,017.00	214,181.73	7,447.49	221.00	45.84	485.00		15,225.00	123.00	925.88	503.00
F331 Short-term-Securities other than shares, ex. financial derivatives	626,121.45	38,193.00	103,790.00	0.00	3,993.00	14,889.00	89,518.00	175,992.00	130,106.24	1,432.14	0.00	256.17	43,388.00	4,032.00	11,630.00	28.00	1,047.90	7,826.00
F41 Short-term - Loans (liabilities)	177,552.20	8,382.00	135,832.00	6.60	440.00	2,195.00	276.00	572.00	1,761.24	0.72	356.00	48.64	21,366.00	563.00	2,690.00	20.00	0.00	3,043.00
Total Current Liabilities	**1,149,961.59**	**48,052.00**	**250,535.00**	**6.60**	**19,651.00**	**17,904.00**	**93,479.00**	**251,581.00**	**346,049.21**	**8,880.35**	**577.00**	**350.65**	**65,239.00**	**4,595.00**	**29,545.00**	**171.00**	**1,973.78**	**11,372.00**
Long-term Liabilities																		
F332 Long-term-Securities other than shares, ex. financial derivatives	5,354,879.63	277,254.01	1,127,319.00	85.30	75,885.00	93,309.00	520,416.00	1,239,357.00	1,319,338.40	7,831.29	4,296.00	4,368.91	297,163.01	190,696.00	77,418.00	15,472.00	26,322.71	78,348.00
F42 Long-term - Loans (liabilities)	417,999.75	6,313.00	61,327.00	398.00	64,009.00	102,087.00	10,990.00	17,630.00	53,822.53	3,515.31	2,512.00	200.87	21,775.00	21,594.00	45,657.00	1,084.00	1,642.04	3,443.00
Total Long-term Liabilities	**5,772,879.38**	**283,567.01**	**1,188,646.00**	**483.30**	**139,894.00**	**195,396.00**	**531,406.00**	**1,256,987.00**	**1,373,160.93**	**11,346.60**	**6,808.00**	**4,569.78**	**318,938.01**	**212,290.00**	**123,075.00**	**16,556.00**	**27,964.75**	**81,791.00**
Other Liabilities																		
F34 Financial derivatives (liabilities)	3,768.10	0.00	0.00	0.10	811.00	2,134.00	0.00	243.00	646.00	0.00	0.00	0.00	0.00	1,483.00	913.00	0.00	0.00	(2,462.00)
F5 Shares and other equity (liabilities)	2,292.00	0.00	0.00	0.00			2,250.00			0.00		0.00	0.00	0.00		42.00	0.00	
F61 Net equity households in life insurance reserves & pension res.	(1.00)	0.00	0.00	0.00	(1.00)		0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
F7 Other accounts receivable/payable (liabilities)	194,907.29	12,403.00	3,526.00	562.30	4,388.00	4,753.00	21,066.00	89,507.00	25,498.00	20.40	1,205.00	584.51	18,041.00	4,144.00	3,058.79	2,222.00	927.29	3,001.00
Total Other Liabilities	**200,966.39**	**12,403.00**	**3,526.00**	**562.40**	**5,198.00**	**6,887.00**	**23,316.00**	**89,750.00**	**26,144.00**	**20.40**	**1,205.00**	**584.51**	**18,041.00**	**5,627.00**	**3,971.79**	**2,264.00**	**927.29**	**539.00**
Total Liabilities (F_TOT)	**7,123,807.36**	**344,022.01**	**1,442,707.00**	**1,052.30**	**164,743.00**	**220,187.00**	**648,201.00**	**1,598,318.00**	**1,745,354.14**	**20,247.35**	**8,590.00**	**5,504.94**	**402,218.01**	**222,512.00**	**156,591.79**	**18,991.00**	**30,865.82**	**93,702.00**
Equity																		
BF90 Net Financial Assets (Total Assets - Total Liabilities)	8,007,466.44	178,051.99	2,609,557.00	17,330.80	146,369.00	68,546.00	1,654,357.00	1,319,455.00	(310,651.51)	73,076.80	460,832.00	22,122.74	876,673.99	439,966.00	160,388.26	30,172.00	16,808.37	244,411.00
BF90 Total Net Financial Assets	**8,007,466.44**	**178,051.99**	**2,609,557.00**	**17,330.80**	**146,369.00**	**68,546.00**	**1,654,357.00**	**1,319,455.00**	**(310,651.51)**	**73,076.80**	**460,832.00**	**22,122.74**	**876,673.99**	**439,966.00**	**160,388.26**	**30,172.00**	**16,808.37**	**244,411.00**
Total Liabilities & Equity (Total Assets Match)	**15,131,273.80**	**522,074.00**	**4,052,264.00**	**18,383.10**	**311,112.00**	**288,733.00**	**2,302,558.00**	**2,917,773.00**	**1,434,702.63**	**93,324.15**	**469,422.00**	**27,627.68**	**1,278,892.00**	**662,478.00**	**316,980.05**	**49,163.00**	**47,674.19**	**338,113.00**
Equity to Assets Ratio	52.9%	34.1%	64.4%	94.3%	47.0%	23.7%	71.8%	45.2%	-21.7%	78.3%	98.2%	80.1%	68.5%	66.4%	50.6%	61.4%	35.3%	72.3%

Notes

1-Bank note amounts from Attachment 8(a). Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposits. Bank holdings of sovereign debt could also be credited and retired at par to reduce required bank borrowing.

2-Blank cell indicates data not available.

3-INDIC_NA Codes used for Asset and Liability line item identification.

Source

eurostat European Commission

Database / Government statistics (gov) / Quarterly government finance statistics (gov_q) / Quarterly financial accounts for general government (gov_q_ggfa) - then use select data - S1311 central government only

http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/database

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_q_ggfa&lang=en

Attachment 11(a)

European Central Bank Monetary Intermediation Cost

Conversion Economic Impact Intermediation Cost Summary

EU Eurozone (17) Member States

Assumptions

Economic Growth Rate (Est.) for Cap Rate		4.00%
Exchange Rate $1 U.S. Dollar to Euro	12/31/2011	€ 0.7717
New York Times 7/6/2009 Estimated Job Creation Cost ($)		$31,169
4-New York Times 7/6/2009 article $31,169 job creation cost converted to Euros (€)		€ 24,052
Capital Value per Job Est.		€ 750,000

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	EU Eurozone (17) Country[1]			Intermediation Cost Average		Jobs Impact Estimates		
				Annual[2] (A)	Capitalized[3] (B)	Annual	Capitalized	Average
#	Native	English	Code	(€ Billions)	(€ Billions)	=(A)/NYT Est[4]	=(B)/€750000	=[(A)+(B)]/2
1	Belgique/België	Belgium	BE	€ 10.54	€ 263.59	438,370	351,456	394,913
2	Deutschland	Germany	DE	€ 81.96	€ 2,048.91	3,407,474	2,731,886	3,069,680
3	Eesti	Estonia	EE	€ 0.48	€ 12.02	19,985	16,022	18,004
4	Éire/Ireland	Ireland	IE	€ 5.30	€ 132.51	220,375	176,682	198,529
5	Elláda	Greece	EL/GR	€ 6.46	€ 161.50	268,592	215,339	241,965
6	España	Spain	ES	€ 41.64	€ 1,041.00	1,731,248	1,388,000	1,559,624
7	France	France	FR	€ 57.89	€ 1,447.36	2,407,053	1,929,815	2,168,434
8	Italia	Italy	IT	€ 37.29	€ 932.17	1,550,263	1,242,898	1,396,580
9	Kýpros	Cyprus	CY	€ 1.42	€ 35.62	59,245	47,499	53,372
10	Luxembourg	Luxembourg	LU	€ 6.38	€ 159.41	265,103	212,542	238,823
11	Malta	Malta	MT	€ 0.45	€ 11.30	18,798	15,071	16,934
12	Nederland	Netherlands	NL	€ 21.73	€ 543.23	903,430	724,310	813,870
13	Österreich	Austria	AT	€ 11.49	€ 287.24	477,694	382,984	430,339
14	Portugal	Portugal	PT	€ 6.48	€ 162.00	269,416	216,000	242,708
15	Slovenija	Slovenia	SI	€ 1.03	€ 25.72	42,777	34,296	38,536
16	Slovensko	Slovakia	SK	€ 1.71	€ 42.69	71,003	56,926	63,964
17	Suomi/Finland	Finland	FI	€ 5.94	€ 148.48	246,939	197,979	222,459
			TOTAL	€ 298.19	€ 7,454.78	12,397,765	9,939,705	11,168,735

Notes

1-EU Member State Protocol Order

Notes 2 & 3 data from Attachment 11(c). Monetary intermediation cost assumes ECB 2% reserve requirement.

2-Annual Intermediation Cost Average = ([Historical Average] + [2011 Actual] + [Monetary Debt] x [Economic Growth Rate])/3.

3-Capitalized Intermediation Cost Average=([Historical Average]÷[Economic Growth Rate]+[2011 Actual]÷[Economic Growth Rate]+[Monetary Debt])/3.

4-Annual Jobs Impact Estimate = [Annual Intermediation Cost Ave] ÷ [NYT Job Creation Cost] x [Exchange Rate €1 to U.S. Dollar] x [1 Billion Format].

Sources

1-Attachment 11(c) Monetary Fractional Reserve Intermediation Cost Estimated Impact on EU Eurozone (17) Economy and Jobs

2-New York Times 7-6-2009 article "The Costs of Entrepreneurial Job Creation" at

http://boss.blogs.nytimes.com/2009/07/06/how-much-does-it-cost-to-create-a-job-by-encouraging-entrepreneurship/

Attachment 11(b)

European Central Bank Monetary Intermediation Cost

Conversion Economic Impact Sovereign Debt

EU Eurozone (17) Member States

#	December 31, 2011 EU Eurozone (17) Country Native	English	2011 GDP[1] (€ Billions)	2011 Sovereign Liabilities Total[2] (€ Billions)	Sovereign Liabilities/ GDP Ratio (Percent %)	Liabilities Reduction Monetary Conversion Bank Note[3,a] (€ Billions)	Sovereign Liabilities Reduction (Percent %)	After Conversion Sovereign Liabilities Total[b] (€ Billions)	After Conversion Sovereign Liabilities/ GDP Ratio[b] (Percent %)
1	Belgique/België	Belgium	€ 369.84	€ 344.02	93.0%	(€ 468.80)	136.3%	(€ 124.78)	-33.7%
2	Deutschland	Germany	€ 2,592.60	€ 1,442.71	55.6%	(€ 3,632.99)	251.8%	(€ 2,190.28)	-84.5%
3	Eesti	Estonia	€ 15.95	€ 1.05	6.6%	(€ 12.29)	1167.9%	(€ 11.24)	-70.4%
4	Éire/Ireland	Ireland	€ 156.44	€ 164.74	105.3%	(€ 250.10)	151.8%	(€ 85.36)	-54.6%
5	Elláda	Greece	€ 215.09	€ 220.19	102.4%	(€ 223.69)	101.6%	(€ 3.50)	-1.6%
6	España	Spain	€ 1,063.36	€ 648.20	61.0%	(€ 2,020.72)	311.7%	(€ 1,372.52)	-129.1%
7	France	France	€ 1,996.58	€ 1,598.32	80.1%	(€ 2,454.35)	153.6%	(€ 856.03)	-42.9%
8	Italia	Italy	€ 1,580.22	€ 1,745.35	110.5%	(€ 1,137.71)	65.2%	€ 607.64	38.5%
9	Kýpros	Cyprus	€ 17.76	€ 20.25	114.0%	(€ 88.70)	438.1%	(€ 68.45)	-385.4%
10	Luxembourg	Luxembourg	€ 42.82	€ 8.59	20.1%	(€ 455.03)	5297.2%	(€ 446.44)	-1042.6%
11	Malta	Malta	€ 6.50	€ 5.50	84.7%	(€ 25.52)	463.6%	(€ 20.02)	-308.0%
12	Nederland	Netherlands	€ 601.97	€ 402.22	66.8%	(€ 1,100.30)	273.6%	(€ 698.08)	-116.0%
13	Österreich	Austria	€ 300.71	€ 222.51	74.0%	(€ 603.97)	271.4%	(€ 381.46)	-126.9%
14	Portugal	Portugal	€ 170.91	€ 156.59	91.6%	(€ 253.65)	162.0%	(€ 97.06)	-56.8%
15	Slovenija	Slovenia	€ 36.17	€ 18.99	52.5%	(€ 33.52)	176.5%	(€ 14.53)	-40.2%
16	Slovensko	Slovakia	€ 69.06	€ 30.87	44.7%	(€ 36.04)	116.8%	(€ 5.17)	-7.5%
17	Suomi/Finland	Finland	€ 189.37	€ 93.70	49.5%	(€ 279.01)	297.8%	(€ 185.31)	-97.9%
		TOTAL	€ 9,425.34	€ 7,123.81	75.6%	(€ 13,076.39)	183.6%	(€ 5,952.58)	-63.2%

Notes

a-Ignores ECB holdings of sovereign debt which are expected to also be credited to 100% reserve deposit funding and retired.
b-Negative sovereign liability number indicates excess available, possibly to fund unfunded liabilities and/or other citizen priorities.

Sources

1-GDP by country from European Commission eurostat, Gross domestic product at market prices (tec00001) at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
2-Attachment 10(a) Eurozone Central Governments Consolidated 12/31/2011 Balance Sheets - Before Bank Conversion
3-Attachment 8(a) Eurozone Banks Consolidated 12/31/2011 Balance Sheets from ECB EU Banking Data - Before Conversion

European Central Bank Monetary Intermediation Cost

Conversion Economic Impact Economy and Jobs on EU Eurozone (17) Member States

December 31, 2011

European Union (EU) Member State Protocol Order	Country Native English	1 Belgique/België Belgium	2 Deutschland Germany	3 Eesti Estonia	4 Éire/Ireland Ireland	5 Elláda Greece	6 España Spain	7 France France	8 Italia Italy	9 Kýpros Cyprus	10 Luxembourg Luxembourg	11 Malta Malta	12 Nederland Netherlands	13 Österreich Austria	14 Portugal Portugal	15 Slovenija Slovenia	16 Slovensko Slovakia	17 Suomi/Finland Finland
Economic Indicators (as of 12/31/2011)	**EZ (17) Total**	**BE**	**DE**	**EE**	**IE**	**EL/GR**	**ES**	**FR**	**IT**	**CY**	**LU**	**MT**	**NL**	**AT**	**PT**	**SI**	**SK**	**FI**
GDP 2011 by Country (€ Billions)[1]	€ 9,425.34	€ 369.84	€ 2,592.60	€ 15.95	€ 156.44	€ 215.09	€ 1,063.36	€ 1,996.58	€ 1,580.22	€ 17.76	€ 42.82	€ 6.50	€ 601.97	€ 300.71	€ 170.91	€ 36.17	€ 69.06	€ 189.37
Central Government consolidated total liabilities [F_TOT] (€ Billions)[2]	€ 7,123.81	€ 344.02	€ 1,442.71	€ 1.05	€ 164.74	€ 220.19	€ 648.20	€ 1,598.32	€ 1,745.35	€ 20.25	€ 8.59	€ 5.50	€ 402.22	€ 222.51	€ 156.59	€ 18.99	€ 30.87	€ 93.70
Unemployment, 2011-12 [une_nb_m][3]	16,934,000	341,000	2,326,000	79,000	306,000	1,072,000	5,281,000	2,957,000	2,461,000	41,000	13,000	12,000	403,000	182,000	791,000	90,000	387,000	192,000
I. Historical Average (1999-2011)	**EZ (17) Total**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
ECB Capital Key %[4]	69.9705%	2.4256%	18.9373%	0.1790%	1.1107%	1.9649%	8.3040%	14.2212%	12.4966%	0.1369%	0.1747%	0.0632%	3.9882%	1.9417%	1.7504%	0.3288%	0.6934%	1.2539%
Country % of EZ(17) Capital Key Total	100.0000%	3.47%	27.06%	0.26%	1.59%	2.81%	11.87%	20.32%	17.86%	0.20%	0.25%	0.09%	5.70%	2.78%	2.50%	0.47%	0.99%	1.79%
([Country Amt] = [EZ(17) Total] x [Country % of EZ(17) Capital Key Total])	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
1. ECB Operations (2011 Actual Net)[5]	€ 0.44	€ 0.02	€ 0.12	€ 0.00	€ 0.01	€ 0.01	€ 0.05	€ 0.09	€ 0.08	€ 0.00	€ 0.00	€ 0.00	€ 0.02	€ 0.01	€ 0.01	€ 0.00	€ 0.00	€ 0.01
2. New Money (M1) Issued times (1 - reserve requirement)[5,d]	€ 231.51	€ 8.03	€ 62.66	€ 0.59	€ 3.68	€ 6.50	€ 27.48	€ 47.05	€ 41.35	€ 0.45	€ 0.58	€ 0.21	€ 13.20	€ 6.42	€ 5.79	€ 1.09	€ 2.29	€ 4.15
Total Annual Intermediation	€ 231.95	€ 8.04	€ 62.78	€ 0.59	€ 3.68	€ 6.51	€ 27.53	€ 47.14	€ 41.43	€ 0.45	€ 0.58	€ 0.21	€ 13.22	€ 6.44	€ 5.80	€ 1.09	€ 2.30	€ 4.16
Intermediation Capitalized[c]	€ 5,798.73	€ 201.02	€ 1,569.41	€ 14.83	€ 92.05	€ 162.84	€ 688.19	€ 1,178.57	€ 1,035.64	€ 11.35	€ 14.48	€ 5.24	€ 330.52	€ 160.92	€ 145.06	€ 27.25	€ 57.46	€ 103.92
GDP % Improvement ([Annual Intermediation] / [GDP])	**2.5%**	**2.2%**	**2.4%**	**3.7%**	**2.4%**	**3.0%**	**2.6%**	**2.4%**	**2.6%**	**2.6%**	**1.4%**	**3.2%**	**2.2%**	**2.1%**	**3.4%**	**3.0%**	**3.3%**	**2.2%**
Jobs Estimate (assuming €750000 Capitalized Value per Job)	**7,731,642**	**268,025**	**2,092,545**	**19,779**	**122,731**	**217,119**	**917,580**	**1,571,423**	**1,380,857**	**15,127**	**19,304**	**6,984**	**440,691**	**214,555**	**193,417**	**36,332**	**76,620**	**138,554**
II. 2011 Actual	**EZ (17) Total**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
ECB Capital Key %[4]	69.9705%	2.4256%	18.9373%	0.1790%	1.1107%	1.9649%	8.3040%	14.2212%	12.4966%	0.1369%	0.1747%	0.0632%	3.9882%	1.9417%	1.7504%	0.3288%	0.6934%	1.2539%
Country % of EZ(17) Capital Key Total	100.0000%	3.47%	27.06%	0.26%	1.59%	2.81%	11.87%	20.32%	17.86%	0.20%	0.25%	0.09%	5.70%	2.78%	2.50%	0.47%	0.99%	1.79%
([Country Amt] = [EZ(17) Total] x [Country % of EZ(17) Capital Key Total])	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
1. ECB Operations (2011 Actual Net)[5]	€ 0.44	€ 0.02	€ 0.12	€ 0.00	€ 0.01	€ 0.01	€ 0.05	€ 0.09	€ 0.08	€ 0.00	€ 0.00	€ 0.00	€ 0.02	€ 0.01	€ 0.01	€ 0.00	€ 0.00	€ 0.01
2. New Money (M1) Issued times (1 - reserve requirement)[5,d]	€ 103.59	€ 3.59	€ 28.04	€ 0.26	€ 1.64	€ 2.91	€ 12.29	€ 21.05	€ 18.50	€ 0.20	€ 0.26	€ 0.09	€ 5.90	€ 2.87	€ 2.59	€ 0.49	€ 1.03	€ 1.86
Total Annual Intermediation	€ 104.02	€ 3.61	€ 28.15	€ 0.27	€ 1.65	€ 2.92	€ 12.35	€ 21.14	€ 18.58	€ 0.20	€ 0.26	€ 0.09	€ 5.93	€ 2.89	€ 2.60	€ 0.49	€ 1.03	€ 1.86
Intermediation Capitalized[c]	€ 2,600.54	€ 90.15	€ 703.83	€ 6.65	€ 41.28	€ 73.03	€ 308.63	€ 528.55	€ 464.45	€ 5.09	€ 6.49	€ 2.35	€ 148.23	€ 72.17	€ 65.06	€ 12.22	€ 25.77	€ 46.60
GDP % Improvement ([Annual Intermediation] / [GDP])	**1.1%**	**1.0%**	**1.1%**	**1.7%**	**1.1%**	**1.4%**	**1.2%**	**1.1%**	**1.2%**	**1.1%**	**0.6%**	**1.4%**	**1.0%**	**1.0%**	**1.5%**	**1.4%**	**1.5%**	**1.0%**
Jobs Estimate (assuming €750000 Capitalized Value per Job)	**3,467,386**	**120,201**	**938,437**	**8,870**	**55,041**	**97,371**	**411,504**	**704,731**	**619,269**	**6,784**	**8,657**	**3,132**	**197,635**	**96,221**	**86,741**	**16,294**	**34,361**	**62,137**
III. Monetary Debt Impact (as of 12/31/2011)[1,2 Notes]	**EZ (17) Total**	**Belgium**	**Germany**	**Estonia**	**Ireland**	**Greece**	**Spain**	**France**	**Italy**	**Cyprus**	**Luxembourg**	**Malta**	**Netherlands**	**Austria**	**Portugal**	**Slovenia**	**Slovakia**	**Finland**
	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Bank Note to Gov't to cover fractional reserve deposit cash shortage[6]	€ 13,076.39	€ 468.80	€ 3,632.99	€ 12.29	€ 250.10	€ 223.69	€ 2,020.72	€ 2,454.35	€ 1,137.71	€ 88.70	€ 455.03	€ 25.52	€ 1,100.30	€ 603.97	€ 253.65	€ 33.52	€ 36.04	€ 279.01
Euro Circulation Currency Conversion (Currency x [%CapKeyTotal])[7]	€ 888.68	€ 30.81	€ 240.52	€ 2.27	€ 14.11	€ 24.96	€ 105.47	€ 180.62	€ 158.72	€ 1.74	€ 2.22	€ 0.80	€ 50.65	€ 24.66	€ 22.23	€ 4.18	€ 8.81	€ 15.93
Intermediation Capitalized	€ 13,965.07	€ 499.61	€ 3,873.51	€ 14.56	€ 264.21	€ 248.65	€ 2,126.19	€ 2,634.97	€ 1,296.43	€ 90.44	€ 457.25	€ 26.32	€ 1,150.95	€ 628.63	€ 275.88	€ 37.70	€ 44.85	€ 294.94
GDP % Improvement ([Intermediation Cap'd]x[c-Growth Cap Rate]/[GDP])	**5.9%**	**5.4%**	**6.0%**	**3.7%**	**6.8%**	**4.6%**	**8.0%**	**5.3%**	**3.3%**	**20.4%**	**42.7%**	**16.2%**	**7.6%**	**8.4%**	**6.5%**	**4.2%**	**2.6%**	**6.2%**
Jobs Estimate (assuming €750000 Capitalized Value per Job)	**18,620,088**	**666,143**	**5,164,677**	**19,418**	**352,276**	**331,528**	**2,834,916**	**3,513,293**	**1,728,568**	**120,585**	**609,665**	**35,097**	**1,534,604**	**838,175**	**367,842**	**50,261**	**59,796**	**393,247**
Average GDP % Improvement	**3.2%**	**2.9%**	**3.2%**	**3.0%**	**3.4%**	**3.0%**	**3.9%**	**2.9%**	**2.4%**	**8.0%**	**14.9%**	**7.0%**	**3.6%**	**3.8%**	**3.8%**	**2.8%**	**2.5%**	**3.1%**
Average Jobs Estimate (assuming €750000 Capitalized Value/Job)	**9,939,705**	**351,456**	**2,731,886**	**16,022**	**176,682**	**215,339**	**1,388,000**	**1,929,815**	**1,242,898**	**47,499**	**212,542**	**15,071**	**724,310**	**382,984**	**216,000**	**34,296**	**56,926**	**197,979**
Average Unemployment % Total/Member State Reduction	**58.7%**	**103.1%**	**117.4%**	**20.3%**	**57.7%**	**20.1%**	**26.3%**	**65.3%**	**50.5%**	**115.9%**	**1634.9%**	**125.6%**	**179.7%**	**210.4%**	**27.3%**	**38.1%**	**14.7%**	**103.1%**

Notes

1-It is expected sovereign debt holdings by banks will be credited and retired for use in funding full reserve deposits. The amount of sovereign debt holdings by banks is unknown but should net with reduced bank loan keeping total benefit to people/nations at about the same level. Bank debt to sovereign governments should have a first lien position at the same market rate based on credit of entire Eurozone.

2-Bank debt from full reserve deposit conversion appears more than sovereign national debt for most countries. Consideration might be given to dividending excess to European citizens depository accounts or funding unfunded government liabilities.

Sources

1-GDP by country from European Commission eurostat, Gross domestic product at market prices (tec00001) at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

2-Central Government consolidated total liabilities [F_TOT] from Attachment 10(a) EU Eurozone (17) Central Governments Consolidated Balance Sheets - Before Bank Conversion.

3-Unemployment data from European Commission eurostat, Harmonised unemployment by gender - total (teilm010) at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_nb_m&lang=en

4-ECB: Eurosystem Capital subscription Euro area national central banks at http://www.ecb.int/ecb/orga/capital/html/index.en.html

5-ECB Operating Cost and M1 increases from Attachment 6 ECB Annual Intermediation Cost 1999 to 2011.

6-Bank Note amounts from Attachment 8(a) Eurozone Banks Consolidated Balance Sheet Estimate from ECB EU Banking Data.

7-Euro Currency in Circulation for Conversion from Attachment 9 Eurosystem Consolidated Balance Sheet Conversion Estimate.

Fractional Reserve Intermediation Cost Est. Impact on Eurozone Jobs				
Intermediation Cost	(A)	(B)	**Jobs Impact Estimates**	
	Annual	Capitalized	Annual	Capitalized
Estimation Basis	(€ Billions)	(€ Billions)	=(A)/NYT Est[4]	=(B)/€750,000
I. Historical Average	€ 231.95	€ 5,798.73	9,643,654	7,731,642
II. 2011 Actual	€ 104.02	€ 2,600.54	4,324,860	3,467,386
III. Monetary Debt Est.	€ 558.60	€13,965.07	23,224,780	18,620,088
Average	€ 298.19	€ 7,454.78	12,397,765	9,939,705

The Eurozone fractional reserve monetary system has a 98% (1 - RR) intermediation cost (wealth transfer effect) of new money creation. This is a loss of capital to the other sectors of the economy. Assuming a €750,000 of capital value per job creation, the average € 7.455 trillion capitalized cost represents an estimated 9,940,000 private sector jobs. Per NY Times estimate the € 298.2 billion annual cost would be approximately 12,398,000 jobs. These estimates indicate the approximate cost of ECB monetary intermediation is on the order of 10+ million jobs.

There is no economic reward for monetary leverage from M&M Theorem. (Corollary, risk free rate should be GDP growth rate, not gov't debt rate.)

Assumptions	
Million	1,000,000
Billion	1,000,000,000
Trillion	1,000,000,000,000
Capital Value per Job Est. (Adjustable)	€ 750,000
a-Risk Free Base Rate (r_f) (Attach 7 (a)-Net GDP Productivity Growth Rate '99-'11)	0.4542%
Bank Note Premium over Govt. Debt (Estimated)	0.25%
b-Bank Note Interest Rate Est. (Risk Free GDP Growth Rate(a)+Risk Premium)	0.70%
c-Economic Growth Rate (Est.) for Cap Rate	4.00%
d-ECB Bank Reserve Requirement (1999-2011)	2.00%
Exchange Rate $1 U.S. Dollar to Euro 12/31/2011	€ 0.7717
4-New York Times 7/6/2009 Estimated Job Creation Cost ($)	$31,169
4-New York Times 7/6/2009 Estimated Job Creation Cost (€)	€ 24,052

4-New York Times 7-6-2009 article "The Costs of Entrepreneurial Job Creation" at http://boss.blogs.nytimes.com/2009/07/06/how-much-does-it-cost-to-create-a-job-by-encouraging-entrepreneurship/.

Attachment 12

European Central Bank Monetary Intermediation Cost

Direct Issuance and First Use (Seigniorage) Money Supply Intermediation to Eurozone People (Estimated)

Euro € M1[1] Money Stock Basis Assumed

Initial Conditions

Initial conditions would be to take GDP of economy in base year and divide it by itself and call the result 100 and the same for the money stock, take the chosen money stock indicator and divide it by itself and call it 100. Then, one possible way to allocate the productivity increase of the economy back to the economy itself in the most direct, efficient and least costly way would be for any increases in the money stock to be directly credited by the government as interest/Labour Dividend pro rata to the accounts held at the new 100% cash depositories. In theory if the economy grows at a 2% rate then 2% interest would be credited to the demand deposit accounts. In recessionary cycles, if any, no interest/Labour Dividend would be paid. In that sense these 100% reserve checking accounts would appear to earn interest/Labour Dividends and be the same as today's fractional reserve checking accounts that are paying effectively no interest in recessionary periods and some interest in expansionary periods. There would be no need for deposit insurance because the depository would have 100% cash and demand deposits - it would not be possible for such a depository to not have 100% fund on hand to cover any withdrawal situation including up to 100%. Commercial Banks would no longer take demand deposits but could take CDs and make time matched funding loans and lend their own capital and continue to offer other financial services without government sponsored Insurance.

Formula If economy decline, no Labor Dividend until fully recovered to avoid inflation.

[% Change MS_N] (Labour Dividend (LD)] [Seigniorage] $= \frac{[MS_N - MS_{N-1}]}{[MS_{N-1}]} = \frac{\text{Money Stock}_0 \times GDP_N}{\text{Money Stock}_{N-1} \times GDP_0} - 1$

Provided $[GDP_N]$ greater than any previous $[GDP_X]$ in the series 0 to N-1, if not then [% Change MS_N] = 0%

Where

MS =Money Stock (M1 "Narrow Money" Used)
GDP =Gross Domestic Product, measure of economic performance
N = Year, (period between measurements used)
LD =Labour Dividend [Seigniorage or Interest]

I. Economic (GDP) Performance	**Year/Period (N)**										
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
GDP Euro 17 Actual[2] (€ Billions)	€ 7,084.67	€ 7,330.76	€ 7,546.90	€ 7,860.38	€ 8,145.51	€ 8,565.09	€ 9,030.42	€ 9,244.49	€ 8,923.51	€ 9,180.96	€ 9,425.32
Economy GDP (Begin GDP_{N-1})		100.000	103.474	106.524	110.949	114.974	120.896	127.464	130.486	125.955	129.589
Economy GDP (End GDP_N/GDP_0)	100.000	103.474	106.524	110.949	114.974	120.896	127.464	130.486	125.955	129.589	133.038
% GDP Change (GDP_N/GDP_{N-1} -1)		3.474%	2.948%	4.154%	3.627%	5.151%	5.433%	2.371%	-3.472%	2.885%	2.662%
% Change Cumulative (GDP_N/GDP_0 -1)	0.000%	3.474%	6.524%	10.949%	14.974%	20.896%	27.464%	30.486%	25.955%	29.589%	33.038%

II. Money Stock Growth	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Money Stock (Begin 1/1)		100.000	103.474	106.524	110.949	114.974	120.896	127.464	130.486	130.486	130.486
% Change (Period N from GDP% N-1)		3.474%	2.948%	4.154%	3.627%	5.151%	5.433%	2.371%	-3.472%	2.885%	2.662%
% Change Cumulative (∑ MS from 0)		3.474%	6.524%	10.949%	14.974%	20.896%	27.464%	30.486%	25.955%	29.589%	33.038%
Labour Dividend(Year N)[3]		3.474%	2.948%	4.154%	3.627%	5.151%	5.433%	2.371%	0.000%	0.000%	1.956%
Money Stock (End)	100.000	103.474	106.524	110.949	114.974	120.896	127.464	130.486	130.486	130.486	133.038
Labour Div Cumulative (MS_N/MS_0 - 1	0.000%	3.474%	6.524%	10.949%	14.974%	20.896%	27.464%	30.486%	30.486%	30.486%	33.038%
Money Stock (LD Model) (Begin)		€ 2,279.0	€ 2,358.2	€ 2,427.7	€ 2,528.5	€ 2,620.3	€ 2,755.2	€ 2,904.9	€ 2,973.8	€ 2,973.8	€ 2,973.8
Labour Dividend (Period N)[4]		€ 79.2	€ 69.5	€ 100.8	€ 91.7	€ 135.0	€ 149.7	€ 68.9	€ 0.0	€ 0.0	€ 58.2
Money Stock (LD Model) (End)[4]	€ 2,279.0	€ 2,358.2	€ 2,427.7	€ 2,528.5	€ 2,620.3	€ 2,755.2	€ 2,904.9	€ 2,973.8	€ 2,973.8	€ 2,973.8	€ 3,031.9
Money Stock (€ M1 Actual)[4]	€ 2,279.0	€ 2,499.4	€ 2,727.1	€ 2,948.9	€ 3,482.1	€ 3,758.6	€ 3,901.3	€ 4,035.7	€ 4,556.2	€ 4,750.8	€ 4,856.5
Variance (with LD Model)	Over / (Under)	6.0%	12.3%	16.6%	32.9%	36.4%	34.3%	35.7%	53.2%	59.8%	60.2%

Money Stock (LD Model)/GDP Ratio	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	103.6%	100.7%	100.0%
Variance	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.7%	0.0%

Notes/Sources

1-M1 Money Stock from ECB "Historical monetary statistics" at https://stats.ecb.europa.eu/stats/download/bsi_ma_historical/bsi_ma_historical.zip (TEURO.01_c1)
2-GDP (Euro 17) from eurostat, GDP at market prices at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1 (tec00001)
3-Also known as Seigniorage. It is percent (%) increase in the money stock for the period, provided the economy has net positive growth above previously paid Labour Dividends.
4-Money Stock M1 in Euro (€) Billions.
5-M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits.

Attachment 13

European Central Bank Monetary Intermediation Cost

Historical Support for 100% Full Reserve Demand Deposit Banking

All of the persons listed supported a 100% reserve banking system and although many likely had different versions of the exact structure such a system might have they were all supportive of 100% reserve (time matched lending without money creation ability) banking. One version known as "The Chicago Plan" primarily by Henry Simons was supported by hundreds of economists in the 1930's and further developed by Irving Fisher.

#	**Nobel Prize Winners**	
1	Milton Friedman	Nobel Prize Economics 1976, Economics Professor primarily University of Chicago.
2	James Tobin	Nobel Prize Economics 1981, Economics Professor Yale and Harvard, (March 5, 1918 – March 11, 2002)
3	Maurice Allais	Nobel Prize Economics 1988, Economics Professor, École Nationale Supérieure des Mines de, Paris (May 31, 1911 – October 9, 2010)
4	Merton H. Miller	Nobel Prize Economics 1990 for discovery of M&M Theorem, Economics Professor primarily University of Chicago in "Do the M&M propositions apply to Banks?" Journal of Banking & Finance 19, 1995.
5	Frederick Soddy	Nobel Prize Chemistry 1921 (believed to be first discover of 100% reserve principle in 1926, author 1934 *The Role of Money* pp. 67-68 quote "[Fractional Reserve] Banks have never been solvent".

#	**Bankers**	
1	Frank A. Vanderlip	President National City Bank (1909-1919) (now Citicorp), Assistant Secretary of Treasury (1891-1901) and member of original Jekyll Island Conference for the creation of the Federal Reserve System (1864 – June 30, 1937).
2	Alexander Efron	Originated no minimum balance checking known as Checkmaster Plan while Vice President National Safety Bank & Trust, New York, (1893 – December 24, 1950).
3	Mervyn King	Current governor of the Bank of England, England's Central Bank in "Banking: From Bagehot to Basel, and Back Again" Speech at Buttonwood Gathering, New York City, Monday October 25, 2010.

#	**Economists**	
1	Irving Fisher	Economics Professor, Yale, one of the most respected economists from the first half of the 20th century advocated for 100% reserve system from 1934 for the remainder of his life (1867-1947).
2	Richard A. Werner	International Banking Professor, University of Southampton, England
3	Joseph Huber	co-author with James Robertson of *Creating New Money: A Monetary Reform for the Information Age* , 2000, chair of economic and environmental sociology at Martin Luther University of Halle-Wittenberg, Germany (1948-).
4	James Robertson	co-author with Joseph Huber of *Creating New Money: A Monetary Reform for the Information Age* , 2000, British political and economic thinker/activist (born August 11, 1928).
5	Jesús Huerta de Soto Ballester	Economics Professor, Rey Juan Carlos University, Madrid, Spain (December 23, 1956 –)
6	Jörg Guido Hülsmann	Economics and Law Professor, Université d'Angers, Angers, France
7	Herman E. Daly	Economics Professor, University of Maryland, author in 2007 of "Ecological economics and sustainable development: selected essays of Herman Daly", p.114.
8	Laurence Jacob Kotlikoff	Economics Professor, Boston University (January 30, 1951 –)
9	Lauchlin Currie	Assistant to Former Federal Reserve Chairman Marriner Eccles during Roosevelt administration (October 8, 1902 – December 23, 1993).
10	Murray Rothbard	Notable Austrian School Economist (March 2, 1926 – January 7, 1995)
11	Ludwig von Mises	Prominent Early Austrian School Economist (September 29, 1881 – October 10, 1973)
12	Henry C. Simons	Economics and Law Professor, U. Chicago and a primary author of the "Chicago Plan" 100% banking reserves plan letter March 1933 on file in Roosevelt Library in Hyde Park, NY.
13	Garfield V. Cox	Finance Professor and Dean of the Chicago School of Business (1945-52), signed 100% banking reserves letter March 1933 on file in Roosevelt Library in Hyde Park, NY. (May 4, 1893 –)
14	Aaron Director	Economics and Law Professor, U. Chicago signed 100% banking reserves letter March 1933 on file in Roosevelt Library in Hyde Park, NY (1901 – September 11, 2004).
15	Albert Gailord Hart	Economics professor at Columbia University, supported "Chicago Plan" signing March 1933 Letter on file in Roosevelt Library in Hyde Park, NY.
16	Frank H. Knight	Economics Professor, U. Chicago (1922-52) signed 100% banking reserves letter March 1933 on file in Roosevelt Library in Hyde Park, NY (November 7, 1885 - April 15, 1972).
17	Lloyd W. Mints	Economics professor, U. Chicago signed 100% banking reserves letter March 1933 on file in Roosevelt Library in Hyde Park, NY (1888 –).
18	Henry Schultz	Economics professor, U. Chicago signed 100% banking reserves letter March 1933 on file in Roosevelt Library in Hyde Park, NY (September 4, 1893 – November 26, 1938).
19	Frank D. Graham	Economics and International Finance Professor Princeton (1890-1949). Frank D. Graham Memorial Lecture at Princeton is named in his honor.
20	Charles R. Whittlesley	Economics professor at Princeton and Wharton School, U. Penn (1900-79).
21	Richard A. Lester	Labor Economics Professor and Former Chairman Princeton Department of Economics author "Gold Money, Bank Money, and Real Money" VQR Spring 1941 (March 1, 1908 – December 31, 1997).
22	Earl J. Hamilton	Economics Professor Duke (1927-44) and U. Chicago (1947-67), also editor of the Journal of Political Economy for seven years and president of the Economic History Association 1951-52. (1899 – 1989).
23	Willford I. King	Economics Professor, NYU 1927-45 (1880–1962).
24	Charles O. Hardy	Associate Economist at Fed during Marriner Eccles Roosevelt era Chairmanship, fellow at Brookings Institution and author including "Credit Policies of the Federal Reserve System in 1932.
25	John R. Commons	Economics Professor and Labor Historian University of Wisconsin-Madison (October 13, 1862 – May 11, 1945).
26	James W. Angell	Economics Professor Columbia University (1898-1986).
27	American Economic Association	Leading economics society in the world, 1937 poll by Irving Fisher indicated 1,100 members had signed approval of 100% reserve banking with 96 indicating specific reservations.

#	**Government Members**	
1	Robert L. Owen	U.S. Senator (D-OK) 1907-25, Chairman Senate Committee on Banking and Currency (1913-1919) and Senate sponsor of the Glass-Owen Bill (H.R. 7837) which became the Federal Reserve Act signed into law 12/23/1913, (February 2, 1856 – July 19, 1947).
2	Henry Wallace	33rd Vice President of the United States, Secretary of Agriculture and Secretary of Commerce under Roosevelt Administration
3	Paul Howard Douglas	U.S. Senator from Illinois 1948-66 and former Univ of Chicago economics professor supported 100% reserve banking including co-authoring *A Program for Monetary Reform* in July 1939 (March 26, 1892 – September 24, 1976).
4	Bronson Cutting	U.S. Senator from New Mexico (interim 1928 and 1929-35) introduced 100% reserve banking legislation in Senate June 6, 1934 (S. 3744)(June 23, 1888 – May 6, 1935).
5	Wright Patman	U.S. Congressman (D) from 1st District Texas (1929-1976) and chair of the House Committee on Banking and Currency (1965–75) introduced legislation in House in 1934 (H.R. 9855)(August 6, 1893 – March 7, 1976).
6	Jerry Voorhis	U.S. Congressman (D) from 12th District California 1937-1947. Voorhis supported 100% reserve banking and teamed with Wright Patman to force Fed to pay most interest earned on federal securities to the U.S. Government (April 6, 1901 – September 11, 1984).
7	T. Alan Goldsborough	U.S. Congressman (D) from 1st District Maryland (1921-1939) introduced legislation to end fractional reserve banking system in 1937 (HR 31) (September 16, 1877 – June 16, 1951).
8	Ron Paul	U.S. Congressman from 14th District Texas (1997-2012) and two time Republican candidate for President.
9	Dennis J. Kucinich	U.S. Congressman from 10th District Ohio (1997-2012).
10	Douglas Carswell	MP in British Parliament

#	**Notable Historic Supporters**	
1	David Hume	One of the most important figures in the history of Western philosophy in *Of Money* 1752.
2	Thomas Edison	Greatest Inventor of 20th Century (February 11, 1847 – October 18, 1931).
3	Robert de Fremery	Respected financial writer and author of *Money and Freedom* 1955.
4	Gertrude M. Coogan	First woman to receive MBA from Northwestern, earned in 1922 with special honors and author of *Money Creators* 1935.

SOURCES:

1-Robert de Fremery from *Money and Freedom* , 1954 at http://www.wcf.com/mandf/

2-"Irving Fisher and the 100% Reserve Proposal", William Allan, UCLA, 1993 at http://www.fullreservebanking.com/papers.htm

3-"The 'Chicago Plan' and New Deal Banking Reform", Ronnie J. Phillips, 1992 at http://www.levyinstitute.org/pubs/wp/76.pdf

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Attachment 14

European Central Bank Monetary Intermediation Cost Formulas

Symbol Key

GDP	=	Gross Domestic Product (€), Eurozone (17) measure of economic output of economy.
MS	=	Money Stock (€) at end given period N (M1 "Narrow Money" used for calculations)
N	=	Last Observation in series 0 to N, assumed year but could be quarterly or other selected period
RR	=	% Reserve Requirement for ESCB Member Banks. [% demand deposit accounts banks must hold in reserve for withdrawals from demand deposit (checking/debit card type) liabilities]
X	=	Any specific observation in series 0 to N

Annual Intermediation Cost (€) of ESCB/ECB/NCB Banking System Estimate

$= [(MS_N)-(MS_{N-1})] \times [1-RR(\%)] + [\text{Net Annual Operating Expenses}]$

Annual Intermediation Cost (%) of ESCB/ECB/NCB Banking System Estimate

$$= \frac{[(MS_N)-(MS_{N-1})] \times [1-RR(\%)] + [\text{Net Annual Operating Expenses}]}{[GDP_N]}$$

Economy Increase/Change Formula

$$[\%\ \text{Change } GDP_N] = \frac{[GDP_N - GDP_{N-1}]}{[GDP_{N-1}]}$$

Money Stock Increase Formulas

$$[\%\ \text{Change Money Stock}_N] = \frac{[\text{Money Stock}_0] \times [GDP_N]}{[\text{Money Stock}_{N-1}] \times [GDP_0]} - 1$$

[Labour Dividend]
[Interest]
[Seigniorage]

Provided if [% Change Money $Stock_N$] less than 0%, then 0%.
(Positive growth condition, $[GDP_N]$ must be greater than any previous $[GDP_X]$ in the series 0 to N-1 for Payment of Labour/Productivity Dividend)

Money stock increase will remain at zero [Money $Stock_{N-1}$] until economy fully recovered from GDP decline. Since people receive seigniorage, creation and first use of new money, directly on a pro rata basis there is no economic benefit of inflating the money stock during periods of economic decline. [Money stock is increased now via direct wealth transfer from the other sectors of the economy to recapitalize the banking system, making recessions worse for everyone but the banking sector.]

$$[\text{Money Stock}_N] = [\text{Money Stock}_{N-1}] \times \frac{[GDP_N]}{[GDP_{N-1}]}$$

Provided if [% Change Money $Stock_N$] less than 0%, then [Money $Stock_N$] = [Money $Stock_{N-1}$].
(Positive growth condition, $[GDP_N]$ must be greater than any previous $[GDP_X]$ in series 0 to N-1 for [Money $Stock_N$] increase)

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European Central Bank Monetary Intermediation Cost
Supplemental Attachment List
EU Non-eurozone (10) Countries

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Supplement 1(a)

European Central Bank Monetary Intermediation Cost

ECB/NCB Annual & Compound Monetary Intermediation Cost to Economy 2005 to 2011[2]

EU (27) Member States

December 31, 2011

#	EU Member State (EU Protocol Order) Native	English	2004 (Yr 0) GDP[1] (€ Millions)	Annual GDP[1,a] (% Growth)	Annual Intermediation Cost[b,c] (% GDP)	(r_f) Annual Net GDP[1] (% Growth)	2011 GDP[1] (€ Millions)	2005-2011 Compounded Intermediation (€ Millions)	2005-2011 Compounded Intermediation (% 2011 GDP)	Rank[b] (% GDP) Annual	Compound
1		EU Total (27)[d]	€ 10,606,152.4	2.55%	2.98%	-0.43%	€ 12,650,727.1	€ 2,359,068.4	18.6%	9	10
2		Eurozone (17)[e]	€ 7,860,381.5	2.63%	3.05%	-0.42%	€ 9,425,315.2	€ 1,793,576.5	19.0%	11	11
3	Bulgarija	Bulgaria	€ 20,387.9	9.50%	2.51%	6.99%	€ 38,483.2	€ 5,770.2	15.0%	5	4
4	Česká republika	Czech Republic	€ 91,849.5	7.75%	4.88%	2.87%	€ 154,913.0	€ 42,933.5	27.7%	12	12
5	Danmark	Denmark	€ 197,069.9	2.81%	1.94%	0.86%	€ 239,244.5	€ 29,931.1	12.5%	3	3
6	Latvija	Latvia	€ 11,154.6	8.86%	2.95%	5.92%	€ 20,211.4	€ 3,532.1	17.5%	8	8
7	Lietuva	Lithuania	€ 18,244.8	7.72%	2.52%	5.20%	€ 30,705.4	€ 4,681.7	15.2%	6	5
8	Magyarország	Hungary	€ 82,114.8	2.93%	0.94%	1.99%	€ 100,513.0	€ 6,236.2	6.2%	1	1
9	Polska	Poland	€ 204,236.5	8.86%	2.83%	6.03%	€ 370,013.8	€ 62,318.1	16.8%	7	7
10	România	Romania	€ 61,063.9	12.18%	1.75%	10.43%	€ 136,479.9	€ 14,209.4	10.4%	2	2
11	Sverige	Sweden	€ 291,634.1	4.16%	2.98%	1.18%	€ 387,886.1	€ 71,370.6	18.4%	10	9
12	United Kingdom	United Kingdom	€ 1,768,014.9	-0.17%	2.41%	-2.58%	€ 1,746,961.6	€ 274,437.8	15.7%	4	6

Notes

a-Year Count for compounding: 7

b-EU and Eurozone intermediation cost assumes ECB 2% reserve requirement, non-eurozone intermediation costs assume Basel II 8% requirement.

c-Non-eurozone (10) NCBs operating costs ignored. EU intermediation assumes 2% RR, not weighted for non-eurozone Reserve Requirements.

d-EU Total (27) includes ECB operating expense only for ESCB operating cost estimate.

e-ECB operating expense included in Eurozone (17) intermediation cost estimate.

Sources

1-GDP by country from European Commission eurostat, Gross domestic product at market prices (tec00001) Last Updated 9/22/2012 at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

2-Supplements 1(b)-(m) ECB/NCB Annual & Compound Intermediation Cost to Economy 2005 to 2011 (Estimated)

Supplement 1(b)

European Central Bank Monetary Intermediation Cost

ECB/NCB Annual & Compound Monetary Intermediation Cost to EU Total (27) Economy 2005 to 2011[6]

EU Total (27)

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-ECB Bank Reserve Requirement (RR)	2.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	-0.43%
(c)-Intermediation Cost Percentage (from Step 2)	2.98%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	2.55%

STEP 1 of 3: Calculate annual intermediation cost european system central banks (ESCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) ESCB Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 4,184,855.2					
1	2005	€ 4,927,358.8	€ 742,503.6	€ 727,653.5	€ 343.4	€ 727,996.9	
2	2006	€ 5,407,353.3	€ 479,994.5	€ 470,394.6	€ 356.4	€ 470,751.1	
3	2007	€ 5,617,947.8	€ 210,594.5	€ 206,382.6	€ 379.9	€ 206,762.5	
4	2008	€ 5,554,880.2	(€ 63,067.6)	(€ 61,806.2)	€ 380.7	(€ 61,425.5)	
5	2009	€ 6,226,556.7	€ 671,676.5	€ 658,243.0	€ 394.8	€ 658,637.8	
6	2010	€ 6,549,031.2	€ 322,474.4	€ 316,025.0	€ 406.7	€ 316,431.7	
7	2011	€ 6,689,372.7	€ 140,341.6	€ 137,534.7	€ 435.6	€ 137,970.3	
	TOTALS	€ 6,689,372.7	€ 2,504,517.6	€ 2,454,427.2	€ 2,697.6	€ 2,457,124.8	Total
						€ 351,017.8	Average
						€ 727,996.9	Max
						(€ 61,425.5)	Min

1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en

2-ESCB estimate includes ECB only.

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 10,606,152.4				
2005	€ 11,072,608.3	4.398%	6.575%	2.281%	-2.177%
2006	€ 11,701,840.1	5.683%	4.023%	2.310%	1.660%
2007	€ 12,406,984.2	6.026%	1.667%	2.365%	4.359%
2008	€ 12,475,972.5	0.556%	-0.492%	3.657%	1.048%
2009	€ 11,755,204.5	-5.777%	5.603%	0.986%	-11.380%
2010	€ 12,282,793.7	4.488%	2.576%	2.080%	1.912%
2011	€ 12,650,727.1	2.996%	1.091%	3.101%	1.905%
Compound Growth Rates		2.55%	2.98%	2.39%	-0.51%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 10,606,152.4	€ 270,485.4	(€ 315,994.7)	€ 10,560,643.1	€ 315,994.7	2.9%
2	2006	€ 10,560,643.1	€ 269,324.8	(€ 314,638.8)	€ 10,515,329.0	€ 638,692.3	5.7%
3	2007	€ 10,515,329.0	€ 268,169.2	(€ 313,288.8)	€ 10,470,209.4	€ 968,269.4	8.5%
4	2008	€ 10,470,209.4	€ 267,018.5	(€ 311,944.5)	€ 10,425,283.4	€ 1,304,907.4	11.1%
5	2009	€ 10,425,283.4	€ 265,872.8	(€ 310,606.0)	€ 10,380,550.2	€ 1,648,792.0	13.7%
6	2010	€ 10,380,550.2	€ 264,731.9	(€ 309,273.2)	€ 10,336,008.9	€ 2,000,113.9	16.2%
7	2011	€ 10,336,008.9	€ 263,596.0	(€ 307,946.2)	**€ 10,291,658.7**	**€ 2,359,068.4**	**18.6%**
	Compound Growth Rates		-0.43%	-0.43%	-0.43%	33.27%	
	Count (Years)		7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 10,606,152.4	€ 270,485.4	€ 0.0	€ 10,876,637.8
2	2006	€ 10,876,637.8	€ 277,383.5	€ 0.0	€ 11,154,021.3
3	2007	€ 11,154,021.3	€ 284,457.5	€ 0.0	€ 11,438,478.9
4	2008	€ 11,438,478.9	€ 291,712.0	€ 0.0	€ 11,730,190.8
5	2009	€ 11,730,190.8	€ 299,151.4	€ 0.0	€ 12,029,342.2
6	2010	€ 12,029,342.2	€ 306,780.6	€ 0.0	€ 12,336,122.8
7	2011	€ 12,336,122.8	€ 314,604.3	€ 0.0	**€ 12,650,727.1**
Compound Growth Rates		2.55%	2.55%	N.A.	2.55%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

5-NCB Intermediation expenses compounded at total growth rate.

6-Format adapted from "The Tyranny of Compounding Costs" at http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

ESCB Compound Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 12,650,727.1	100.0%
Economy earnings with ECB/NCB Intermediation expense deducted	€ 10,291,658.7	81.4%
ECB/NCB Intermediation Expense to Non Bank Economy since 2005	**€ 2,359,068.4**	**18.6%**

ECB/NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 18.6% of EU Total (27) economic returns to banking sector from 2005 to 2011.

Supplement 1(c)

European Central Bank Monetary Intermediation Cost

ECB Annual & Compound Monetary Intermediation Cost to Eurozone(17) Economy 2005 to 2011[6]

Eurozone(17)

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-ECB Bank Reserve Requirement (RR)	2.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	-0.42%
(c)-Intermediation Cost Percentage (from Step 2)	3.05%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	2.63%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) European Central Bank (ECB)

(N)		(A)	(B)=(A_N) - (A_{N-1})	(C) = (B) x (1-RR[a])	(D)	(E_N) =(C_N)+(D_N)	
Period	Year	Money Stock M1[1] (€ Millions)	€ Increase Prior Year (€ Millions)	Money Stock Intermediation (€ Millions)	ECB Actual Net Op Cost[2] (€ Millions)	Annual Cost Intermediation (€ Millions)	
0	2004	€ 2,948,900.0					
1	2005	€ 3,482,100.0	€ 533,200.0	€ 522,536.0	€ 343.4	€ 522,879.4	
2	2006	€ 3,758,600.0	€ 276,500.0	€ 270,970.0	€ 356.4	€ 271,326.4	
3	2007	€ 3,901,300.0	€ 142,700.0	€ 139,846.0	€ 379.9	€ 140,225.9	
4	2008	€ 4,035,700.0	€ 134,400.0	€ 131,712.0	€ 380.7	€ 132,092.7	
5	2009	€ 4,556,200.0	€ 520,500.0	€ 510,090.0	€ 394.8	€ 510,484.8	
6	2010	€ 4,750,800.0	€ 194,600.0	€ 190,708.0	€ 406.7	€ 191,114.7	
7	2011	€ 4,856,500.0	€ 105,700.0	€ 103,586.0	€ 435.6	€ 104,021.6	
	TOTALS	€ 4,856,500.0	€ 1,907,600.0	€ 1,869,448.0	€ 2,697.6	€ 1,872,145.6	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 267,449.4	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 522,879.4	Max
2-ECB operations data from Publications Annual Reports Profit and Loss Statements						€ 104,021.6	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

	(F)	(G)=(F_N-F_{N-1})/F_{N-1}	(H_N) = (E_N) / (F_N)	(I)	(J) = (G) - (H)
Year	GDP[3] (€ Millions)	GDP[3] (% Growth)	Intermediation (% GDP Cost)[c]	Inflation % HICP[4]	GDP-Intermediation Net (% GDP) (r_f)
2004	€ 7,860,381.5				
2005	€ 8,145,511.9	3.627%	6.419%	2.176%	-2.792%
2006	€ 8,565,085.5	5.151%	3.168%	2.200%	1.983%
2007	€ 9,030,423.3	5.433%	1.553%	2.143%	3.880%
2008	€ 9,244,489.6	2.371%	1.429%	3.295%	0.942%
2009	€ 8,923,506.3	-3.472%	5.721%	0.297%	-9.193%
2010	€ 9,180,958.0	2.885%	2.082%	1.618%	0.803%
2011	€ 9,425,315.2	2.662%	1.104%	2.721%	1.558%
Compound Growth Rates		2.63%	3.05%	2.06%	-0.49%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH ECB INTERMEDIATION EXPENSE INCLUDED

(N)		(A)	(B) = (A) x (d)	(C) = (A) x (c)	(D) = (A)+(B)+(C)	(E)=∑ (C) Compounded	
Period	Year	Net GDP[3] Begin Yr (€ Millions)	Productivity Growth (Net) (€ Millions)	ECB Intermediation Expense	Net GDP[3] End Yr (€ Millions)	Compounded Intermediation Expense[5]	%
1	2005	€ 7,860,381.5	€ 206,547.5	(€ 239,625.4)	€ 7,827,303.6	€ 239,625.4	3.0%
2	2006	€ 7,827,303.6	€ 205,678.3	(€ 238,617.0)	€ 7,794,364.8	€ 484,539.1	5.9%
3	2007	€ 7,794,364.8	€ 204,812.8	(€ 237,612.9)	€ 7,761,564.7	€ 734,884.2	8.6%
4	2008	€ 7,761,564.7	€ 203,950.9	(€ 236,613.0)	€ 7,728,902.6	€ 990,807.7	11.4%
5	2009	€ 7,728,902.6	€ 203,092.6	(€ 235,617.2)	€ 7,696,378.0	€ 1,252,460.5	14.0%
6	2010	€ 7,696,378.0	€ 202,237.9	(€ 234,625.7)	€ 7,663,990.2	€ 1,519,997.1	16.6%
7	2011	€ 7,663,990.2	€ 201,386.9	(€ 233,638.4)	**€ 7,631,738.7**	**€ 1,793,576.5**	**19.0%**
	Compound Growth Rates		-0.42%	-0.42%	-0.42%	33.32%	
	Count (Years)		7	7	7	7	

3B. GDP EARNINGS W/ ECB INTERMEDIATION EXPENSE REMOVED

(N)		(A)	(B) = (A) x (d)	(C) = (A) x (c)	(D)=(A)+(B)+(C)
Period	Year	GDP[3] Begin Yr (€ Millions)	Productivity Growth(Total) (€ Millions)	ECB Intermediation Expense	GDP[3] End Yr (€ Millions)
1	2005	€ 7,860,381.5	€ 206,547.5	€ 0.0	€ 8,066,929.0
2	2006	€ 8,066,929.0	€ 211,974.9	€ 0.0	€ 8,278,903.9
3	2007	€ 8,278,903.9	€ 217,545.0	€ 0.0	€ 8,496,448.9
4	2008	€ 8,496,448.9	€ 223,261.4	€ 0.0	€ 8,719,710.3
5	2009	€ 8,719,710.3	€ 229,128.1	€ 0.0	€ 8,948,838.4
6	2010	€ 8,948,838.4	€ 235,148.9	€ 0.0	€ 9,183,987.3
7	2011	€ 9,183,987.3	€ 241,327.9	€ 0.0	**€ 9,425,315.2**
Compound Growth Rates		2.63%	2.63%	N.A.	2.63%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

5-ECB Intermediation expenses compounded at total growth rate.

6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

ECB Compound Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o ECB intermediation expense	€ 9,425,315.2	100.0%
Economy earnings with ECB Intermediation expense deducted	€ 7,631,738.7	81.0%
ECB Intermediation Expense to Non Bank Economy since 2005	**€ 1,793,576.5**	**19.0%**

ECB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 19% of Eurozone(17) economic returns to banking sector from 2005 to 2011.

Supplement 1(d)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Bulgaria Economy 2005 to 2011[6]

Bulgaria

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	6.99%
(c)-Intermediation Cost Percentage (from Step 2)	2.51%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	9.50%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 5,265.0					
1	2005	€ 6,360.0	€ 1,095.0	€ 1,007.4		€ 1,007.4	
2	2006	€ 8,221.0	€ 1,861.0	€ 1,712.1		€ 1,712.1	
3	2007	€ 10,598.0	€ 2,377.0	€ 2,186.8		€ 2,186.8	
4	2008	€ 10,158.0	(€ 440.0)	(€ 404.8)		(€ 404.8)	
5	2009	€ 9,267.0	(€ 891.0)	(€ 819.7)		(€ 819.7)	
6	2010	€ 9,401.0	€ 134.0	€ 123.3		€ 123.3	
7	2011	€ 10,751.0	€ 1,350.0	€ 1,242.0		€ 1,242.0	
	TOTALS	€ 10,751.0	€ 5,486.0	€ 5,047.1	€ 0.0	€ 5,047.1	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 721.0	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 2,186.8	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 819.7)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 20,387.9				
2005	€ 23,255.8	14.067%	4.332%	6.045%	9.735%
2006	€ 26,476.7	13.850%	6.467%	7.420%	7.383%
2007	€ 30,772.4	16.224%	7.106%	7.568%	9.118%
2008	€ 35,430.5	15.137%	-1.143%	11.952%	16.280%
2009	€ 34,932.8	-1.405%	-2.347%	2.474%	0.942%
2010	€ 36,052.4	3.205%	0.342%	3.033%	2.863%
2011	€ 38,483.2	6.742%	3.227%	3.390%	3.515%
Compound Growth Rates		9.50%	2.51%	5.94%	7.01%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 20,387.9	€ 1,936.8	(€ 512.1)	€ 21,812.6	€ 512.1	2.3%
2	2006	€ 21,812.6	€ 2,072.2	(€ 547.9)	€ 23,336.9	€ 1,108.7	4.5%
3	2007	€ 23,336.9	€ 2,217.0	(€ 586.2)	€ 24,967.7	€ 1,800.2	6.7%
4	2008	€ 24,967.7	€ 2,371.9	(€ 627.2)	€ 26,712.5	€ 2,598.4	8.9%
5	2009	€ 26,712.5	€ 2,537.7	(€ 671.0)	€ 28,579.2	€ 3,516.2	11.0%
6	2010	€ 28,579.2	€ 2,715.0	(€ 717.9)	€ 30,576.3	€ 4,568.2	13.0%
7	2011	€ 30,576.3	€ 2,904.7	(€ 768.0)	**€ 32,713.0**	**€ 5,770.2**	**15.0%**
Compound Growth Rates			6.99%	6.99%	6.99%	41.34%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 20,387.9	€ 1,936.8	€ 0.0	€ 22,324.7
2	2006	€ 22,324.7	€ 2,120.8	€ 0.0	€ 24,445.6
3	2007	€ 24,445.6	€ 2,322.3	€ 0.0	€ 26,767.9
4	2008	€ 26,767.9	€ 2,543.0	€ 0.0	€ 29,310.9
5	2009	€ 29,310.9	€ 2,784.5	€ 0.0	€ 32,095.4
6	2010	€ 32,095.4	€ 3,049.1	€ 0.0	€ 35,144.5
7	2011	€ 35,144.5	€ 3,338.7	€ 0.0	**€ 38,483.2**
Compound Growth Rates		9.50%	9.50%	N.A.	9.50%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Bulgaria NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 38,483.2	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 32,713.0	85.0%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 5,770.2**	**15.0%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 15% of Bulgaria economic returns to banking sector from 2005 to 2011.

Supplement 1(e)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Czech Republic Economy 2005 to 2011[6]

Czech Republic

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	2.87%
(c)-Intermediation Cost Percentage (from Step 2)	4.88%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	7.75%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 33,689.0					
1	2005	€ 40,095.0	€ 6,406.0	€ 5,893.5		€ 5,893.5	
2	2006	€ 48,231.0	€ 8,136.0	€ 7,485.1		€ 7,485.1	
3	2007	€ 57,329.0	€ 9,098.0	€ 8,370.2		€ 8,370.2	
4	2008	€ 62,319.0	€ 4,990.0	€ 4,590.8		€ 4,590.8	
5	2009	€ 66,930.0	€ 4,611.0	€ 4,242.1		€ 4,242.1	
6	2010	€ 80,672.0	€ 13,742.0	€ 12,642.6		€ 12,642.6	
7	2011	€ 83,357.0	€ 2,685.0	€ 2,470.2		€ 2,470.2	
	TOTALS	€ 83,357.0	€ 49,668.0	€ 45,694.6	€ 0.0	€ 45,694.6	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 6,527.8	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 12,642.6	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						€ 2,470.2	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 91,849.5				
2005	€ 104,628.8	13.913%	5.633%	1.626%	8.281%
2006	€ 118,290.8	13.058%	6.328%	2.100%	6.730%
2007	€ 131,908.6	11.512%	6.345%	2.938%	5.167%
2008	€ 154,269.7	16.952%	2.976%	6.280%	13.976%
2009	€ 141,449.8	-8.310%	2.999%	0.627%	-11.309%
2010	€ 149,313.3	5.559%	8.467%	1.157%	-2.908%
2011	€ 154,913.0	3.750%	1.595%	2.199%	2.156%
Compound Growth Rates		7.75%	4.88%	2.40%	2.86%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 91,849.5	€ 7,121.3	(€ 4,483.9)	€ 94,486.8	€ 4,483.9	4.5%
2	2006	€ 94,486.8	€ 7,325.7	(€ 4,612.7)	€ 97,199.9	€ 9,444.2	8.9%
3	2007	€ 97,199.9	€ 7,536.1	(€ 4,745.1)	€ 99,990.9	€ 14,921.6	13.0%
4	2008	€ 99,990.9	€ 7,752.5	(€ 4,881.4)	€ 102,862.0	€ 20,959.9	16.9%
5	2009	€ 102,862.0	€ 7,975.1	(€ 5,021.5)	€ 105,815.6	€ 27,606.5	20.7%
6	2010	€ 105,815.6	€ 8,204.1	(€ 5,165.7)	€ 108,853.9	€ 34,912.6	24.3%
7	2011	€ 108,853.9	€ 8,439.7	(€ 5,314.0)	**€ 111,979.5**	**€ 42,933.5**	**27.7%**
Compound Growth Rates			2.87%	2.87%	2.87%	38.09%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 91,849.5	€ 7,121.3	€ 0.0	€ 98,970.8
2	2006	€ 98,970.8	€ 7,673.4	€ 0.0	€ 106,644.2
3	2007	€ 106,644.2	€ 8,268.3	€ 0.0	€ 114,912.5
4	2008	€ 114,912.5	€ 8,909.4	€ 0.0	€ 123,821.9
5	2009	€ 123,821.9	€ 9,600.2	€ 0.0	€ 133,422.0
6	2010	€ 133,422.0	€ 10,344.5	€ 0.0	€ 143,766.5
7	2011	€ 143,766.5	€ 11,146.5	€ 0.0	**€ 154,913.0**
Compound Growth Rates		7.75%	7.75%	N.A.	7.75%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

NCB Compound Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 154,913.0	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 111,979.5	72.3%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 42,933.5**	**27.7%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 27.7% of Czech Republic economic returns to banking sector from 2005-11.

Supplement 1(f)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Denmark Economy 2005 to 2011[6]

Denmark

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	0.86%
(c)-Intermediation Cost Percentage (from Step 2)	1.94%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	2.81%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 72,135.0					
1	2005	€ 86,270.0	€ 14,135.0	€ 13,004.2		€ 13,004.2	
2	2006	€ 93,812.0	€ 7,542.0	€ 6,938.6		€ 6,938.6	
3	2007	€ 101,261.0	€ 7,449.0	€ 6,853.1		€ 6,853.1	
4	2008	€ 101,369.0	€ 108.0	€ 99.4		€ 99.4	
5	2009	€ 110,269.0	€ 8,900.0	€ 8,188.0		€ 8,188.0	
6	2010	€ 110,607.0	€ 338.0	€ 311.0		€ 311.0	
7	2011	€ 104,295.0	(€ 6,312.0)	(€ 5,807.0)		(€ 5,807.0)	
	TOTALS	€ 104,295.0	€ 32,160.0	€ 29,587.2	€ 0.0	€ 29,587.2	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 4,226.7	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 13,004.2	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 5,807.0)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 197,069.9				
2005	€ 207,366.9	5.225%	6.271%	1.729%	-1.046%
2006	€ 218,747.4	5.488%	3.172%	1.800%	2.316%
2007	€ 227,533.9	4.017%	3.012%	1.670%	1.005%
2008	€ 235,133.0	3.340%	0.042%	3.671%	3.298%
2009	€ 223,985.3	-4.741%	3.656%	1.025%	-8.397%
2010	€ 235,608.6	5.189%	0.132%	2.214%	5.057%
2011	€ 239,244.5	1.543%	-2.427%	2.708%	3.970%
Compound Growth Rates		2.81%	1.94%	2.11%	0.79%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 197,069.9	€ 5,535.9	(€ 3,831.7)	€ 198,774.1	€ 3,831.7	1.9%
2	2006	€ 198,774.1	€ 5,583.8	(€ 3,864.9)	€ 200,493.1	€ 7,804.2	3.7%
3	2007	€ 200,493.1	€ 5,632.1	(€ 3,898.3)	€ 202,226.9	€ 11,921.7	5.6%
4	2008	€ 202,226.9	€ 5,680.8	(€ 3,932.0)	€ 203,975.7	€ 16,188.6	7.4%
5	2009	€ 203,975.7	€ 5,729.9	(€ 3,966.0)	€ 205,739.7	€ 20,609.4	9.1%
6	2010	€ 205,739.7	€ 5,779.5	(€ 4,000.3)	€ 207,518.9	€ 25,188.6	10.8%
7	2011	€ 207,518.9	€ 5,829.5	(€ 4,034.9)	**€ 209,313.4**	**€ 29,931.1**	**12.5%**
Compound Growth Rates			0.86%	0.86%	0.86%	34.13%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 197,069.9	€ 5,535.9	€ 0.0	€ 202,605.8
2	2006	€ 202,605.8	€ 5,691.5	€ 0.0	€ 208,297.3
3	2007	€ 208,297.3	€ 5,851.3	€ 0.0	€ 214,148.6
4	2008	€ 214,148.6	€ 6,015.7	€ 0.0	€ 220,164.3
5	2009	€ 220,164.3	€ 6,184.7	€ 0.0	€ 226,349.0
6	2010	€ 226,349.0	€ 6,358.4	€ 0.0	€ 232,707.5
7	2011	€ 232,707.5	€ 6,537.0	€ 0.0	**€ 239,244.5**
Compound Growth Rates		2.81%	2.81%	N.A.	2.81%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Denmark NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 239,244.5	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 209,313.4	87.5%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 29,931.1**	**12.5%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 12.5% of Denmark economic returns to banking sector from 2005 to 2011.

Supplement 1(g)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Latvia Economy 2005 to 2011[6]

Latvia

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	5.92%
(c)-Intermediation Cost Percentage (from Step 2)	2.95%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	8.86%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 2,866.0					
1	2005	€ 4,122.0	€ 1,256.0	€ 1,155.5		€ 1,155.5	
2	2006	€ 5,829.0	€ 1,707.0	€ 1,570.4		€ 1,570.4	
3	2007	€ 5,649.0	(€ 180.0)	(€ 165.6)		(€ 165.6)	
4	2008	€ 4,721.0	(€ 928.0)	(€ 853.8)		(€ 853.8)	
5	2009	€ 4,201.0	(€ 520.0)	(€ 478.4)		(€ 478.4)	
6	2010	€ 5,316.0	€ 1,115.0	€ 1,025.8		€ 1,025.8	
7	2011	€ 6,229.0	€ 913.0	€ 840.0		€ 840.0	
	TOTALS	€ 6,229.0	€ 3,363.0	€ 3,094.0	€ 0.0	€ 3,094.0	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 442.0	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 1,570.4	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 853.8)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 11,154.6				
2005	€ 12,927.8	15.897%	8.938%	6.895%	6.958%
2006	€ 15,981.9	23.624%	9.826%	6.570%	13.798%
2007	€ 21,026.5	31.564%	-0.788%	10.087%	32.352%
2008	€ 22,889.8	8.862%	-3.730%	15.249%	12.592%
2009	€ 18,521.3	-19.085%	-2.583%	3.262%	-16.502%
2010	€ 18,038.9	-2.605%	5.687%	-1.225%	-8.291%
2011	€ 20,211.4	12.043%	4.156%	4.220%	7.888%
Compound Growth Rates		8.86%	2.95%	6.33%	5.95%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%	
1	2005	€ 11,154.6	€ 988.6	(€ 328.7)	€ 11,814.5	€ 328.7	2.7%	
2	2006	€ 11,814.5	€ 1,047.0	(€ 348.1)	€ 12,513.4	€ 705.9	5.3%	
3	2007	€ 12,513.4	€ 1,109.0	(€ 368.7)	€ 13,253.6	€ 1,137.2	7.9%	
4	2008	€ 13,253.6	€ 1,174.6	(€ 390.5)	€ 14,037.7	€ 1,628.5	10.4%	
5	2009	€ 14,037.7	€ 1,244.1	(€ 413.6)	€ 14,868.1	€ 2,186.5	12.8%	
6	2010	€ 14,868.1	€ 1,317.7	(€ 438.1)	€ 15,747.7	€ 2,818.3	15.2%	
7	2011	€ 15,747.7	€ 1,395.6	(€ 464.0)	**€ 16,679.3**	**€ 3,532.1**	**17.5%**	
Compound Growth Rates			5.92%	5.92%	5.92%	40.39%		
Count (Years)			7	7	7	7		

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 11,154.6	€ 988.6	€ 0.0	€ 12,143.2
2	2006	€ 12,143.2	€ 1,076.2	€ 0.0	€ 13,219.3
3	2007	€ 13,219.3	€ 1,171.5	€ 0.0	€ 14,390.9
4	2008	€ 14,390.9	€ 1,275.4	€ 0.0	€ 15,666.2
5	2009	€ 15,666.2	€ 1,388.4	€ 0.0	€ 17,054.6
6	2010	€ 17,054.6	€ 1,511.4	€ 0.0	€ 18,566.0
7	2011	€ 18,566.0	€ 1,645.4	€ 0.0	**€ 20,211.4**
Compound Growth Rates		8.86%	8.86%	N.A.	8.86%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Latvia NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 20,211.4	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 16,679.3	82.5%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 3,532.1**	**17.5%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 17.5% of Latvia economic returns to banking sector from 2005 to 2011.

Supplement 1(h)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Lithuania Economy 2005 to 2011[6]

Lithuania

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	5.20%
(c)-Intermediation Cost Percentage (from Step 2)	2.52%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	7.72%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 4,381.0					
1	2005	€ 6,053.0	€ 1,672.0	€ 1,538.2		€ 1,538.2	
2	2006	€ 7,193.0	€ 1,140.0	€ 1,048.8		€ 1,048.8	
3	2007	€ 8,092.0	€ 899.0	€ 827.1		€ 827.1	
4	2008	€ 6,755.0	(€ 1,337.0)	(€ 1,230.0)		(€ 1,230.0)	
5	2009	€ 6,386.0	(€ 369.0)	(€ 339.5)		(€ 339.5)	
6	2010	€ 7,935.0	€ 1,549.0	€ 1,425.1		€ 1,425.1	
7	2011	€ 9,061.0	€ 1,126.0	€ 1,035.9		€ 1,035.9	
	TOTALS	€ 9,061.0	€ 4,680.0	€ 4,305.6	€ 0.0	€ 4,305.6	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 615.1	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 1,538.2	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 1,230.0)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 18,244.8				
2005	€ 20,969.1	14.932%	7.336%	2.659%	7.596%
2006	€ 24,104.2	14.951%	4.351%	3.790%	10.600%
2007	€ 28,738.8	19.227%	2.878%	5.819%	16.349%
2008	€ 32,461.7	12.954%	-3.789%	11.090%	16.743%
2009	€ 26,620.1	-17.995%	-1.275%	4.164%	-16.720%
2010	€ 27,535.4	3.438%	5.175%	1.188%	-1.737%
2011	€ 30,705.4	11.512%	3.374%	4.121%	8.139%
Compound Growth Rates		7.72%	2.52%	4.65%	5.25%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 18,244.8	€ 1,408.5	(€ 459.0)	€ 19,194.3	€ 459.0	2.3%
2	2006	€ 19,194.3	€ 1,481.8	(€ 482.9)	€ 20,193.2	€ 977.4	4.6%
3	2007	€ 20,193.2	€ 1,558.9	(€ 508.0)	€ 21,244.1	€ 1,560.8	6.8%
4	2008	€ 21,244.1	€ 1,640.1	(€ 534.5)	€ 22,349.7	€ 2,215.8	9.0%
5	2009	€ 22,349.7	€ 1,725.4	(€ 562.3)	€ 23,512.8	€ 2,949.2	11.1%
6	2010	€ 23,512.8	€ 1,815.2	(€ 591.6)	€ 24,736.4	€ 3,768.4	13.2%
7	2011	€ 24,736.4	€ 1,909.7	(€ 622.3)	**€ 26,023.7**	**€ 4,681.7**	**15.2%**
Compound Growth Rates			5.20%	5.20%	5.20%	39.34%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 18,244.8	€ 1,408.5	€ 0.0	€ 19,653.3
2	2006	€ 19,653.3	€ 1,517.2	€ 0.0	€ 21,170.6
3	2007	€ 21,170.6	€ 1,634.4	€ 0.0	€ 22,804.9
4	2008	€ 22,804.9	€ 1,760.6	€ 0.0	€ 24,565.5
5	2009	€ 24,565.5	€ 1,896.5	€ 0.0	€ 26,461.9
6	2010	€ 26,461.9	€ 2,042.9	€ 0.0	€ 28,504.8
7	2011	€ 28,504.8	€ 2,200.6	€ 0.0	**€ 30,705.4**
Compound Growth Rates		7.72%	7.72%	N.A.	7.72%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Lithuania NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 30,705.4	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 26,023.7	84.8%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 4,681.7**	**15.2%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 15.2% of Lithuania economic returns to banking sector from 2005 to 2011.

Supplement 1(i)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Hungary Economy 2005 to 2011[6]

Hungary

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	1.99%
(c)-Intermediation Cost Percentage (from Step 2)	0.94%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	2.93%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 16,950.0					
1	2005	€ 20,520.0	€ 3,570.0	€ 3,284.4		€ 3,284.4	
2	2006	€ 23,169.0	€ 2,649.0	€ 2,437.1		€ 2,437.1	
3	2007	€ 25,020.0	€ 1,851.0	€ 1,702.9		€ 1,702.9	
4	2008	€ 23,105.0	(€ 1,915.0)	(€ 1,761.8)		(€ 1,761.8)	
5	2009	€ 22,637.0	(€ 468.0)	(€ 430.6)		(€ 430.6)	
6	2010	€ 23,871.0	€ 1,234.0	€ 1,135.3		€ 1,135.3	
7	2011	€ 23,337.0	(€ 534.0)	(€ 491.3)		(€ 491.3)	
	TOTALS	€ 23,337.0	€ 6,387.0	€ 5,876.0	€ 0.0	€ 5,876.0	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 839.4	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 3,284.4	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 1,761.8)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 82,114.8				
2005	€ 88,765.5	8.099%	3.700%	3.488%	4.399%
2006	€ 89,593.0	0.932%	2.720%	4.030%	-1.788%
2007	€ 99,430.5	10.980%	1.713%	7.930%	9.268%
2008	€ 105,545.1	6.150%	-1.669%	6.030%	7.819%
2009	€ 91,402.5	-13.400%	-0.471%	4.032%	-12.929%
2010	€ 97,094.8	6.228%	1.169%	4.723%	5.058%
2011	€ 100,513.0	3.520%	-0.489%	3.924%	4.009%
Compound Growth Rates		2.93%	0.94%	4.87%	2.01%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 82,114.8	€ 2,406.2	(€ 769.9)	€ 83,751.1	€ 769.9	0.9%
2	2006	€ 83,751.1	€ 2,454.1	(€ 785.2)	€ 85,420.0	€ 1,577.6	1.8%
3	2007	€ 85,420.0	€ 2,503.0	(€ 800.9)	€ 87,122.1	€ 2,424.7	2.7%
4	2008	€ 87,122.1	€ 2,552.9	(€ 816.8)	€ 88,858.2	€ 3,312.6	3.6%
5	2009	€ 88,858.2	€ 2,603.8	(€ 833.1)	€ 90,628.9	€ 4,242.7	4.5%
6	2010	€ 90,628.9	€ 2,655.6	(€ 849.7)	€ 92,434.8	€ 5,216.7	5.3%
7	2011	€ 92,434.8	€ 2,708.6	(€ 866.6)	**€ 94,276.8**	**€ 6,236.2**	**6.2%**
Compound Growth Rates			1.99%	1.99%	1.99%	34.83%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 82,114.8	€ 2,406.2	€ 0.0	€ 84,521.0
2	2006	€ 84,521.0	€ 2,476.7	€ 0.0	€ 86,997.6
3	2007	€ 86,997.6	€ 2,549.2	€ 0.0	€ 89,546.9
4	2008	€ 89,546.9	€ 2,623.9	€ 0.0	€ 92,170.8
5	2009	€ 92,170.8	€ 2,700.8	€ 0.0	€ 94,871.6
6	2010	€ 94,871.6	€ 2,780.0	€ 0.0	€ 97,651.6
7	2011	€ 97,651.6	€ 2,861.4	€ 0.0	**€ 100,513.0**
Compound Growth Rates		2.93%	2.93%	N.A.	2.93%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Hungary NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 100,513.0	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 94,276.8	93.8%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 6,236.2**	**6.2%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 6.2% of Hungary economic returns to banking sector from 2005 to 2011.

Supplement 1(j)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Poland Economy 2005 to 2011[6]

Poland

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	6.03%
(c)-Intermediation Cost Percentage (from Step 2)	2.83%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	8.86%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 43,021.0					
1	2005	€ 57,161.0	€ 14,140.0	€ 13,008.8		€ 13,008.8	
2	2006	€ 72,000.0	€ 14,839.0	€ 13,651.9		€ 13,651.9	
3	2007	€ 93,298.0	€ 21,298.0	€ 19,594.2		€ 19,594.2	
4	2008	€ 84,252.0	(€ 9,046.0)	(€ 8,322.3)		(€ 8,322.3)	
5	2009	€ 94,614.0	€ 10,362.0	€ 9,533.0		€ 9,533.0	
6	2010	€ 113,004.0	€ 18,390.0	€ 16,918.8		€ 16,918.8	
7	2011	€ 104,974.0	(€ 8,030.0)	(€ 7,387.6)		(€ 7,387.6)	
	TOTALS	€ 104,974.0	€ 61,953.0	€ 56,996.8	€ 0.0	€ 56,996.8	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 8,142.4	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 19,594.2	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 8,322.3)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 204,236.5				
2005	€ 244,420.1	19.675%	5.322%	2.145%	14.353%
2006	€ 272,088.9	11.320%	5.017%	1.300%	6.303%
2007	€ 311,001.7	14.302%	6.300%	2.567%	8.001%
2008	€ 363,153.7	16.769%	-2.292%	4.235%	19.061%
2009	€ 310,653.2	-14.457%	3.069%	3.970%	-17.526%
2010	€ 354,581.6	14.141%	4.771%	2.664%	9.369%
2011	€ 370,013.8	4.352%	-1.997%	3.893%	6.349%
Compound Growth Rates		8.86%	2.83%	2.96%	5.96%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 204,236.5	€ 18,095.8	(€ 5,781.3)	€ 216,551.0	€ 5,781.3	2.6%
2	2006	€ 216,551.0	€ 19,186.9	(€ 6,129.9)	€ 229,608.0	€ 12,423.4	5.1%
3	2007	€ 229,608.0	€ 20,343.8	(€ 6,499.5)	€ 243,452.3	€ 20,023.6	7.6%
4	2008	€ 243,452.3	€ 21,570.4	(€ 6,891.4)	€ 258,131.4	€ 28,689.2	10.0%
5	2009	€ 258,131.4	€ 22,871.0	(€ 7,306.9)	€ 273,695.5	€ 38,538.0	12.3%
6	2010	€ 273,695.5	€ 24,250.0	(€ 7,747.5)	€ 290,198.1	€ 49,700.0	14.6%
7	2011	€ 290,198.1	€ 25,712.2	(€ 8,214.6)	**€ 307,695.7**	**€ 62,318.1**	**16.8%**
Compound Growth Rates			6.03%	6.03%	6.03%	40.45%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 204,236.5	€ 18,095.8	€ 0.0	€ 222,332.3
2	2006	€ 222,332.3	€ 19,699.1	€ 0.0	€ 242,031.5
3	2007	€ 242,031.5	€ 21,444.5	€ 0.0	€ 263,476.0
4	2008	€ 263,476.0	€ 23,344.6	€ 0.0	€ 286,820.5
5	2009	€ 286,820.5	€ 25,412.9	€ 0.0	€ 312,233.5
6	2010	€ 312,233.5	€ 27,664.6	€ 0.0	€ 339,898.1
7	2011	€ 339,898.1	€ 30,115.7	€ 0.0	**€ 370,013.8**
Compound Growth Rates		8.86%	8.86%	N.A.	8.86%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Poland NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 370,013.8	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 307,695.7	83.2%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 62,318.1**	**16.8%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 16.8% of Poland economic returns to banking sector from 2005 to 2011.

Supplement 1(k)

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Romania Economy 2005 to 2011[6]

Romania

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	10.43%
(c)-Intermediation Cost Percentage (from Step 2)	1.75%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	12.18%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 5,815.0					
1	2005	€ 9,174.0	€ 3,359.0	€ 3,090.3		€ 3,090.3	
2	2006	€ 14,416.0	€ 5,242.0	€ 4,822.6		€ 4,822.6	
3	2007	€ 22,137.0	€ 7,721.0	€ 7,103.3		€ 7,103.3	
4	2008	€ 23,022.0	€ 885.0	€ 814.2		€ 814.2	
5	2009	€ 18,717.0	(€ 4,305.0)	(€ 3,960.6)		(€ 3,960.6)	
6	2010	€ 19,153.0	€ 436.0	€ 401.1		€ 401.1	
7	2011	€ 19,869.0	€ 716.0	€ 658.7		€ 658.7	
	TOTALS	€ 19,869.0	€ 14,054.0	€ 12,929.7	€ 0.0	€ 12,929.7	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 1,847.1	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 7,103.3	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 3,960.6)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 61,063.9				
2005	€ 79,801.9	30.686%	3.872%	9.075%	26.813%
2006	€ 97,751.0	22.492%	4.934%	6.600%	17.558%
2007	€ 124,728.5	27.598%	5.695%	4.916%	21.903%
2008	€ 139,765.4	12.056%	0.583%	7.913%	11.473%
2009	€ 118,196.0	-15.433%	-3.351%	5.585%	-12.082%
2010	€ 124,058.9	4.960%	0.323%	6.074%	4.637%
2011	€ 136,479.9	10.012%	0.483%	5.822%	9.530%
Compound Growth Rates		12.18%	1.75%	6.56%	10.73%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 61,063.9	€ 7,434.8	(€ 1,067.4)	€ 67,431.3	€ 1,067.4	1.6%
2	2006	€ 67,431.3	€ 8,210.0	(€ 1,178.7)	€ 74,462.6	€ 2,376.1	3.1%
3	2007	€ 74,462.6	€ 9,066.1	(€ 1,301.7)	€ 82,227.0	€ 3,967.1	4.6%
4	2008	€ 82,227.0	€ 10,011.5	(€ 1,437.4)	€ 90,801.2	€ 5,887.5	6.1%
5	2009	€ 90,801.2	€ 11,055.4	(€ 1,587.3)	€ 100,269.3	€ 8,191.6	7.6%
6	2010	€ 100,269.3	€ 12,208.2	(€ 1,752.8)	€ 110,724.8	€ 10,941.7	9.0%
7	2011	€ 110,724.8	€ 13,481.2	(€ 1,935.5)	**€ 122,270.5**	**€ 14,209.4**	**10.4%**
	Compound Growth Rates		10.43%	10.43%	10.43%	44.75%	
	Count (Years)		7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 61,063.9	€ 7,434.8	€ 0.0	€ 68,498.7
2	2006	€ 68,498.7	€ 8,340.0	€ 0.0	€ 76,838.7
3	2007	€ 76,838.7	€ 9,355.4	€ 0.0	€ 86,194.1
4	2008	€ 86,194.1	€ 10,494.5	€ 0.0	€ 96,688.6
5	2009	€ 96,688.6	€ 11,772.3	€ 0.0	€ 108,460.9
6	2010	€ 108,460.9	€ 13,205.6	€ 0.0	€ 121,666.5
7	2011	€ 121,666.5	€ 14,813.4	€ 0.0	**€ 136,479.9**
Compound Growth Rates		12.18%	12.18%	N.A.	12.18%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

5-NCB Intermediation expenses compounded at total growth rate.

6-Format adapted from "The Tyranny of Compounding Costs" at http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Romania NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 136,479.9	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 122,270.5	89.6%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 14,209.4**	**10.4%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 10.4% of Romania economic returns to banking sector from 2005 to 2011.

European Central Bank Monetary Intermediation Cost

NCB Annual & Compound Monetary Intermediation Cost to Sweden Economy 2005 to 2011[6]

Sweden

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	1.18%
(c)-Intermediation Cost Percentage (from Step 2)	2.98%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	4.16%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N)		(A)	(B)=(A_N) - (A_{N-1})	(C) = (B) x (1-RR[a])	(D)	(E_N) =(C_N)+(D_N)	
Period	Year	Money Stock M1[1] (€ Millions)	€ Increase Prior Year (€ Millions)	Money Stock Intermediation (€ Millions)	NCB Actual Net Op Cost[2] (€ Millions)	Annual Cost Intermediation (€ Millions)	
0	2004	€ 104,241.2					
1	2005	€ 113,669.8	€ 9,428.6	€ 8,674.3		€ 8,674.3	
2	2006	€ 131,808.3	€ 18,138.5	€ 16,687.4		€ 16,687.4	
3	2007	€ 136,707.8	€ 4,899.5	€ 4,507.5		€ 4,507.5	
4	2008	€ 125,160.2	(€ 11,547.6)	(€ 10,623.8)		(€ 10,623.8)	
5	2009	€ 144,885.7	€ 19,725.5	€ 18,147.5		€ 18,147.5	
6	2010	€ 175,844.2	€ 30,958.4	€ 28,481.8		€ 28,481.8	
7	2011	€ 178,644.7	€ 2,800.6	€ 2,576.5		€ 2,576.5	
	TOTALS	€ 178,644.7	€ 74,403.6	€ 68,451.3	€ 0.0	€ 68,451.3	Total
1-Money Stock (M1) in Krona from Statistics Sweden Financial Market Statistics at						€ 9,778.8	Average
http://www.scb.se/Pages/TableAndChart____282804.aspx						€ 28,481.8	Max
2-Historical exchange rates for Swedish Krona to EUROs from x-rates.com.						(€ 10,623.8)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

	(F)	(G)=(F_N-F_{N-1})/F_{N-1}	(H_N) = (E_N) / (F_N)	(I)	(J) = (G) - (H)
Year	GDP[3] (€ Millions)	GDP[3] (% Growth)	Intermediation (% GDP Cost)[c]	Inflation % HICP[4]	GDP-Intermediation Net (% GDP) (r_f)
2004	€ 291,634.1				
2005	€ 298,353.3	2.304%	2.907%	0.827%	-0.603%
2006	€ 318,170.8	6.642%	5.245%	1.500%	1.397%
2007	€ 337,944.2	6.215%	1.334%	1.675%	4.881%
2008	€ 333,255.7	-1.387%	-3.188%	3.343%	1.801%
2009	€ 292,472.1	-12.238%	6.205%	1.941%	-18.443%
2010	€ 349,945.1	19.651%	8.139%	1.913%	11.512%
2011	€ 387,886.1	10.842%	0.664%	1.363%	10.178%
Compound Growth Rates		4.16%	2.98%	1.79%	1.08%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N)		(A)	(B) = (A) x (d)	(C) = (A) x (c)	(D) = (A)+(B)+(C)	(E)=∑ (C) Compounded	
Period	Year	Net GDP[3] Begin Yr (€ Millions)	Productivity Growth (Net) (€ Millions)	NCB Intermediation Expense	Net GDP[3] End Yr (€ Millions)	Compounded Intermediation Expense[5]	%
1	2005	€ 291,634.1	€ 12,127.9	(€ 8,696.9)	€ 295,065.1	€ 8,696.9	2.9%
2	2006	€ 295,065.1	€ 12,270.6	(€ 8,799.2)	€ 298,536.4	€ 17,857.8	5.6%
3	2007	€ 298,536.4	€ 12,414.9	(€ 8,902.7)	€ 302,048.6	€ 27,503.2	8.3%
4	2008	€ 302,048.6	€ 12,561.0	(€ 9,007.5)	€ 305,602.1	€ 37,654.4	11.0%
5	2009	€ 305,602.1	€ 12,708.8	(€ 9,113.5)	€ 309,197.5	€ 48,333.8	13.5%
6	2010	€ 309,197.5	€ 12,858.3	(€ 9,220.7)	€ 312,835.1	€ 59,564.4	16.0%
7	2011	€ 312,835.1	€ 13,009.6	(€ 9,329.1)	**€ 316,515.5**	**€ 71,370.6**	**18.4%**
Compound Growth Rates			1.18%	1.18%	1.18%	35.08%	
Count (Years)			7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N)		(A)	(B) = (A) x (d)	(C) = (A) x (c)	(D)=(A)+(B)+(C)
Period	Year	GDP[3] Begin Yr (€ Millions)	Productivity Growth(Total) (€ Millions)	NCB Intermediation Expense	GDP[3] End Yr (€ Millions)
1	2005	€ 291,634.1	€ 12,127.9	€ 0.0	€ 303,762.0
2	2006	€ 303,762.0	€ 12,632.2	€ 0.0	€ 316,394.2
3	2007	€ 316,394.2	€ 13,157.6	€ 0.0	€ 329,551.8
4	2008	€ 329,551.8	€ 13,704.7	€ 0.0	€ 343,256.5
5	2009	€ 343,256.5	€ 14,274.7	€ 0.0	€ 357,531.2
6	2010	€ 357,531.2	€ 14,868.3	€ 0.0	€ 372,399.5
7	2011	€ 372,399.5	€ 15,486.6	€ 0.0	**€ 387,886.1**
Compound Growth Rates		4.16%	4.16%	N.A.	4.16%
Count (Years)		7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

5-NCB Intermediation expenses compounded at total growth rate.

6-Format adapted from "The Tyranny of Compounding Costs" at http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

Sweden NCB Intermediation Cost 2005-2011	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 387,886.1	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 316,515.5	81.6%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 71,370.6**	**18.4%**

NCB Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 18.4% of Sweden economic returns to banking sector from 2005 to 2011.

Supplement 1(m)

European Central Bank Monetary Intermediation Cost

BOE Annual & Compound Monetary Intermediation Cost to United Kingdom Economy 2005 to 2011[6]

United Kingdom

€ M1 Money Stock Basis

M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Assumptions	
a-Basel II Reserve Requirement (RR)	8.0%
(b)-Net GDP Productivity Growth Rate (GDP Growth Rate (d) minus Intermediation Cost (c)) - (r_f)	-2.58%
(c)-Intermediation Cost Percentage (from Step 2)	2.41%
(d)-GDP Growth Rate (Net GDP + Intermediation Percentage) (from Step 2)	-0.17%

STEP 1 of 3: Calculate Annual Intermediation Cost (€) National Central Bank (NCB)

(N) Period	Year	(A) Money Stock M1[1] (€ Millions)	(B)=(A_N) - (A_{N-1}) € Increase Prior Year (€ Millions)	(C) = (B) x (1-RR[a]) Money Stock Intermediation (€ Millions)	(D) NCB Actual Net Op Cost[2] (€ Millions)	(E_N) =(C_N)+(D_N) Annual Cost Intermediation (€ Millions)	
0	2004	€ 947,592.0					
1	2005	€ 1,101,834.0	€ 154,242.0	€ 141,902.6		€ 141,902.6	
2	2006	€ 1,244,074.0	€ 142,240.0	€ 130,860.8		€ 130,860.8	
3	2007	€ 1,256,556.0	€ 12,482.0	€ 11,483.4		€ 11,483.4	
4	2008	€ 1,078,319.0	(€ 178,237.0)	(€ 163,978.0)		(€ 163,978.0)	
5	2009	€ 1,192,450.0	€ 114,131.0	€ 105,000.5		€ 105,000.5	
6	2010	€ 1,252,428.0	€ 59,978.0	€ 55,179.8		€ 55,179.8	
7	2011	€ 1,292,355.0	€ 39,927.0	€ 36,732.8		€ 36,732.8	
	TOTALS	€ 1,292,355.0	€ 344,763.0	€ 317,182.0	€ 0.0	€ 317,182.0	Total
1-Money Stock (M1) Not Seasonally Adjusted from eurostat Last Updated 10/1/2012 at						€ 45,311.7	Average
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en						€ 141,902.6	Max
2-NCB (National Central Bank) Operating Cost Intermediation Ignored						(€ 163,978.0)	Min

STEP 2 of 3: Calculate Intermediation Cost Percentages (%)

Year	(F) GDP[3] (€ Millions)	(G)=(F_N-F_{N-1})/F_{N-1} GDP[3] (% Growth)	(H_N) = (E_N) / (F_N) Intermediation (% GDP Cost)[c]	(I) Inflation % HICP[4]	(J) = (G) - (H) GDP-Intermediation Net (% GDP) (r_f)
2004	€ 1,768,014.9				
2005	€ 1,846,607.2	4.445%	7.685%	2.041%	-3.239%
2006	€ 1,955,549.9	5.900%	6.692%	2.300%	-0.792%
2007	€ 2,063,475.8	5.519%	0.557%	2.346%	4.962%
2008	€ 1,809,578.3	-12.304%	-9.062%	3.629%	-3.243%
2009	€ 1,573,465.1	-13.048%	6.673%	2.120%	-19.721%
2010	€ 1,709,606.7	8.652%	3.228%	3.339%	5.425%
2011	€ 1,746,961.6	2.185%	2.103%	4.454%	0.082%
Compound Growth Rates		-0.17%	2.41%	2.89%	-2.70%
Count (Years)		7	7	7	7
		Average Annual Compound Growth Rates			

STEP 3 of 3: Calculate Coumpounding Intermediation Cost

3A. GDP EARNINGS WITH NCB INTERMEDIATION EXPENSE INCLUDED

(N) Period	Year	(A) Net GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth (Net) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D) = (A)+(B)+(C) Net GDP[3] End Yr (€ Millions)	(E)=∑ (C) Compounded Intermediation Expense[5]	%
1	2005	€ 1,768,014.9	(€ 3,023.1)	(€ 42,569.3)	€ 1,722,422.5	€ 42,569.3	2.4%
2	2006	€ 1,722,422.5	(€ 2,945.1)	(€ 41,471.6)	€ 1,678,005.8	€ 83,968.1	4.8%
3	2007	€ 1,678,005.8	(€ 2,869.2)	(€ 40,402.1)	€ 1,634,734.5	€ 124,226.6	7.1%
4	2008	€ 1,634,734.5	(€ 2,795.2)	(€ 39,360.3)	€ 1,592,579.1	€ 163,374.5	9.3%
5	2009	€ 1,592,579.1	(€ 2,723.1)	(€ 38,345.3)	€ 1,551,510.7	€ 201,440.4	11.5%
6	2010	€ 1,551,510.7	(€ 2,652.9)	(€ 37,356.4)	€ 1,511,501.4	€ 238,452.4	13.6%
7	2011	€ 1,511,501.4	(€ 2,584.5)	(€ 36,393.1)	**€ 1,472,523.8**	**€ 274,437.8**	**15.7%**
	Compound Growth Rates		-2.58%	-2.58%	-2.58%	30.50%	
	Count (Years)		7	7	7	7	

3B. GDP EARNINGS W/ NCB INTERMEDIATION EXPENSE REMOVED

(N) Period	Year	(A) GDP[3] Begin Yr (€ Millions)	(B) = (A) x (d) Productivity Growth(Total) (€ Millions)	(C) = (A) x (c) NCB Intermediation Expense	(D)=(A)+(B)+(C) GDP[3] End Yr (€ Millions)
1	2005	€ 1,768,014.9	(€ 3,023.1)	€ 0.0	€ 1,764,991.8
2	2006	€ 1,764,991.8	(€ 3,017.9)	€ 0.0	€ 1,761,973.9
3	2007	€ 1,761,973.9	(€ 3,012.7)	€ 0.0	€ 1,758,961.2
4	2008	€ 1,758,961.2	(€ 3,007.6)	€ 0.0	€ 1,755,953.6
5	2009	€ 1,755,953.6	(€ 3,002.5)	€ 0.0	€ 1,752,951.1
6	2010	€ 1,752,951.1	(€ 2,997.3)	€ 0.0	€ 1,749,953.8
7	2011	€ 1,749,953.8	(€ 2,992.2)	€ 0.0	**€ 1,746,961.6**
	Compound Growth Rates	-0.17%	-0.17%	N.A.	-0.17%
	Count (Years)	7	7	7	7

Notes

3-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
4-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set at
http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database
5-NCB Intermediation expenses compounded at total growth rate.
6-Format adapted from "The Tyranny of Compounding Costs" at
http://www.pbs.org/wgbh/pages/frontline/retirement/etc/tyranny.html

United Kingdom BOE Intermediation Cost 2005-'11	€ Millions	% Percent
Economic (GDP) earnings 2011 w/o NCB intermediation expense	€ 1,746,961.6	100.0%
Economy earnings with NCB Intermediation expense deducted	€ 1,472,523.8	84.3%
NCB Intermediation Expense to Non Bank Economy since 2005	**€ 274,437.8**	**15.7%**

BOE Intermediation cost, primarily monetary expansion inflation, estimated to have consumed (wealth transferred) approximately 15.7% of United Kingdom economic returns to banking sector from 2005 to 2011.

Supplement 1(n)

European Central Bank Monetary Intermediation Cost

ECB/NCB Annual & Compound Monetary Intermediation Cost to EU Economy 2005 to 2011

Input Data Summary

Assumptions

a-Basel II Reserve Requirement (RR)	8.0%

	Tab	1(b)	1(c)	1(d)	1(e)	1(f)	1(g)	1(h)	1(i)	1(j)	1(k)	1(l)	1(m)
Money Stock		**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[1]**	**M1[2,3]**	**M1[1]**
(N)		EU (27) Total	Eurozone (17)	Bulgaria	Czech Republic	Denmark	Latvia	Lithuania	Hungary	Poland	Romania	Sweden	United Kingdom
Period	**Year**	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
0	2004	€ 4,184,855.2	€ 2,948,900.0	€ 5,265.0	€ 33,689.0	€ 72,135.0	€ 2,866.0	€ 4,381.0	€ 16,950.0	€ 43,021.0	€ 5,815.0	€ 104,241.2	€ 947,592.0
1	2005	€ 4,927,358.8	€ 3,482,100.0	€ 6,360.0	€ 40,095.0	€ 86,270.0	€ 4,122.0	€ 6,053.0	€ 20,520.0	€ 57,161.0	€ 9,174.0	€ 113,669.8	€ 1,101,834.0
2	2006	€ 5,407,353.3	€ 3,758,600.0	€ 8,221.0	€ 48,231.0	€ 93,812.0	€ 5,829.0	€ 7,193.0	€ 23,169.0	€ 72,000.0	€ 14,416.0	€ 131,808.3	€ 1,244,074.0
3	2007	€ 5,617,947.8	€ 3,901,300.0	€ 10,598.0	€ 57,329.0	€ 101,261.0	€ 5,649.0	€ 8,092.0	€ 25,020.0	€ 93,298.0	€ 22,137.0	€ 136,707.8	€ 1,256,556.0
4	2008	€ 5,554,880.2	€ 4,035,700.0	€ 10,158.0	€ 62,319.0	€ 101,369.0	€ 4,721.0	€ 6,755.0	€ 23,105.0	€ 84,252.0	€ 23,022.0	€ 125,160.2	€ 1,078,319.0
5	2009	€ 6,226,556.7	€ 4,556,200.0	€ 9,267.0	€ 66,930.0	€ 110,269.0	€ 4,201.0	€ 6,386.0	€ 22,637.0	€ 94,614.0	€ 18,717.0	€ 144,885.7	€ 1,192,450.0
6	2010	€ 6,549,031.2	€ 4,750,800.0	€ 9,401.0	€ 80,672.0	€ 110,607.0	€ 5,316.0	€ 7,935.0	€ 23,871.0	€ 113,004.0	€ 19,153.0	€ 175,844.2	€ 1,252,428.0
7	2011	€ 6,689,372.7	€ 4,856,500.0	€ 10,751.0	€ 83,357.0	€ 104,295.0	€ 6,229.0	€ 9,061.0	€ 23,337.0	€ 104,974.0	€ 19,869.0	€ 178,644.7	€ 1,292,355.0

GDP		**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**	**GDP[4]**
(N)		EU (27) Total	Eurozone (17)	Bulgaria	Czech Republic	Denmark	Latvia	Lithuania	Hungary	Poland	Romania	Sweden	United Kingdom
Period	**Year**	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
0	2004	€ 10,606,152.4	€ 7,860,381.5	€ 20,387.9	€ 91,849.5	€ 197,069.9	€ 11,154.6	€ 18,244.8	€ 82,114.8	€ 204,236.5	€ 61,063.9	€ 291,634.1	€ 1,768,014.9
1	2005	€ 11,072,608.3	€ 8,145,511.9	€ 23,255.8	€ 104,628.8	€ 207,366.9	€ 12,927.8	€ 20,969.1	€ 88,765.5	€ 244,420.1	€ 79,801.9	€ 298,353.3	€ 1,846,607.2
2	2006	€ 11,701,840.1	€ 8,565,085.5	€ 26,476.7	€ 118,290.8	€ 218,747.4	€ 15,981.9	€ 24,104.2	€ 89,593.0	€ 272,088.9	€ 97,751.0	€ 318,170.8	€ 1,955,549.9
3	2007	€ 12,406,984.2	€ 9,030,423.3	€ 30,772.4	€ 131,908.6	€ 227,533.9	€ 21,026.5	€ 28,738.8	€ 99,430.5	€ 311,001.7	€ 124,728.5	€ 337,944.2	€ 2,063,475.8
4	2008	€ 12,475,972.5	€ 9,244,489.6	€ 35,430.5	€ 154,269.7	€ 235,133.0	€ 22,889.8	€ 32,461.7	€ 105,545.1	€ 363,153.7	€ 139,765.4	€ 333,255.7	€ 1,809,578.3
5	2009	€ 11,755,204.5	€ 8,923,506.3	€ 34,932.8	€ 141,449.8	€ 223,985.3	€ 18,521.3	€ 26,620.1	€ 91,402.5	€ 310,653.2	€ 118,196.0	€ 292,472.1	€ 1,573,465.1
6	2010	€ 12,282,793.7	€ 9,180,958.0	€ 36,052.4	€ 149,313.3	€ 235,608.6	€ 18,038.9	€ 27,535.4	€ 97,094.8	€ 354,581.6	€ 124,058.9	€ 349,945.1	€ 1,709,606.7
7	2011	€ 12,650,727.1	€ 9,425,315.2	€ 38,483.2	€ 154,913.0	€ 239,244.5	€ 20,211.4	€ 30,705.4	€ 100,513.0	€ 370,013.8	€ 136,479.9	€ 387,886.1	€ 1,746,961.6

Inflation		**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**	**HICP[5]**
(N)		EU (27) Total	Eurozone (17)	Bulgaria	Czech Republic	Denmark	Latvia	Lithuania	Hungary	Poland	Romania	Sweden	United Kingdom
Period	**Year**	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)	(% Annual)
0	2004												
1	2005	2.281%	2.176%	6.045%	1.626%	1.729%	6.895%	2.659%	3.488%	2.145%	9.075%	0.827%	2.041%
2	2006	2.310%	2.200%	7.420%	2.100%	1.800%	6.570%	3.790%	4.030%	1.300%	6.600%	1.500%	2.300%
3	2007	2.365%	2.143%	7.568%	2.938%	1.670%	10.087%	5.819%	7.930%	2.567%	4.916%	1.675%	2.346%
4	2008	3.657%	3.295%	11.952%	6.280%	3.671%	15.249%	11.090%	6.030%	4.235%	7.913%	3.343%	3.629%
5	2009	0.986%	0.297%	2.474%	0.627%	1.025%	3.262%	4.164%	4.032%	3.970%	5.585%	1.941%	2.120%
6	2010	2.080%	1.618%	3.033%	1.157%	2.214%	-1.225%	1.188%	4.723%	2.664%	6.074%	1.913%	3.339%
7	2011	3.101%	2.721%	3.390%	2.199%	2.708%	4.220%	4.121%	3.924%	3.893%	5.822%	1.363%	4.454%

SOURCES:

1-Money Stock (M1) Not Seasonally Adjusted from eurostat European Commission except Sweden at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mny_agg_m&lang=en

2-Money Stock (M1) for Sweden in Krona from Statistics Sweden Financial Market Statistics at http://www.scb.se/Pages/TableAndChart____282804.aspx

3-Historical exchange rates for Swedish Krona to Euros from x-rates.com looked up 10/3/2012 at http://www.x-rates.com/cgi-bin/hlookup.cgi

4-GDP data from eurostat European Commission Last Updated 9/22/2012 2:05:37 AM at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

5-Inflation HICP (Annual) from eurostat European Commission [prc_hicp_aind] data set Last Updated 7/31/2012 9:08:40 AM at http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database

Notes

1-M1 (Narrow money) includes currency, i.e. banknotes and coins, as well as balances which can immediately be converted into currency or used for cashless payments, i.e. overnight (demand) deposits. (Does not include time deposits or money market funds as they are not demand deposits.)

Supplement 2(a)

European Central Bank Monetary Intermediation Cost

EU Non-eurozone (10) Banks Consolidated Balance Sheet Estimate[1] - Existing (Before Conversion)

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	**Country**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
European Union (EU) Member State Protocol Order	**Native**	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EU NEZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
Domestic credit institutions	986	8	6	108	12	4	142	588	7	20	91
Foreign-controlled subsidiaries and branches	295	23	33	5	16	15	30	52	32	3	86
Total Credit Institutions	**1,281**	**31**	**39**	**113**	**28**	**19**	**172**	**640**	**39**	**23**	**177**

ASSETS - Table 11(a)	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 620.81	€ 3.89	€ 16.64	€ 8.43	€ 1.84	€ 2.31		€ 9.14	€ 13.65		€ 564.91
Total Cash	**€ 620.81**	**€ 3.89**	**€ 16.64**	**€ 8.43**	**€ 1.84**	**€ 2.31**	**€ 0.00**	**€ 9.14**	**€ 13.65**	**€ 0.00**	**€ 564.91**
Investments (available for sale to cover demand deposits)											
A4 Financial assets designated at fair value through profit or loss[3]	€ 4,710.28	€ 0.40	€ 1.76		€ 0.39	€ 0.43		€ 5.39	€ 0.87		€ 4,701.04
A5 Available-for-sale financial assets	€ 65.83	€ 1.22	€ 16.68		€ 1.22	€ 0.09		€ 38.93	€ 7.69		
Total Investments	**€ 4,776.11**	**€ 1.62**	**€ 18.44**	**€ 0.00**	**€ 1.61**	**€ 0.52**	**€ 0.00**	**€ 44.32**	**€ 8.56**	**€ 0.00**	**€ 4,701.04**
Loans											
A6 Loans and receivables (including finance leases)	€ 436.67	€ 30.82	€ 102.27		€ 15.35	€ 19.44		€ 215.69	€ 53.10		
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 4,817.13	€ 0.09	€ 0.86	609.17	€ 5.20	(€ 0.46)	€ 76.63	(€ 2.44)	(€ 0.29)	€ 0.00	€ 4,128.37
A12 Total loans and advances	**€ 5,253.80**	**€ 30.91**	**€ 103.13**	**€ 609.17**	**€ 20.55**	**€ 18.98**	**€ 76.63**	**€ 213.25**	**€ 52.81**	**€ 0.00**	**€ 4,128.37**
Other Assets											
A2 Financial assets held for trading, net of [A3] Derivatives	€ 2,245.21	€ 0.65	€ 5.57		€ 0.19	€ 0.13		€ 5.83	€ 1.11		€ 2,231.73
A3 Derivatives held for trading	€ 3,045.59	€ 0.10	€ 4.93		€ 0.10	€ 0.16		€ 4.63	€ 0.18		€ 3,035.49
A7 Held-to-maturity investments[4]	€ 28.69	€ 0.84	€ 14.83		€ 1.25	€ 0.47		€ 6.75	€ 4.55		
A8 Derivatives – Hedge accounting	€ 36.75	-	€ 1.33		-	-		€ 0.42	€ 0.01		€ 34.99
A9 Tangible and intangible assets	€ 139.45	€ 0.81	€ 2.31	€ 8.48	€ 0.52	€ 0.16		€ 4.61	€ 1.93		€ 120.63
A10 Intangible assets	€ 71.57	€ 0.10	€ 0.77	€ 4.41	€ 0.03	€ 0.05		€ 1.67	€ 0.34		€ 64.20
A11 Investments in associates, subsidiaries and joint ventures	€ 47.41	€ 0.15	€ 0.17	€ 13.31	€ 0.06	€ 0.17		€ 1.26	€ 0.05		€ 32.24
A_ Other assets unknown (plug figure to balance total assets)[1]	(€ 1,837.36)	€ 0.15	(€ 0.33)	€ 275.94	€ 0.05	€ 0.70	€ 32.91	€ 5.21	€ 0.75	€ 1,618.22	(€ 3,770.96)
Total Other Assets	**€ 3,777.31**	**€ 2.80**	**€ 29.58**	**€ 302.14**	**€ 2.20**	**€ 1.84**	**€ 32.91**	**€ 30.38**	**€ 8.92**	**€ 1,618.22**	**€ 1,748.32**
A15 Total assets [full sample]	**€ 14,428.03**	**€ 39.22**	**€ 167.79**	**€ 919.74**	**€ 26.20**	**€ 23.65**	**€ 109.54**	**€ 297.09**	**€ 83.94**	**€ 1,618.22**	**€ 11,142.64**

LIABILITIES & EQUITY	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 848.33	€ 5.00	€ 15.62	€ 106.21	€ 7.24	€ 5.61	€ 24.51	€ 23.92	€ 19.49		€ 640.73
L10 Total deposits (other than from credit institutions)	€ 4,266.77	€ 27.18	€ 117.04	€ 227.57	€ 15.17	€ 12.45	€ 61.21	€ 180.28	€ 46.08		€ 3,579.79
Total Deposits	**€ 5,115.10**	**€ 32.18**	**€ 132.66**	**€ 333.78**	**€ 22.41**	**€ 18.06**	**€ 85.72**	**€ 204.20**	**€ 65.57**	**€ 0.00**	**€ 4,220.52**
Debt/Borrowing											
L11 Total debt certificates (including bonds)	€ 2,558.23	€ 0.26	€ 10.36	€ 292.76	€ 0.14	€ 0.33	€ 5.65	€ 10.98	€ 0.74		€ 2,237.01
Total Debt/Borrowing	**€ 2,558.23**	**€ 0.26**	**€ 10.36**	**€ 292.76**	**€ 0.14**	**€ 0.33**	**€ 5.65**	**€ 10.98**	**€ 0.74**	**€ 0.00**	**€ 2,237.01**
Other Liabilities (Non-Deposit/Non- Debt)											
L_ Other Liabilities (Non-Deposit/Non-Debt) (plug to bal. liabilities)[1]	€ 6,030.67	€ 1.50	€ 10.56	€ 249.64	€ 1.20	€ 3.17	€ 9.73	€ 51.91	€ 9.22	€ 1,551.19	€ 4,142.55
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 6,030.67**	**€ 1.50**	**€ 10.56**	**€ 249.64**	**€ 1.20**	**€ 3.17**	**€ 9.73**	**€ 51.91**	**€ 9.22**	**€ 1,551.19**	**€ 4,142.55**
L12 Total liabilities [full sample]	**€ 13,704.00**	**€ 33.94**	**€ 153.58**	**€ 876.18**	**€ 23.75**	**€ 21.56**	**€ 101.10**	**€ 267.09**	**€ 75.53**	**€ 1,551.19**	**€ 10,600.08**
Equity											
E1 Total equity	€ 724.04	€ 5.28	€ 14.21	€ 43.56	€ 2.45	€ 2.09	€ 8.44	€ 30.00	€ 8.41	€ 67.03	€ 542.57
Total Equity	**€ 724.04**	**€ 5.28**	**€ 14.21**	**€ 43.56**	**€ 2.45**	**€ 2.09**	**€ 8.44**	**€ 30.00**	**€ 8.41**	**€ 67.03**	**€ 542.57**
% Equity to Total Assets	5.0%	13.5%	8.5%	4.7%	9.4%	8.8%	7.7%	10.1%	10.0%	4.1%	4.9%
Total Liabilities & Equity ([L12]+[E1])	**€ 14,428.04**	**€ 39.22**	**€ 167.79**	**€ 919.74**	**€ 26.20**	**€ 23.65**	**€ 109.54**	**€ 297.09**	**€ 83.94**	**€ 1,618.22**	**€ 11,142.65**

Deposit Funding Analysis	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
% Deposit Reserve Est.([Total Cash] ÷ [Total Deposits])	12.1%	12.1%	12.5%	2.5%	8.2%	12.8%	0.0%	4.5%	20.8%	N.A.	13.4%
% Deposits to Total Assets (Est.)	35.5%	82.0%	79.1%	36.3%	85.5%	76.4%	78.3%	68.7%	78.1%	0.0%	37.9%
% Deposit Shortage to Total Assets ([Bank Note] ÷ [Total Assets])	5.3%	68.0%	58.2%	35.4%	72.4%	64.4%	78.3%	50.7%	51.7%	0.0%	0.0%

Monetary Bank Note to Domestic Sovereign Governments to cover fractional reserve cash shortage to fund deposits 100%[a]	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
(as of December 31, 2011) Total Deposits [L9+L10]	€ 5,115.10	€ 32.18	€ 132.66	€ 333.78	€ 22.41	€ 18.06	€ 85.72	€ 204.20	€ 65.57	€ 0.00	€ 4,220.52
Less: Cash and cash balances with central banks [A1]	(€ 620.81)	(€ 3.89)	(€ 16.64)	(€ 8.43)	(€ 1.84)	(€ 2.31)	€ 0.00	(€ 9.14)	(€ 13.65)	€ 0.00	(€ 564.91)
Less: Investments (available for sale [A4+A5])	(€ 3,730.68)	(€ 1.62)	(€ 18.44)	€ 0.00	(€ 1.61)	(€ 0.52)	€ 0.00	(€ 44.32)	(€ 8.56)	€ 0.00	(€ 3,655.61)
Bank note to gov't to cover fractional reserve deposit cash shortage[a]	**€ 763.61**	**€ 26.67**	**€ 97.58**	**€ 325.35**	**€ 18.96**	**€ 15.23**	**€ 85.72**	**€ 150.74**	**€ 43.36**	**€ 0.00**	**€ 0.00**

Notes

1-ECB Consolidated banking data - Reference period: end-2011 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 10 countries in the EU not using the Euro. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2011 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 10 countries not using Euro in the EU.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

1-ECB: European Central Bank Eurosystem Consolidated banking data / Reference period: end-2011 Table 11a (all banks; EUR billions) From Source: FSC (Financial Stability Board) at http://www.ecb.int/stats/money/consolidated/html/index.en.html **Blank cells indicate missing data.**

Supplement 2(b)

European Central Bank Monetary Intermediation Cost

EU Non-eurozone (10) Banks Consolidated Balance Sheet Estimate[1] - Step 1 Conversion to 100% Deposit Reserves

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	Country	1	2	3	4	5	6	7	8	9	10
European Union (EU) Member State Protocol Order	**Native**	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EU NEZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
Domestic credit institutions	986	8	6	108	12	4	142	588	7	20	91
Foreign-controlled subsidiaries and branches	295	23	33	5	16	15	30	52	32	3	86
Total Credit Institutions	**1,281**	**31**	**39**	**113**	**28**	**19**	**172**	**640**	**39**	**23**	**177**

ASSETS	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 620.81	€ 3.89	€ 16.64	€ 8.43	€ 1.84	€ 2.31		€ 9.14	€ 13.65		€ 564.91
Cash from Bonded Debt to Domestic Sovereign Government[5]	**€ 763.61**	**€ 26.67**	**€ 97.58**	**€ 325.35**	**€ 18.96**	**€ 15.23**	**€ 85.72**	**€ 150.74**	**€ 43.36**	**€ 0.00**	**€ 0.00**
Investments (sold for cash to cover deposits)											
A4 Financial assets designated at fair value through profit or loss[3]	€ 4,710.28	€ 0.40	€ 1.76		€ 0.39	€ 0.43		€ 5.39	€ 0.87		€ 4,701.04
A5 Available-for-sale financial assets	€ 65.83	€ 1.22	€ 16.68		€ 1.22	€ 0.09		€ 38.93	€ 7.69		
Total Cash	**€ 6,160.53**	**€ 32.18**	**€ 132.66**	**€ 333.78**	**€ 22.41**	**€ 18.06**	**€ 85.72**	**€ 204.20**	**€ 65.57**	**€ 0.00**	**€ 5,265.95**
Loans											
A6 Loans and receivables (including finance leases)	€ 436.67	€ 30.82	€ 102.27		€ 15.35	€ 19.44		€ 215.69	€ 53.10		
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 4,817.13	€ 0.09	€ 0.86	€ 609.17	€ 5.20	(€ 0.46)	€ 76.63	(€ 2.44)	(€ 0.29)	€ 0.00	€ 4,128.37
A12 Total loans and advances	**€ 5,253.80**	**€ 30.91**	**€ 103.13**	**€ 609.17**	**€ 20.55**	**€ 18.98**	**€ 76.63**	**€ 213.25**	**€ 52.81**	**€ 0.00**	**€ 4,128.37**
Other Assets											
A2 Financial assets held for trading, net of [A3] Derivatives	€ 2,245.21	€ 0.65	€ 5.57	€ 0.00	€ 0.19	€ 0.13	€ 0.00	€ 5.83	€ 1.11	€ 0.00	€ 2,231.73
A3 Derivatives held for trading	€ 3,045.59	€ 0.10	€ 4.93		€ 0.10	€ 0.16		€ 4.63	€ 0.18		€ 3,035.49
A7 Held-to-maturity investments[4]	€ 28.69	€ 0.84	€ 14.83		€ 1.25	€ 0.47		€ 6.75	€ 4.55		
A8 Derivatives – Hedge accounting	€ 36.75	-	€ 1.33		-	-		€ 0.42	€ 0.01		€ 34.99
A9 Tangible and intangible assets	€ 139.45	€ 0.81	€ 2.31	€ 8.48	€ 0.52	€ 0.16		€ 4.61	€ 1.93		€ 120.63
A10 Intangible assets	€ 71.57	€ 0.10	€ 0.77	€ 4.41	€ 0.03	€ 0.05		€ 1.67	€ 0.34		€ 64.20
A11 Investments in associates, subsidiaries and joint ventures	€ 47.41	€ 0.15	€ 0.17	€ 13.31	€ 0.06	€ 0.17		€ 1.26	€ 0.05		€ 32.24
A_ Other assets unknown (plug figure to balance total assets)[1]	(€ 1,837.36)	€ 0.15	(€ 0.33)	€ 275.94	€ 0.05	€ 0.70	€ 32.91	€ 5.21	€ 0.75	€ 1,618.22	(€ 3,770.96)
Total Other Assets	**€ 3,777.31**	**€ 2.80**	**€ 29.58**	**€ 302.14**	**€ 2.20**	**€ 1.84**	**€ 32.91**	**€ 30.38**	**€ 8.92**	**€ 1,618.22**	**€ 1,748.32**
A15 Total assets [full sample]	**€ 15,191.64**	**€ 65.89**	**€ 265.37**	**€ 1,245.09**	**€ 45.16**	**€ 38.88**	**€ 195.26**	**€ 447.83**	**€ 127.30**	**€ 1,618.22**	**€ 11,142.64**

LIABILITIES & EQUITY	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 848.33	€ 5.00	€ 15.62	€ 106.21	€ 7.24	€ 5.61	€ 24.51	€ 23.92	€ 19.49		€ 640.73
L10 Total deposits (other than from credit institutions)	€ 4,266.77	€ 27.18	€ 117.04	€ 227.57	€ 15.17	€ 12.45	€ 61.21	€ 180.28	€ 46.08		€ 3,579.79
Total Deposits	**€ 5,115.10**	**€ 32.18**	**€ 132.66**	**€ 333.78**	**€ 22.41**	**€ 18.06**	**€ 85.72**	**€ 204.20**	**€ 65.57**	**€ 0.00**	**€ 4,220.52**
Debt/Borrowing											
L11 Total debt certificates (including bonds)	€ 2,558.23	€ 0.26	€ 10.36	€ 292.76	€ 0.14	€ 0.33	€ 5.65	€ 10.98	€ 0.74		€ 2,237.01
Bonded Monetary Debt to Domestic Sovereign Government[5]	**€ 763.61**	**€ 26.67**	**€ 97.58**	**€ 325.35**	**€ 18.96**	**€ 15.23**	**€ 85.72**	**€ 150.74**	**€ 43.36**	**€ 0.00**	**€ 0.00**
Total Debt/Borrowing	**€ 3,321.84**	**€ 26.93**	**€ 107.94**	**€ 618.11**	**€ 19.10**	**€ 15.56**	**€ 91.37**	**€ 161.72**	**€ 44.10**	**€ 0.00**	**€ 2,237.01**
Other Liabilities (Non-Deposit/Non- Debt)											
L_ Other Liabilities (Non-Deposit/Non-Debt)(plug to bal. liabilities)[1]	€ 6,030.67	€ 1.50	€ 10.56	€ 249.64	€ 1.20	€ 3.17	€ 9.73	€ 51.91	€ 9.22	€ 1,551.19	€ 4,142.55
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 6,030.67**	**€ 1.50**	**€ 10.56**	**€ 249.64**	**€ 1.20**	**€ 3.17**	**€ 9.73**	**€ 51.91**	**€ 9.22**	**€ 1,551.19**	**€ 4,142.55**
L12 Total liabilities [full sample]	**€ 14,467.61**	**€ 60.61**	**€ 251.16**	**€ 1,201.53**	**€ 42.71**	**€ 36.79**	**€ 186.82**	**€ 417.83**	**€ 118.89**	**€ 1,551.19**	**€ 10,600.08**
Equity											
E1 Total equity	€ 724.04	€ 5.28	€ 14.21	€ 43.56	€ 2.45	€ 2.09	€ 8.44	€ 30.00	€ 8.41	€ 67.03	€ 542.57
Total Equity	**€ 724.04**	**€ 5.28**	**€ 14.21**	**€ 43.56**	**€ 2.45**	**€ 2.09**	**€ 8.44**	**€ 30.00**	**€ 8.41**	**€ 67.03**	**€ 542.57**
% Equity to Total Assets	4.8%	8.0%	5.4%	3.5%	5.4%	5.4%	4.3%	6.7%	6.6%	4.1%	4.9%
Total Liabilities & Equity ([L12]+[E1])	**€ 15,191.65**	**€ 65.89**	**€ 265.37**	**€ 1,245.09**	**€ 45.16**	**€ 38.88**	**€ 195.26**	**€ 447.83**	**€ 127.30**	**€ 1,618.22**	**€ 11,142.65**

Deposit Funding Analysis	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
December 31, 2011	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Total Deposits [L9+L10]	€ 5,115.10	€ 32.18	€ 132.66	€ 333.78	€ 22.41	€ 18.06	€ 85.72	€ 204.20	€ 65.57	€ 0.00	€ 4,220.52
Less: Total Cash Assets	(6,160.53)	(€ 32.18)	(€ 132.66)	(€ 333.78)	(€ 22.41)	(€ 18.06)	(85.72)	(204.20)	(65.57)	€ 0.00	(€ 5,265.95)
Shortage/(Surplus)	(€ 1,045.43)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	(€ 1,045.43)
Deposit Funding Percentage	120.4%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	124.8%
% Deposits to Total Assets (Est.)	33.7%	48.8%	50.0%	26.8%	49.6%	46.5%	43.9%	45.6%	51.5%	0.0%	37.9%

Notes

1-ECB Consolidated banking data - Reference period: end-2011 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 10 countries in the EU not using the Euro. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2011 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 10 countries not using Euro in the EU.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

1-ECB: European Central Bank Eurosystem Consolidated banking data / Reference period: end-2011 Table 11a (all banks; EUR billions) From Source: FSC (Financial Stability Board) at http://www.ecb.int/stats/money/consolidated/html/index.en.html **Blank cells indicate missing data.**

Supplement 2(c)

European Central Bank Monetary Intermediation Cost

EU Non-eurozone (10) Banks Consolidated Balance Sheet Estimate[1] - Step 2(a) Split Portion to Depositor owned Depositories

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	**Country**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
European Union (EU) Member State Protocol Order	**Native**	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**[6]	**United Kingdom**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EU NEZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
Domestic credit institutions	986	8	6	108	12	4	142	588	7	20	91
Foreign-controlled subsidiaries and branches	295	23	33	5	16	15	30	52	32	3	86
Total Credit Institutions	**1,281**	**31**	**39**	**113**	**28**	**19**	**172**	**640**	**39**	**23**	**177**

ASSETS	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**6	**United Kingdom**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 620.81	€ 3.89	€ 16.64	€ 8.43	€ 1.84	€ 2.31		€ 9.14	€ 13.65		€ 564.91
Cash from Bonded Debt to Domestic Sovereign Government[a]	**€ 763.61**	**€ 26.67**	**€ 97.58**	**€ 325.35**	**€ 18.96**	**€ 15.23**	**€ 85.72**	**€ 150.74**	**€ 43.36**	**€ 0.00**	**€ 0.00**
Investments (sold for cash to cover deposits)											
A4 Financial assets designated at fair value through profit or loss[3]	€ 3,664.85	€ 0.40	€ 1.76		€ 0.39	€ 0.43		€ 5.39	€ 0.87		€ 3,655.61
A5 Available-for-sale financial assets	€ 65.83	€ 1.22	€ 16.68		€ 1.22	€ 0.09		€ 38.93	€ 7.69		
Total Cash	**€ 5,115.10**	**€ 32.18**	**€ 132.66**	**€ 333.78**	**€ 22.41**	**€ 18.06**	**€ 85.72**	**€ 204.20**	**€ 65.57**	**€ 0.00**	**€ 4,220.52**
Loans											
A6 Loans and receivables (including finance leases)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A12 Total loans and advances	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Other Assets											
A2 Financial assets held for trading, net of [A3] Derivatives	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A3 Derivatives held for trading	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A7 Held-to-maturity investments[4]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A8 Derivatives – Hedge accounting	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A9 Tangible and intangible assets (to depositories for start-up)[5]	€ 69.73	€ 0.41	€ 1.16	€ 4.24	€ 0.26	€ 0.08		€ 2.31	€ 0.97		€ 60.32
A10 Intangible assets	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A11 Investments in associates, subsidiaries and joint ventures	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
A_ Other assets unknown (plug figure to balance total assets)[1]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Other Assets	**€ 69.73**	**€ 0.41**	**€ 1.16**	**€ 4.24**	**€ 0.26**	**€ 0.08**	**€ 0.00**	**€ 2.31**	**€ 0.97**	**€ 0.00**	**€ 60.32**
A15 Total assets [full sample]	**€ 5,184.83**	**€ 32.59**	**€ 133.82**	**€ 338.02**	**€ 22.67**	**€ 18.14**	**€ 85.72**	**€ 206.51**	**€ 66.54**	**€ 0.00**	**€ 4,280.84**

LIABILITIES & EQUITY	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**6	**United Kingdom**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 848.33	€ 5.00	€ 15.62	€ 106.21	€ 7.24	€ 5.61	€ 24.51	€ 23.92	€ 19.49		€ 640.73
L10 Total deposits (other than from credit institutions)	€ 4,266.77	€ 27.18	€ 117.04	€ 227.57	€ 15.17	€ 12.45	€ 61.21	€ 180.28	€ 46.08		€ 3,579.79
Total Deposits	**€ 5,115.10**	**€ 32.18**	**€ 132.66**	**€ 333.78**	**€ 22.41**	**€ 18.06**	**€ 85.72**	**€ 204.20**	**€ 65.57**	**€ 0.00**	**€ 4,220.52**
Debt/Borrowing											
L11 Total debt certificates(including bonds)(for A9 start-up assets)[5]	€ 69.73	€ 0.41	€ 1.16	€ 4.24	€ 0.26	€ 0.08		€ 2.31	€ 0.97		€ 60.32
Bonded Monetary Debt to Domestic Sovereign Government[a]	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Total Debt/Borrowing	**€ 69.73**	**€ 0.41**	**€ 1.16**	**€ 4.24**	**€ 0.26**	**€ 0.08**	**€ 0.00**	**€ 2.31**	**€ 0.97**	**€ 0.00**	**€ 60.32**
Other Liabilities (Non-Deposit/Non- Debt)											
L_ Other Liabilities (Non-Deposit/Non-Debt)(plug to bal. liabilities)[1]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
L12 Total liabilities [full sample]	**€ 5,184.83**	**€ 32.59**	**€ 133.82**	**€ 338.02**	**€ 22.67**	**€ 18.14**	**€ 85.72**	**€ 206.51**	**€ 66.54**	**€ 0.00**	**€ 4,280.84**
Equity											
E1 Total equity	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Equity	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
% Equity to Total Assets	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N.A.	0.0%
Total Liabilities & Equity ([L12]+[E1])	**€ 5,184.83**	**€ 32.59**	**€ 133.82**	**€ 338.02**	**€ 22.67**	**€ 18.14**	**€ 85.72**	**€ 206.51**	**€ 66.54**	**€ 0.00**	**€ 4,280.84**

Deposit Funding Analysis	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**[6]	**United Kingdom**
December 31, 2011	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Total Deposits [L9+L10]	€ 5,115.10	€ 32.18	€ 132.66	€ 333.78	€ 22.41	€ 18.06	€ 85.72	€ 204.20	€ 65.57	€ 0.00	€ 4,220.52
Less: Total Cash Assets	(5,115.10)	(€ 32.18)	(€ 132.66)	(€ 333.78)	(€ 22.41)	(€ 18.06)	(85.72)	(204.20)	(65.57)	€ 0.00	(€ 4,220.52)
Shortage/(Surplus)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Deposit Funding Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%
% Deposits to Total Assets (Est.)	98.7%	98.8%	99.1%	98.7%	98.9%	99.6%	100.0%	98.9%	98.5%	N.A.	98.6%

Notes

1-ECB Consolidated banking data - Reference period: end-2011 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 10 countries in the EU not using the Euro. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2011 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 10 countries not using Euro in the EU.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

5-Start-up for depository locations and FF&E estimated % of A9 Tangible & intangible assets 50.0% Also assigned depositories matching amount of bank L11 Total debt certificates, reducing remaining commercial bank debt by matching amount.

6-Sweden deposit data not reported.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

1-ECB: European Central Bank Eurosystem Consolidated banking data / Reference period: end-2011 Table 11a (all banks; EUR billions) From Source: FSC (Financial Stability Board) at
http://www.ecb.int/stats/money/consolidated/html/index.en.html **Blank cells indicate missing data.**

Supplement 2(d)

European Central Bank Monetary Intermediation Cost

EU Non-eurozone (10) Banks Consolidated Balance Sheet Estimate[1] - Step 2(b) Split Portion to Remaining Commercial Bank Operations

Table 11a (all banks [Domestic and Foreign]; EUR billions)

December 31, 2011	**Country**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
European Union (EU) Member State Protocol Order	**Native**	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Number of credit institutions (by Origin)[2,a] - Table 8	**Total EU NEZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
Domestic credit institutions	986	8	6	108	12	4	142	588	7	20	91
Foreign-controlled subsidiaries and branches	295	23	33	5	16	15	30	52	32	3	86
Total Credit Institutions	**1,281**	**31**	**39**	**113**	**28**	**19**	**172**	**640**	**39**	**23**	**177**

ASSETS	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Cash	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
A1 Cash and cash balances with central banks	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Cash from Bonded Debt to Domestic Sovereign Government[a]	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Investments (sold for cash to cover deposits)											
A4 Financial assets designated at fair value through profit or loss[3]	€ 1,045.43	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 1,045.43
A5 Available-for-sale financial assets	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	
Total Cash	**€ 1,045.43**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 1,045.43**
Loans											
A6 Loans and receivables (including finance leases)	€ 436.67	€ 30.82	€ 102.27		€ 15.35	€ 19.44		€ 215.69	€ 53.10		
A6 Loans and receivables other (plug figure to balance total loans)[1]	€ 4,817.13	€ 0.09	€ 0.86	€ 609.17	€ 5.20	(€ 0.46)	€ 76.63	(€ 2.44)	(€ 0.29)	€ 0.00	€ 4,128.37
A12 Total loans and advances	**€ 5,253.80**	**€ 30.91**	**€ 103.13**	**€ 609.17**	**€ 20.55**	**€ 18.98**	**€ 76.63**	**€ 213.25**	**€ 52.81**	**€ 0.00**	**€ 4,128.37**
Other Assets											
A2 Financial assets held for trading, net of [A3] Derivatives	€ 2,245.21	€ 0.65	€ 5.57	€ 0.00	€ 0.19	€ 0.13	€ 0.00	€ 5.83	€ 1.11	€ 0.00	€ 2,231.73
A3 Derivatives held for trading	€ 3,045.59	€ 0.10	€ 4.93		€ 0.10	€ 0.16		€ 4.63	€ 0.18		€ 3,035.49
A7 Held-to-maturity investments[4]	€ 28.69	€ 0.84	€ 14.83		€ 1.25	€ 0.47		€ 6.75	€ 4.55		
A8 Derivatives – Hedge accounting	€ 36.75	-	€ 1.33		-	-		€ 0.42	€ 0.01		€ 34.99
A9 Tangible and intangible assets (remaining not to depositories)[5]	€ 69.73	€ 0.41	€ 1.16	€ 4.24	€ 0.26	€ 0.08	€ 0.00	€ 2.31	€ 0.97	€ 0.00	€ 60.32
A10 Intangible assets	€ 71.57	€ 0.10	€ 0.77	€ 4.41	€ 0.03	€ 0.05		€ 1.67	€ 0.34		€ 64.20
A11 Investments in associates, subsidiaries and joint ventures	€ 47.41	€ 0.15	€ 0.17	€ 13.31	€ 0.06	€ 0.17		€ 1.26	€ 0.05		€ 32.24
A_ Other assets unknown (plug figure to balance total assets)[1]	(€ 1,837.36)	€ 0.15	(€ 0.33)	€ 275.94	€ 0.05	€ 0.70	€ 32.91	€ 5.21	€ 0.75	€ 1,618.22	(€ 3,770.96)
Total Other Assets	**€ 3,707.59**	**€ 2.40**	**€ 28.43**	**€ 297.90**	**€ 1.94**	**€ 1.76**	**€ 32.91**	**€ 28.08**	**€ 7.95**	**€ 1,618.22**	**€ 1,688.01**
A15 Total assets [full sample]	**€ 10,006.82**	**€ 33.31**	**€ 131.56**	**€ 907.07**	**€ 22.49**	**€ 20.74**	**€ 109.54**	**€ 241.33**	**€ 60.77**	**€ 1,618.22**	**€ 6,861.81**

LIABILITIES & EQUITY	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Deposits (Assume/Treat as all demand deposits)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
L9 Total deposits from credit institutions	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
L10 Total deposits (other than from credit institutions)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total Deposits	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Debt/Borrowing											
L11 Total debt certificates (including bonds)	€ 2,558.23	€ 0.26	€ 10.36	€ 292.76	€ 0.14	€ 0.33	€ 5.65	€ 10.98	€ 0.74		€ 2,237.01
Less:A9 Tangible and intangible assets (to depositories for start-up)[5]	(€ 69.73)	(€ 0.41)	(€ 1.16)	(€ 4.24)	(€ 0.26)	(€ 0.08)	€ 0.00	(€ 2.31)	(€ 0.97)	€ 0.00	(€ 60.32)
Bonded Monetary Debt to Domestic Sovereign Government[a]	**€ 763.61**	**€ 26.67**	**€ 97.58**	**€ 325.35**	**€ 18.96**	**€ 15.23**	**€ 85.72**	**€ 150.74**	**€ 43.36**	**€ 0.00**	**€ 0.00**
Total Debt/Borrowing	**€ 3,252.12**	**€ 26.53**	**€ 106.79**	**€ 613.87**	**€ 18.84**	**€ 15.48**	**€ 91.37**	**€ 159.42**	**€ 43.14**	**€ 0.00**	**€ 2,176.70**
Other Liabilities (Non-Deposit/Non- Debt)											
L_ Other Liabilities (Non-Deposit/Non-Debt)(plug to bal. liabilities)[1]	€ 6,030.67	€ 1.50	€ 10.56	€ 249.64	€ 1.20	€ 3.17	€ 9.73	€ 51.91	€ 9.22	€ 1,551.19	€ 4,142.55
Total Other Liabilities (Non-Deposit/Non-Debt)	**€ 6,030.67**	**€ 1.50**	**€ 10.56**	**€ 249.64**	**€ 1.20**	**€ 3.17**	**€ 9.73**	**€ 51.91**	**€ 9.22**	**€ 1,551.19**	**€ 4,142.55**
L12 Total liabilities [full sample]	**€ 9,282.79**	**€ 28.03**	**€ 117.35**	**€ 863.51**	**€ 20.04**	**€ 18.65**	**€ 101.10**	**€ 211.33**	**€ 52.36**	**€ 1,551.19**	**€ 6,319.25**
Equity											
E1 Total equity	€ 724.04	€ 5.28	€ 14.21	€ 43.56	€ 2.45	€ 2.09	€ 8.44	€ 30.00	€ 8.41	€ 67.03	€ 542.57
Total Equity	**€ 724.04**	**€ 5.28**	**€ 14.21**	**€ 43.56**	**€ 2.45**	**€ 2.09**	**€ 8.44**	**€ 30.00**	**€ 8.41**	**€ 67.03**	**€ 542.57**
% Equity to Total Assets	7.2%	15.9%	10.8%	4.8%	10.9%	10.1%	7.7%	12.4%	13.8%	4.1%	7.9%
Total Liabilities & Equity ([L12]+[E1])	**€ 10,006.83**	**€ 33.31**	**€ 131.56**	**€ 907.07**	**€ 22.49**	**€ 20.74**	**€ 109.54**	**€ 241.33**	**€ 60.77**	**€ 1,618.22**	**€ 6,861.82**

Deposit Funding Analysis	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
December 31, 2011	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Total Deposits [L9+L10]	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Less: Total Cash Assets	(1,045.43)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	(€ 1,045.43)
Shortage/(Surplus)	(€ 1,045.43)	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	(€ 1,045.43)
% Deposits to Total Assets (Est.)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes

1-ECB Consolidated banking data - Reference period: end-2011 - Table 11a - Country-level indicators: selected balance sheet items, used to prepare this spreadsheet. Original Table 11a contains selected banking data for all 27 countries in the EU (summarized in Table 4) which was reduced to the 10 countries in the EU not using the Euro. Table 11a - Country-level indicators: selected balance sheet items, does not provide complete banking balance sheet data so three plug figures were used for missing data to balance asset and liabilities totals that were provided. The key items of cash, investments and deposits were provided which should provide a good estimate of bank's 100% conversion loan from sovereign nations.

2-ECB Consolidated banking data - Reference period: end-2011 - Table 8 - Country-level indicators: consolidated banking data reporting population. Table 8 banking data reduced to 10 countries not using Euro in the EU.

3-It may be possible that some [A4] Financial assets designated at fair value through profit or loss, if it is Eurozone sovereign debt, could be revalued up and redeemed at par for conversion to 100% demand deposit funding, reducing the bank note needed.

4-Held to maturity investments, if sovereign government debt, should be redeemable at par and retired for conversion to 100% demand deposits, since would reduce debt bank would need to borrow from sovereign to fund demand deposits.

5-Start-up for depository locations and FF&E estimated % of A9 Tangible & intangible assets at 50.0% Also assigned depositories matching amount of bank L11 Total debt certificates, reducing remaining commercial bank debt by matching amount.

a-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposit

Source:

1-ECB: European Central Bank Eurosystem Consolidated banking data / Reference period: end-2011 Table 11a (all banks; EUR billions) From Source: FSC (Financial Stability Board) at
http://www.ecb.int/stats/money/consolidated/html/index.en.html **Blank cells indicate missing data.**

Supplement 3(a)

European Central Bank Monetary Intermediation Cost

EU Non-eurozone (10) Central Governments Consolidated Balance Sheets - Before Bank Conversion

December 31, 2011

European Union (EU) Member State Protocol Order	Country	1	2	3	4	5	6	7	8	9	10
	Native	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
ASSETS	**Total EU Non-EZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
Current Assets	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F1 Monetary gold and special drawing rights (SDRs)	23,158.65		0.00	0.00	113.04		0.00		0.00	0.00	23,045.61
F2 Currency and deposits (assets)	146,911.89	2,753.35	6,524.92	31,845.52	1,078.64	796.37	4,840.45	5,168.46	4,347.62	5,470.60	84,085.96
F331 Short-term-Securities other than shares, ex. financial derivatives	14,651.90	0.00	18.58	0.00	0.50	0.00	2.05	95.11	0.00	122.87	14,412.79
F41 Short-term - Loans (assets)	3,005.13	55.73	0.97	910.93	2.52	8.14	327.57	1,510.09	0.00	189.18	0.00
Total Current Assets	**187,727.57**	**2,809.08**	**6,544.47**	**32,756.45**	**1,194.70**	**804.51**	**5,170.07**	**6,773.66**	**4,347.62**	**5,782.65**	**121,544.36**
Long-term Assets											
F332 Long-term-Securities other than shares, ex. financial derivatives	55,167.58	0.00	46.85	12,846.30	0.00	0.00	176.13	306.86	0.00	4,300.72	37,490.72
F42 Long-term - Loans (assets)	192,636.40	490.34	1,328.15	17,687.04	1,511.38	2,744.30	865.65	6,110.81	1,952.72	33,300.49	126,645.52
Total Long-term Assets	**247,803.98**	**490.34**	**1,375.00**	**30,533.34**	**1,511.38**	**2,744.30**	**1,041.78**	**6,417.67**	**1,952.72**	**37,601.21**	**164,136.24**
Other Assets											
F34 Financial derivatives (assets)	11,506.83	0.00	0.08	1,622.77	154.34	9.91	1,920.62	917.68	0.00	4,410.46	2,470.97
F5 Shares and other equity (assets)	294,392.36	4,141.53	23,876.41	26,443.87	1,774.81	3,708.05	13,301.73	48,620.23	19,296.78	60,831.01	92,397.94
F62 Prepayments insurance premiums&reserves for outstanding claims	137.21	10.74	16.52	16.95		2.07	3.00	87.93	0.00	0.00	0.00
F7 Other accounts receivable/payable (assets)	183,034.03	1,307.90	9,565.48	24,638.70	1,078.72	1,346.85	3,165.88	17,374.16	7,490.40	23,934.13	93,131.81
Total Other Assets	**489,070.43**	**5,460.17**	**33,458.49**	**52,722.29**	**3,007.87**	**5,066.88**	**18,391.23**	**67,000.00**	**26,787.18**	**89,175.60**	**188,000.72**
Total Assets (F_TOT)	**924,601.98**	**8,759.59**	**41,377.96**	**116,012.08**	**5,713.95**	**8,615.69**	**24,603.08**	**80,191.33**	**33,087.52**	**132,559.46**	**473,681.32**

LIABILITIES & EQUITY	**Total EU Non-EZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Current Liabilities	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F2 Currency and deposits (liabilities)	172,243.27		0.00	0.00	978.36	7.62	173.96	602.96	3,460.16	7,147.11	159,873.10
F331 Short-term-Securities other than shares, ex. financial derivatives	126,394.00	0.00	5,544.58	6,296.98	303.63	263.58	5,726.35	3,034.99	8,766.11	12,859.07	83,598.71
F41 Short-term - Loans (liabilities)	16,699.44	171.80	63.64	339.11	5.30	0.10	147.11	61.01	589.46	9,433.01	5,888.90
Total Current Liabilities	**315,336.71**	**171.80**	**5,608.22**	**6,636.09**	**1,287.29**	**271.30**	**6,047.42**	**3,698.96**	**12,815.73**	**29,439.19**	**249,360.71**
Long-term Liabilities											
F332 Long-term-Securities other than shares, ex. financial derivatives	1,991,434.45	4,087.84	48,884.24	102,597.99	1,921.36	10,273.12	41,753.33	160,242.49	15,696.39	111,918.09	1,494,059.60
F42 Long-term - Loans (liabilities)	72,189.17	1,937.83	3,644.20	1,445.35	5,490.80	1,184.20	18,426.15	18,857.78	15,394.67	204.22	5,603.97
Total Long-term Liabilities	**2,063,623.62**	**6,025.67**	**52,528.44**	**104,043.34**	**7,412.16**	**11,457.32**	**60,179.48**	**179,100.27**	**31,091.06**	**112,122.31**	**1,499,663.57**
Other Liabilities											
F34 Financial derivatives (liabilities)	4,091.19	63.91	516.81	0.00	93.99		482.47	0.00	16.02	338.08	2,579.91
F5 Shares and other equity (liabilities)	1,313.65	10.74	0.00		0.00		0.00		1,302.91		0.00
F61 Net equity households in life insurance reserves & pension res.	0.00		0.00	0.00			0.00		0.00	0.00	0.00
F7 Other accounts receivable/payable (liabilities)	76,976.44	2,205.75	5,418.35	10,719.78	532.43	1,133.79	5,093.94	15,968.60	4,406.79	8,505.27	22,991.74
Total Other Liabilities	**82,381.28**	**2,280.40**	**5,935.16**	**10,719.78**	**626.42**	**1,133.79**	**5,576.41**	**15,968.60**	**5,725.72**	**8,843.35**	**25,571.65**
Total Liabilities (F_TOT)	**2,461,341.61**	**8,477.87**	**64,071.82**	**121,399.21**	**9,325.87**	**12,862.41**	**71,803.31**	**198,767.83**	**49,632.51**	**150,404.85**	**1,774,595.93**
Equity											
BF90 Net Financial Assets (Total Assets - Total Liabilities)	(1,536,739.63)	281.73	(22,693.88)	(5,387.13)	(3,611.93)	(4,246.73)	(47,200.22)	(118,576.49)	(16,545.00)	(17,845.38)	(1,300,914.60)
BF90 Total Net Financial Assets	**(1,536,739.63)**	**281.73**	**(22,693.88)**	**(5,387.13)**	**(3,611.93)**	**(4,246.73)**	**(47,200.22)**	**(118,576.49)**	**(16,545.00)**	**(17,845.38)**	**(1,300,914.60)**
Total Liabilities & Equity (Total Assets Match)	**924,601.98**	**8,759.60**	**41,377.94**	**116,012.08**	**5,713.94**	**8,615.68**	**24,603.09**	**80,191.34**	**33,087.51**	**132,559.47**	**473,681.33**
Equity to Assets Ratio	-166.2%	3.2%	-54.8%	-4.6%	-63.2%	-49.3%	-191.8%	-147.9%	-50.0%	-13.5%	-274.6%

Notes

1-Blank cell indicates data not available.

2-INDIC_NA Codes used for Asset and Liability line item identification.

Source

eurostat European Commission

Database / Government statistics (gov) / Quarterly government finance statistics (gov_q) / Quarterly financial accounts for general government (gov_q_ggfa) - then use select data - S1311 central government only

http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/database

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_q_ggfa&lang=en

Supplement 3(b)

European Central Bank Monetary Intermediation Cost

EU Non-eurozone (10) Central Governments Consolidated Balance Sheets - After Bank Conversion

December 31, 2011

European Union (EU) Member State Protocol Order	Country	1	2	3	4	5	6	7	8	9	10
	Native	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
ASSETS	**Total EU Non-EZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
Current Assets	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F1 Monetary gold and special drawing rights (SDRs)	23,158.65		0.00	0.00	113.04		0.00		0.00	0.00	23,045.61
F2 Currency and deposits (assets)	146,911.89	2,753.35	6,524.92	31,845.52	1,078.64	796.37	4,840.45	5,168.46	4,347.62	5,470.60	84,085.96
F331 Short-term-Securities other than shares, ex. financial derivatives	14,651.90	0.00	18.58	0.00	0.50	0.00	2.05	95.11	0.00	122.87	14,412.79
F41 Short-term - Loans (assets)	3,005.13	55.73	0.97	910.93	2.52	8.14	327.57	1,510.09	0.00	189.18	0.00
Total Current Assets	**187,727.57**	**2,809.08**	**6,544.47**	**32,756.45**	**1,194.70**	**804.51**	**5,170.07**	**6,773.66**	**4,347.62**	**5,782.65**	**121,544.36**
Long-term Assets											
F332 Long-term-Securities other than shares, ex. financial derivatives	55,167.58	0.00	46.85	12,846.30	0.00	0.00	176.13	306.86	0.00	4,300.72	37,490.72
F42 Long-term - Loans (assets)	192,636.40	490.34	1,328.15	17,687.04	1,511.38	2,744.30	865.65	6,110.81	1,952.72	33,300.49	126,645.52
Bonded Bank Debt to Domestic Sovereign Government[1]	**763,610.00**	**26,670.00**	**97,580.00**	**325,350.00**	**18,960.00**	**15,230.00**	**85,720.00**	**150,740.00**	**43,360.00**	**0.00**	**0.00**
Total Long-term Assets	**1,011,413.98**	**27,160.34**	**98,955.00**	**355,883.34**	**20,471.38**	**17,974.30**	**86,761.78**	**157,157.67**	**45,312.72**	**37,601.21**	**164,136.24**
Other Assets											
F34 Financial derivatives (assets)	11,506.83	0.00	0.08	1,622.77	154.34	9.91	1,920.62	917.68	0.00	4,410.46	2,470.97
F5 Shares and other equity (assets)	294,392.36	4,141.53	23,876.41	26,443.87	1,774.81	3,708.05	13,301.73	48,620.23	19,296.78	60,831.01	92,397.94
F62 Prepayments insurance premiums&reserves for outstanding claim	137.21	10.74	16.52	16.95		2.07	3.00	87.93	0.00	0.00	0.00
F7 Other accounts receivable/payable (assets)	183,034.03	1,307.90	9,565.48	24,638.70	1,078.72	1,346.85	3,165.88	17,374.16	7,490.40	23,934.13	93,131.81
Total Other Assets	**489,070.43**	**5,460.17**	**33,458.49**	**52,722.29**	**3,007.87**	**5,066.88**	**18,391.23**	**67,000.00**	**26,787.18**	**89,175.60**	**188,000.72**
Total Assets (F_TOT)	**1,688,211.98**	**35,429.59**	**138,957.96**	**441,362.08**	**24,673.95**	**23,845.69**	**110,323.08**	**230,931.33**	**76,447.52**	**132,559.46**	**473,681.32**
LIABILITIES & EQUITY	**Total EU Non-EZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Current Liabilities	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)	(€ Millions)
F2 Currency and deposits (liabilities)	172,243.27		0.00	0.00	978.36	7.62	173.96	602.96	3,460.16	7,147.11	159,873.10
F331 Short-term-Securities other than shares, ex. financial derivatives	126,394.00	0.00	5,544.58	6,296.98	303.63	263.58	5,726.35	3,034.99	8,766.11	12,859.07	83,598.71
F41 Short-term - Loans (liabilities)	16,699.44	171.80	63.64	339.11	5.30	0.10	147.11	61.01	589.46	9,433.01	5,888.90
Total Current Liabilities	**315,336.71**	**171.80**	**5,608.22**	**6,636.09**	**1,287.29**	**271.30**	**6,047.42**	**3,698.96**	**12,815.73**	**29,439.19**	**249,360.71**
Long-term Liabilities											
F332 Long-term-Securities other than shares, ex. financial derivatives	1,991,434.45	4,087.84	48,884.24	102,597.99	1,921.36	10,273.12	41,753.33	160,242.49	15,696.39	111,918.09	1,494,059.60
F42 Long-term - Loans (liabilities)	72,189.17	1,937.83	3,644.20	1,445.35	5,490.80	1,184.20	18,426.15	18,857.78	15,394.67	204.22	5,603.97
Total Long-term Liabilities	**2,063,623.62**	**6,025.67**	**52,528.44**	**104,043.34**	**7,412.16**	**11,457.32**	**60,179.48**	**179,100.27**	**31,091.06**	**112,122.31**	**1,499,663.57**
Other Liabilities											
F34 Financial derivatives (liabilities)	4,091.19	63.91	516.81	0.00	93.99		482.47	0.00	16.02	338.08	2,579.91
F5 Shares and other equity (liabilities)	1,313.65	10.74	0.00		0.00		0.00		1,302.91		0.00
F61 Net equity households in life insurance reserves & pension res.	0.00		0.00	0.00			0.00		0.00	0.00	0.00
F7 Other accounts receivable/payable (liabilities)	76,976.44	2,205.75	5,418.35	10,719.78	532.43	1,133.79	5,093.94	15,968.60	4,406.79	8,505.27	22,991.74
Total Other Liabilities	**82,381.28**	**2,280.40**	**5,935.16**	**10,719.78**	**626.42**	**1,133.79**	**5,576.41**	**15,968.60**	**5,725.72**	**8,843.35**	**25,571.65**
Total Liabilities (F_TOT)	**2,461,341.61**	**8,477.87**	**64,071.82**	**121,399.21**	**9,325.87**	**12,862.41**	**71,803.31**	**198,767.83**	**49,632.51**	**150,404.85**	**1,774,595.93**
Equity											
BF90 Net Financial Assets (Total Assets - Total Liabilities)	(773,129.63)	26,951.72	74,886.14	319,962.87	15,348.08	10,983.28	38,519.77	32,163.50	26,815.01	(17,845.39)	(1,300,914.61)
BF90 Total Net Financial Assets	**(773,129.63)**	**26,951.72**	**74,886.14**	**319,962.87**	**15,348.08**	**10,983.28**	**38,519.77**	**32,163.50**	**26,815.01**	**(17,845.39)**	**(1,300,914.61)**
Total Liabilities & Equity (Total Assets Match)	**1,688,211.98**	**35,429.59**	**138,957.96**	**441,362.08**	**24,673.95**	**23,845.69**	**110,323.08**	**230,931.33**	**76,447.52**	**132,559.46**	**473,681.32**
Equity to Assets Ratio	-45.8%	76.1%	53.9%	72.5%	62.2%	46.1%	34.9%	13.9%	35.1%	-13.5%	-274.6%

Notes

1-Assume country where deposits held benefits from 100% reserve conversion, not country of bank origin in case of foreign controlled bank holding deposits in domestic Eurozone country. Bank note likely overestimated since some deposits likely time deposits. Bank holdings of sovereign debt could also be credited and retired at par to reduce required bank borrowing.

2-Blank cell indicates data not available.

3-INDIC_NA Codes used for Asset and Liability line item identification.

Source

eurostat European Commission

Database / Government statistics (gov) / Quarterly government finance statistics (gov_q) / Quarterly financial accounts for general government (gov_q_ggfa) - then use select data - S1311 central government only

http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/database

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_q_ggfa&lang=en

Supplement 4(a)

European Central Bank Monetary Intermediation Cost

Conversion Economic Impact Intermediation Cost Summary

EU Non-eurozone (10) Member States

Assumptions

Economic Growth Rate (Est.) for Cap Rate		4.00%
Exchange Rate $1 U.S. Dollar to Euro	12/31/2011	€ 0.7717
New York Times 7/6/2009 Estimated Job Creation Cost ($)		$31,169
4-New York Times 7/6/2009 article $31,169 job creation cost converted to Euros (€)		€ 24,052
Capital Value per Job Est.		€ 750,000

December 31, 2011

	EU Non-eurozone (10) Country[1]			Intermediation Cost Average		Jobs Impact Estimates		
#	Native	English	Code	Annual[2] (A) (€ Billions)	Capitalized[3] (B) (€ Billions)	Annual =(A)/NYT Est[4]	Capitalized =(B)/€750000	Average =[(A)+(B)]/2
1	Bulgarija	Bulgaria	BG	€ 1.15	€ 28.83	47,950	38,443	43,196
2	Česká republika	Czech Republic	CZ	€ 5.41	€ 135.30	225,005	180,394	202,700
3	Danmark	Denmark	DK	€ 5.20	€ 130.05	216,274	173,394	194,834
4	Latvija	Latvia	LV	€ 0.76	€ 19.08	31,730	25,439	28,585
5	Lietuva	Lithuania	LT	€ 0.87	€ 21.86	36,347	29,141	32,744
6	Magyarország	Hungary	HU	€ 1.57	€ 39.25	65,281	52,338	58,810
7	Polska	Poland	PL	€ 3.66	€ 91.53	152,217	122,037	137,127
8	România	Romania	RO	€ 1.68	€ 41.96	69,779	55,944	62,862
9	Sverige	Sweden	SE	€ 6.50	€ 162.51	270,263	216,679	243,471
10	United Kingdom	United Kingdom	UK	€ 44.58	€ 1,114.49	1,853,466	1,485,986	1,669,726
			TOTAL	€ 71.39	€ 1,784.85	2,968,312	2,379,795	2,674,053

Notes

1-EU Protocol Order

Notes 2 & 3 data from Supplement 4(c).

2-Annual Intermediation Cost Average = ([Historical Average] + [2011 Actual] + [Monetary Debt] x [Economic Growth Rate])/3.

3-Capitalized Intermediation Cost Average=([Historical Average]÷[Economic Growth Rate]+[2011 Actual]÷[Economic Growth Rate]+[Monetary Debt])/3.

4-Annual Jobs Impact Estimate = [Annual Intermediation Cost Ave] ÷ [NYT Job Creation Cost] x [Exchange Rate €1 to U.S. Dollar] x [1 Billion Format].

Sources

1-Supplement 4(c) Monetary Fractional Reserve Intermediation Cost Estimated Impact on Non-eurozone (10) Economy and Jobs

2-New York Times 7-6-2009 article "The Costs of Entrepreneurial Job Creation" estimated at $31,169 per job at http://boss.blogs.nytimes.com/2009/07/06/how-much-does-it-cost-to-create-a-job-by-encouraging-entrepreneurship/

Supplement 4(b)

European Central Bank Monetary Intermediation Cost

Conversion Economic Impact Sovereign Debt

EU Non-eurozone (10) Member States

#	Native	English	Code	2011 GDP[1] (€ Billions)	2011 Sovereign Liabilities Total[2] (€ Billions)	Sovereign Liabilities/ GDP Ratio (Percent %)	Liabilities Reduction Monetary Conversion Bank Note[3,a] (€ Billions)	Sovereign Liabilities Reduction (Percent %)	After Conversion Sovereign Liabilities Total[b] (€ Billions)	After Conversion Sovereign Liabilities/ GDP Ratio[b] (Percent %)
December 31, 2011 EU Non-eurozone (10) Country (EU Protocol Order)										
1	Bulgarija	Bulgaria	BG	€ 38.48	€ 8.48	22.0%	(€ 26.67)	314.6%	(€ 18.19)	-47.3%
2	Česká republika	Czech Republic	CZ	€ 154.91	€ 64.07	41.4%	(€ 97.58)	152.3%	(€ 33.51)	-21.6%
3	Danmark	Denmark	DK	€ 239.24	€ 121.40	50.7%	(€ 325.35)	268.0%	(€ 203.95)	-85.2%
4	Latvija	Latvia	LV	€ 20.21	€ 9.33	46.1%	(€ 18.96)	203.3%	(€ 9.63)	-47.7%
5	Lietuva	Lithuania	LT	€ 30.71	€ 12.86	41.9%	(€ 15.23)	118.4%	(€ 2.37)	-7.7%
6	Magyarország	Hungary	HU	€ 100.51	€ 71.80	71.4%	(€ 85.72)	119.4%	(€ 13.92)	-13.8%
7	Polska	Poland	PL	€ 370.01	€ 198.77	53.7%	(€ 150.74)	75.8%	€ 48.03	13.0%
8	România	Romania	RO	€ 136.48	€ 49.63	36.4%	(€ 43.36)	87.4%	€ 6.27	4.6%
9	Sverige	Sweden[c]	SE	€ 387.89	€ 150.40	38.8%	€ 0.00	0.0%	€ 150.40	38.8%
10	United Kingdom	United Kingdom[d]	UK	€ 1,746.96	€ 1,774.60	101.6%	€ 0.00	0.0%	€ 1,774.60	101.6%
			TOTAL	€ 3,225.41	€ 2,461.34	76.3%	(€ 763.61)	31.0%	€ 1,697.73	52.6%

Notes

a-Ignores ECB holdings of sovereign debt which are expected to also be credited to 100% reserve deposit funding and retired.
b-Negative sovereign liability number indicates excess available, possibly to fund unfunded liabilities and/or other citizen priorities.
c-Sweden ECB banking data incomplete, further Sweden banking data needed to make monetary conversion loan estimate.
d-UK ECB banking data indicates enough For Sale Assets available to fully fund demand deposits but some or all may be pledged and not available.

Sources

1-GDP by country from European Commission eurostat, Gross domestic product at market prices (tec00001) at
http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1
2-Supplement 3(a) EU Non-eurozone Central Governments Consolidated 12/31/2011 Balance Sheets - Before Bank Conversion
3-Supplement 2(a) EU Non-eurozone Banks Consolidated 12/31/2011 Balance Sheets - Before Conversion

Supplement 4(c)

European Central Bank Monetary Intermediation Cost

Conversion Economic Impact Economy and Jobs

EU Non-eurozone (10) Member States
December 31, 2011

There is no economic reward for monetary leverage from M&M Theorem
(Corollary, risk free rate should be GDP growth rate, not gov't debt rate.)

Assumptions

a-Basel II Bank Reserve Requirement (From Attachment 1(b))	8.00%
b-Bank Note Rate Est.(EU Risk Free Net GDP Growth(r_f)+25bp Risk Premium)	0.88%
c-Economic Growth Rate (Est.) for Cap Rate	4.00%
Exchange Rate $1 U.S. Dollar to Euro 12/31/2011	€ 0.7717
7-New York Times 7/6/2009 article $31,169 job creation cost converted to Euros (€)	€ 24,052

European Union (EU) Member State Protocol Order	Country	1	2	3	4	5	6	7	8	9	10
	Native	Bulgarija	Česká republika	Danmark	Latvija	Lietuva	Magyarország	Polska	România	Sverige	United Kingdom
	English	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
Economic Indicators (as of 12/31/2011)	**Total EU NEZ**	BG	CZ	DK	LV	LT	HU	PL	RO	SE	UK
GDP 2011 by Country (€ Billions)[1]	€ 3,225.41	€ 38.48	€ 154.91	€ 239.24	€ 20.21	€ 30.71	€ 100.51	€ 370.01	€ 136.48	€ 387.89	€ 1,746.96
Central Government consolidated total liabilities [F_TOT] (€ Billions)[2]	€ 2,461.34	€ 8.48	€ 64.07	€ 121.40	€ 9.33	€ 12.86	€ 71.80	€ 198.77	€ 49.63	€ 150.40	€ 1,774.60
Unemployment, 2011-12 [une_nb_m][3]	7,272,000	402,000	350,000	213,000	155,000	227,000	475,000	1,788,000	764,000	353,000	2,545,000

I. Historical Average (2005-2011)	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
(Domestic currency in terms of Euros)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
1. NCB Operating Costs Ignored	€ 0.00										
2. New Money (M1) Issued times (1 - reserve requirement)[5,a]	€ 78.45	€ 0.72	€ 6.53	€ 4.23	€ 0.44	€ 0.62	€ 0.84	€ 8.14	€ 1.85	€ 9.78	€ 45.31
Total Annual Intermediation	€ 78.45	€ 0.72	€ 6.53	€ 4.23	€ 0.44	€ 0.62	€ 0.84	€ 8.14	€ 1.85	€ 9.78	€ 45.31
Intermediation Capitalized[c]	€ 1,961.30	€ 18.03	€ 163.19	€ 105.67	€ 11.05	€ 15.38	€ 20.99	€ 203.56	€ 46.18	€ 244.47	€ 1,132.79
GDP % Improvement ([Annual Intermediation] / [GDP])	**2.4%**	**1.9%**	**4.2%**	**1.8%**	**2.2%**	**2.0%**	**0.8%**	**2.2%**	**1.4%**	**2.5%**	**2.6%**
Jobs Estimate (assuming €750,000 Capitalized Value per Job)	**2,615,068**	**24,034**	**217,593**	**140,891**	**14,733**	**20,503**	**27,981**	**271,413**	**61,570**	**325,959**	**1,510,390**

II. 2011 Actual	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
(Domestic currency in terms of Euros)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
1. NCB Operating Costs Ignored	€ 0.00										
2. New Money (M1) Issued times (1 - reserve requirement)[5,a]	€ 31.87	€ 1.24	€ 2.47	(€ 5.81)	€ 0.84	€ 1.04	(€ 0.49)	(€ 7.39)	€ 0.66	€ 2.58	€ 36.73
Total Annual Intermediation	€ 31.87	€ 1.24	€ 2.47	(€ 5.81)	€ 0.84	€ 1.04	(€ 0.49)	(€ 7.39)	€ 0.66	€ 2.58	€ 36.73
Intermediation Capitalized[c]	€ 796.76	€ 31.05	€ 61.76	(€ 145.18)	€ 21.00	€ 25.90	(€ 12.28)	(€ 184.69)	€ 16.47	€ 64.41	€ 918.32
GDP % Improvement ([Annual Intermediation] / [GDP])	**1.0%**	**3.2%**	**1.6%**	**-2.4%**	**4.2%**	**3.4%**	**-0.5%**	**-2.0%**	**0.5%**	**0.7%**	**2.1%**
Jobs Estimate (assuming €750,000 Capitalized Value per Job)	**1,062,341**	**41,400**	**82,340**	**(193,568)**	**27,999**	**34,531**	**(16,376)**	**(246,253)**	**21,957**	**85,884**	**1,224,428**

III. Monetary Debt Impact[1,2 Notes]	**Total EU NEZ**	**Bulgaria**	**Czech Republic**	**Denmark**	**Latvia**	**Lithuania**	**Hungary**	**Poland**	**Romania**	**Sweden**	**United Kingdom**
(Bank Note to Member State from Supplement 2(a))	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)	(€ Billions)
Bank Note to Gov't to cover fractional reserve deposit cash shortage[6]	€ 763.61	€ 26.67	€ 97.58	€ 325.35	€ 18.96	€ 15.23	€ 85.72	€ 150.74	€ 43.36	€ 0.00	€ 0.00
Domestic Circulation Currency Conversion (in terms of Euros)[4]	€ 1,832.87	€ 10.75	€ 83.36	€ 104.30	€ 6.23	€ 9.06	€ 23.34	€ 104.97	€ 19.87	€ 178.64	€ 1,292.36
Intermediation Capitalized	€ 2,596.48	€ 37.42	€ 180.94	€ 429.65	€ 25.19	€ 24.29	€ 109.06	€ 255.71	€ 63.23	€ 178.64	€ 1,292.36
GDP % Improvement (([Intermediation Cap'd]x[Growth Cap Rate])/[GDP])	**3.2%**	**3.9%**	**4.7%**	**7.2%**	**5.0%**	**3.2%**	**4.3%**	**2.8%**	**1.9%**	**1.8%**	**3.0%**
Jobs Estimate (assuming €750,000 Capitalized Value per Job)	**3,461,977**	**49,895**	**241,249**	**572,860**	**33,585**	**32,388**	**145,409**	**340,952**	**84,305**	**238,193**	**1,723,140**

Average GDP % Improvement	**2.2%**	**3.0%**	**3.5%**	**2.2%**	**3.8%**	**2.8%**	**1.6%**	**1.0%**	**1.2%**	**1.7%**	**2.6%**
Average Jobs Estimate (assuming €750,000 Capitalized Value/Job)	**2,379,795**	**38,443**	**180,394**	**173,394**	**25,439**	**29,141**	**52,338**	**122,037**	**55,944**	**216,679**	**1,485,986**
Average Unemployment % Total/Member State Reduction	**32.7%**	**9.6%**	**51.5%**	**81.4%**	**16.4%**	**12.8%**	**11.0%**	**6.8%**	**7.3%**	**61.4%**	**58.4%**

Notes

1-It is expected sovereign debt holdings by banks will be credited and retired for use in funding full reserve deposits. The amount of sovereign debt holdings by banks is unknown but should net with reduced bank loan keeping total benefit to people/nations at about the same level. Bank debt to sovereign governments estimated to be first lien at the same market interest rate for all banks based on the credit of the entire Eurozone + a risk premium.

2-Bank debt from full reserve deposit conversion appears more than sovereign national debt for most countries. Consideration to dividending excess to European citizens depository accounts or unfunded government liabilities.

Sources

1-GDP by country from European Commission eurostat, Gross domestic product at market prices (tec00001) Last Updated 9/22/2012 at http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1

2-Central Government consolidated total liabilities [F_TOT] from Supplement 3(a) EU Non-eurozone (10) Central Governments Consolidated Balance Sheets - Before Bank Conversion.

3-Unemployment data from European Commission eurostat, Harmonised unemployment by gender - total (teilm010) at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_nb_m&lang=en

4-Domestic Circulation Currency Conversion estimated using 2011 M1 numbers from Supplement 1(n) Input Data Summary.

5-M1 increases from Supplements 1(d) to (m) Annual & Compound Intermediation Cost to Economy 2005 to 2011 using M1 Money Supply.

6-Bank Note amounts from Supplement 2(a) EU Non-eurozone Banks Consolidated Balance Sheet Estimate from ECB EU Banking Data.

7-New York Times 7-6-2009 article "The Costs of Entrepreneurial Job Creation" estimated at $31,169 per job at http://boss.blogs.nytimes.com/2009/07/06/how-much-does-it-cost-to-create-a-job-by-encouraging-entrepreneurship/

Monetary Fractional Reserve NEZ Economic Intermediation Cost Estimate				
Intermediation Cost	(A)	(B)	**Jobs Impact Estimates**	
	Annual	Capitalized	Annual	Capitalized
Estimation Basis	(€ Billions)	(€ Billions)	=(A)/NYT Est[7]	=(B)/€750,000
I. Historical Average	€ 78.45	€ 1,961.30	3,261,766	2,615,068
II. 2011 Actual	€ 31.87	€ 796.76	1,325,055	1,062,341
III. Monetary Debt Est.	€ 103.86	€ 2,596.48	4,318,113	3,461,977
Average	€ 71.39	€ 1,784.85	2,968,312	2,379,795

The EU/EMU fractional reserve monetary system has an average 92% (1 - RR) intermediation cost (wealth transfer effect) of new money creation. This is a loss of capital to the other sectors of the economy. Assuming a €750,000 Euro of capital value per job creation, the average €1.78 Trillion capitalized cost represents an estimated 2,380,000 private sector jobs. Per NY Times estimate the € 71.4 Billion annual cost would be approximately 2,968,000 jobs. These estimates indicate the approximate cost of monetary intermediation is on the order of 3 million jobs.