

A Euro Solution

Implementing a levy on
euro transactions to finance
international development



A report by Dr Stephen Spratt of Intelligence Capital Limited

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About Intelligence Capital Limited

Intelligence Capital Limited is a respected economic think-tank and financial advisory firm which specialises in research-led, innovative financial solutions. With close links to key global financial institutions, Intelligence Capital's work focuses on increasing the flow of capital to emerging and developing markets, often with a developmental or socially responsible objective.

Peer review

This report was peer reviewed by leading international finance expert Professor Rodney Schmidt of the North-South Institute, Ottawa, Canada; Richard Murphy, Director of Tax Research Limited; and Sony Kapoor, International Finance and Development Consultant and senior advisor to major UK NGOs on economic policy and advocacy issues.

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Preface	2
Executive summary	5
Introduction	9
1 Meeting the Millennium Development Goals: the need for innovative sources of finance	11
2 Financial transaction taxes	15
3 The global foreign exchange market	20
4 International payment and settlement systems	23
5 The euro transaction levy proposal	32
6 Responses to objections	41
Concluding remarks	52
Bibliography	53
APPENDIX 1 Potential income for development from a transaction levy on the world's most traded currencies	55
APPENDIX 2 Abbreviations and acronyms	56

Preface

While this report examines an industry that is global and highly profitable, it is not anti-profit or anti-globalisation. That said, the banking sector's profitability and global nature is an important backdrop to this study. The global airline industry has a good year when profits reach \$2 billion. The global banking sector delivered \$100 billion of profit in 2005 – a substantial part of which is related to globalisation: the financing of trade and arranging of capital flows.

Today, government ability to raise national taxes is hampered by the globalisation of well-paid individuals and large corporations. At the same time, voters are demanding more global goods such as a clean environment and physical security. Consequently, we need to embrace global taxes that may in time replace national taxes. It would be odd if in doing so we end up taxing airlines but not banks. Separately, when considering how to finance initiatives that support those less positively affected by globalisation, it would seem fair that the main beneficiary of globalisation should make a contribution. Banks recognise this. They are involved in a number of initiatives to support education and community lending around the world. But these are often too small or diffuse to make more than a public relations impact.

Unsurprisingly, given the sector's size and profitability, it has one of the strongest lobbies. This lobby projects a view about the fragility and elusiveness of global finance that does not sit with today's reality of highly regulated banking institutions. But in their lobbying they are often supported by politicians who generally have a low level of understanding of finance and a high level of fear of doing anything that might jeopardise the jobs, taxes and political contributions of the sector. Some of you will know me as a former leading currency analyst and senior manager of currency trading businesses at JP Morgan and State Street and I have witnessed much of this at first hand.

It was with some apprehensiveness, however, that Intelligence Capital accepted the invitation to provide an objective and expert opinion on the feasibility of a euro transaction levy. You never know where good research will take you until the end. I am now convinced that given the Basel Capital Adequacy Accord for internationally systemic banks, the Financial Action Task Force on money laundering and the new continuous linked, real-time settlements system for global foreign exchange, that a Currency Transaction Tax would now be relatively easy for any country or currency zone to adopt, hard for any bank to evade and possible for most countries to implement unilaterally. I recommend this report to you.

Avinash Persaud

President, Intelligence Capital Limited – former head of currency research at JP Morgan, UBS Philips and Drew and State Street Bank and former visiting scholar at the IMF

Progress and opportunity

In 2006 a distinct, novel area of financing became established with the implementation of three pilot projects to create new income streams for development. In February, in Paris, President Chirac and Kofi Annan opened a conference attended by representatives from 93 countries, including 70 Ministers. Here, the first ever 'development tax' was agreed – an airline-ticket solidarity levy that is set to raise \$200–500 million in its first year. Funds are earmarked for an International Drug Purchase Facility (IDPF) to combat HIV/AIDS, tuberculosis and malaria. In addition, the IFF for immunisation (IFFIm) is about to be launched and is set to raise \$500 million. As well, a Global Lottery is due to start before the end of the year with an estimated income of \$400 million to finance the World Food Programme.

At one level this is remarkable progress – the three pilot initiatives will produce between them more than \$1 billion of new development aid annually. And these are just 'pilot' projects, testing the ground, showing the way – potential revenue is exponentially greater. As well, crucially, such income has an in-built quality, for it is long-term and predictable – such security and reliability is of immense value for development to be successfully planned. Just six months ago 'innovative sources of finance' consisted of no more than a menu of ideas. Now words are turning into actions.

At another level, given the urgency of meeting the Millennium Development Goals, progress is still painfully slow. Our challenge is this: if you are convinced by the arguments in this report concerning the feasibility of a transaction levy on euro transactions, then surely it is now time for the Currency Transaction Tax to be 'piloted'. As the appendix to this report shows the income that could be generated from tiny levies on well-traded currencies could raise vast sums of development finance. The need to act – as pandemics rage and the climate warms – has never been greater!

David Hillman

Coordinator, Stamp Out Poverty – formerly Campaigns and Mobilisation Partner at Drop the Debt and Campaign Coordinator at Landmine Action

Executive summary

This report has six principal aims:

- To establish the global funding gap in terms of meeting the UN's Millennium Development Goals (MDGs), and consider the role that 'innovative sources of finance' can play in filling this gap.
- To show that it is not necessary for a Currency Transaction Tax to be universally implemented: it could be introduced unilaterally by any country or currency zone that may wish to do so.
- To highlight the effectiveness and simplicity of other financial transaction taxes that have been implemented in recent years without difficulty, and without provoking the adverse consequences that were predicted beforehand.
- To establish that a transaction levy could be implemented in the Eurozone on all euro foreign exchange transactions.
- To consider concerns and objections to the euro transaction levy (ETL) proposal and respond to them.
- To produce quantitative estimates of the ultimate impact of the ETL on the financial institutions that participate in the foreign exchange market, weighing these impacts against the cost to them of avoiding the levy.

This research shows that the EU could unilaterally implement the ETL in a cost-effective way that causes minimal disruption to euro currency markets, but raises significant sums that could be used for international development purposes with the potential to increase EU aid expenditure by \$4.4 billion or €3.5 billion. Why is this needed, however?

In the last few years it has become increasingly clear that the Millennium Development Goals – the historic agreement in the year 2000 by all UN countries to halve world poverty by 2015 – will not be met, due to lack of financial resources. A significant funding gap exists. This has led many observers to consider whether 'innovative sources of finance' could provide the additional income required. A number of options are in various stages of progress, including the Air Ticket Levy, the International Finance Facility (IFF) and the Currency Transaction Tax (CTT). In the latter case, however, conversation has been muted because it has been widely assumed that, to be effective, such a tax would have to be universally adopted and enforced.

While it may have been the case in the past that a CTT could not be implemented unilaterally, this is no longer so. Historically, the global foreign exchange (FX) market has consisted of disparate parts with little or no links between them. Trades were executed manually by phone between counterparties, and settled through a variety of systems with few linkages between them.

Today, the different components of the global FX market are built on the same technical platforms, use the same electronic messaging providers and trade electronically using the same systems. Furthermore, these trades are settled through either the recently established Continuous Linked Settlement (CLS) Bank – which now settles around half

of all global FX transactions – or through the high value domestic settlement systems run by the world’s central banks.

At this ‘wholesale’ settlement level, the world’s domestic systems are linked to the CLS Bank and to each other. Trades are settled electronically and efficiently, producing real financial gains to international financial institutions, who certainly would not want to sacrifice these benefits. However, these benefits are conditional on participation in the relevant national and international settlement systems. It is this participation that makes an ETL feasible today.

Euro trades are ultimately settled either through the CLS Bank or the Eurosystem’s high value settlement system, TARGET. The use of a common messaging provider – SWIFT – conveys significant cost savings to participants, but also enables records to be kept of all euro transactions and allows these records to be cheaply and efficiently relayed to the national tax collecting authorities. Given that banks trading in euro hold central accounts at their respective central banks – for settling euro transactions or for inputting to the CLS system – the ETL, once identified, can be cost-effectively collected from these central accounts.

In order to avoid market distortions, the proposal is to levy the ETL at the rate of half of one basis point, or 0.005%. At this rate, the US \$348 billion of euro that is traded every day in both the ‘traditional’¹ and over-the-counter (OTC) FX derivatives markets results in an annual tax take of \$4.52 billion.

Of course, this assumes that the implementation of the ETL has no impact upon volume traded. Given the extremely low level of the tax, this is not an unreasonable assumption. However, in order to err on the side of caution, we assume a 2.5% reduction in the volume of euro traded, and this would amount to an annual receipt of \$4.4 billion, or €3.5 billion. The 2.5% figure is based on a report written for the UN on the revenue-raising potential of Currency Transaction Taxes (Nissanke, 2003).

When considering the incentives for financial institutions to avoid the ETL, we focused on the benefits that accrue from membership of the CLS system, and set these against the cost of the ETL resulting from CLS Bank settled trades. As around half of all euro transactions are settled in this way, the annual ETL take from the CLS system would be a little over \$2.2 billion. However, when the benefits of the system to its participants are added up, the annual figure is more than \$17 billion. Consequently, it is abundantly clear that there is no incentive for financial institutions to leave the CLS system to avoid the ETL.

The report has also considered other possible objections to the proposal, notably that it would provide an incentive for institutions to a) increase their use of multilateral netting systems, and b) increase their use of derivative instruments to avoid the transaction levy.

The derivatives issue is largely addressed by the fact that the ETL would also be levied on euro derivatives transactions, which again use common technical platforms and messaging systems. In any case, it is not possible for derivative markets to exist in isolation as derivatives are both hedged and mostly settled in the traditional FX market. These linkages mean that more exotic derivatives such as *options*, *non-deliverable forwards* and *contracts for difference* generate a significant footprint in the traditional FX market and hence the avoidance of the ETL through the use of derivatives is not possible.

¹ FX spot transactions, outright forwards and foreign exchange swaps.

The netting issue is also assessed, with the same conclusion being reached as with the CLS system: the costs of hugely increasing the use of multilateral netting systems to avoid an ETL far outweigh the impact of a very modest 0.005% levy on euro FX transactions.

The fundamental point is that the only way a financial institution could avoid the ETL would be to effectively remove themselves from the international FX transaction, messaging and settlement systems that are described in this report. However, the benefits they obtain from being in these systems dwarf the cost of an ETL levied at the rate proposed.

A further key point relates to the current regulatory environment. The CLS Bank was established to eliminate settlement risk from the global FX market. Given the scale of this market, systemic risk has the potential to seriously undermine the stability of the international financial system. Given this, central banks would simply not allow the world's major financial institutions to leave the CLS system, unless the alternative system that they set up also eliminated settlement risk. This alternative, to be acceptable under the Basel 2 framework and compliant with money laundering regulation, would therefore also be one through which the ETL could be collected.

In summary, an ETL could be implemented today, at relatively low cost and with little scope for avoidance. It would raise substantial annual sums with the potential to increase EU aid expenditure significantly. This would make a real difference to the people of the developing world, whilst its impact on the euro FX market would be minimal. This report sets out in detail, for the first time, how in practice this could be done.

Introduction

The purpose of this report is to describe in detail how, if it chose to do so, the EU could unilaterally implement a euro transaction levy (ETL). Why might it wish to do so, however?

Over the past few years it has become increasingly apparent that the UN's Millennium Development Goals (MDGs) are not going to be met without substantial additional financing. This is despite the new resources pledged by the G8 at the 2005 summit at Gleneagles.

This funding gap has increased attention on alternative sources of income: often called 'innovative sources of finance'. Various proposals have been on the table at various times in this respect, each seemingly with its own national champion. Although there has been some discussion of deriving revenue from a Currency Transaction Tax (CTT) to date, the idea has stalled because of the wide assumption that to be feasible and effective a CTT would have to be universally implemented and universally enforced. For many this meant the proposal faced a seemingly insurmountable barrier, since the necessary international consensus could never be built.

This report shows that a CTT does **not** need to be universally adopted: it **could** be implemented unilaterally by any country or currency zone. As we shall see, this has been made possible by developments in the international financial markets in general, and domestic and cross-border payments and settlement systems in particular.

The foreign exchange (FX) market has historically been a rather ad hoc affair, which is surprising considering its sheer scale. Over recent years, however, this has changed considerably. In particular, technological advances have replaced contracts agreed by phone, with correspondence using the internet. This has greatly increased the speed and efficiency of the market, bringing big gains to market participants in terms of both costs and higher turnover.

These developments have also enabled domestic large value payments systems (LVPS) to become increasingly interlinked, facilitating automated transfers of funds at a speed and of a size previously unimaginable. Moreover, domestic LVPS have established formal, cross-border linkages with the establishment of the Continuous Linked Settlement (CLS) Bank, which now settles about half of all global FX transactions.

Major financial institutions would clearly not want to give up these benefits. However, it is exactly the interdependence that has been described – in combination with the common technical platforms and communication systems that are now used – that makes an ETL feasible today.

Common communication and messaging systems make it possible to identify euro transactions wherever they occur. Interdependent and interlinked LVPS make it possible to collect the ETL efficiently and make avoidance extremely difficult. Finally, the huge benefits that financial institutions have obtained from organising the system in this way cannot be retained if an ETL is to be seriously avoided. An ETL at a very low rate and with negligible impact is a fractional cost in comparison with these benefits. No bank would rationally choose to give up the latter to avoid the former.

As well as demonstrating the feasibility and cost effectiveness of the proposal, this report gives an estimate of the annual tax take, which at \$4.46 billion per year would increase EU aid significantly, allowing a far greater contribution to meeting the MDGs.

All that is needed now is the political will to make it happen.

The rest of this report is structured in the following way. Section 1 describes why a CTT is needed in the context of meeting the Millennium Development Goals. Section 2 provides some background on the history and schools of thought on financial transaction taxes. Section 3 discusses recent trends in the global foreign exchange (FX) market. Section 4 examines developments in domestic and international payments and settlements systems. Section 5 sets out the euro transaction levy proposal in detail. Section 6 provides responses to possible objections to the proposal.

1 Meeting the Millennium Development Goals: the need for innovative sources of finance

In the year 2000 the United Nations published the Millennium Declaration. The document, ratified by 189 heads of state, expressed a commitment on behalf of its signatories to address critical global problems of poverty, diseases and under-development in a way compatible with environmental sustainability.

Following the Declaration, eight Millennium Development Goals (MDGs) were formulated, with explicit indicators established for each and a deadline of 2015 set for achievement of most targets.²

The UN General Assembly met in September 2005 to review progress, which to date has been uneven both in terms of the specific MDGs themselves, and the pattern of geographical progress towards meeting them.

In the summer of 2005, the UN Secretary-General, Kofi Annan made these concerns explicit in the UN's progress report on the MDGs:

*If current trends persist, there is a risk that many of the poorest countries will not be able to meet many of them [MDGs]. Considering how far we have come, such a failure would mark a tragically missed opportunity. ... As I said in my March report: 'Let us be clear about the costs of missing this opportunity: millions of lives that could have been saved will be lost; many freedoms that could have been secured will be denied; and we shall inhabit a more dangerous and unstable world.'*³

These concerns are backed up by empirical evidence, perhaps most comprehensively set-out in the 2005 report, *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*,⁴ which was drawn up by 265 of the world's leading development experts and – although positive in some regards – clearly portrays how much still needs to be done.

- 2 The MDGs are as follows:
Eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/Aids, malaria and other diseases; ensure environmental sustainability; develop a global partnership for development
- 3 UN (2005a)
- 4 www.unmillenniumproject.org/reports/index.htm

TABLE 1
Global progress
on the MDGs

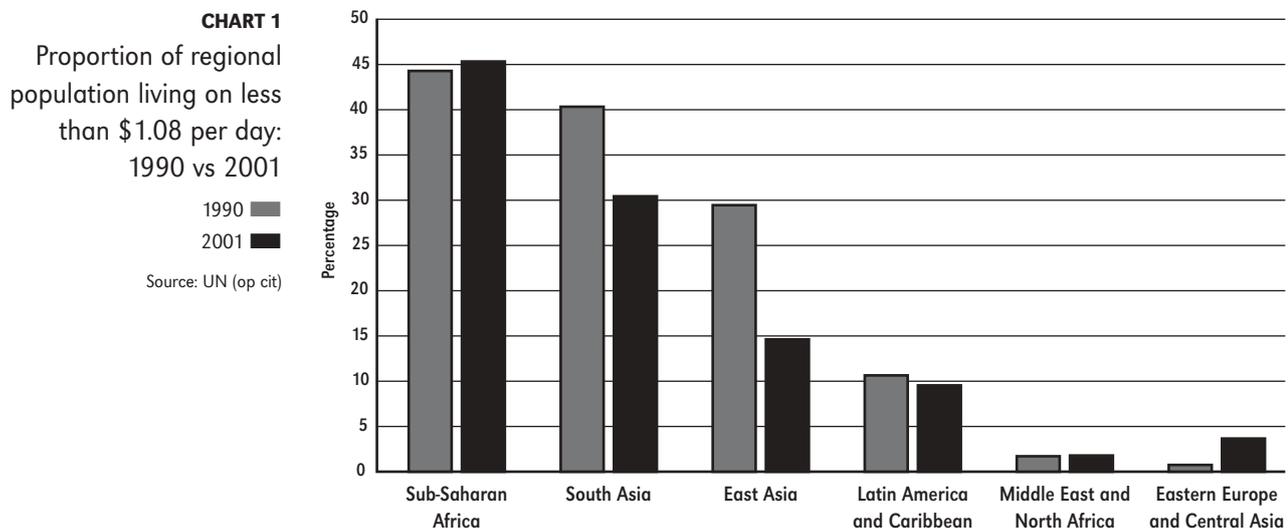
Source: UN (2005a)

Indicator	1990	2002
GDP per capita (1995 US\$)	1,071	1,299
Headcount poverty (%)	28	21
Undernourishment prevalence (%)	20	17
Under-five mortality (per 1,000 live births)	103	88
Life expectancy (years)	63	65
HIV prevalence (%)	0.5	1.6
Access to improved drinking water (%)	71	79
Access to improved sanitation (%)	34	49

Table 1 details aggregate global progress on the key indicators. As can be seen, there has been positive change on every indicator, with the notable exception of HIV

prevalence. However, whilst this aggregate picture is broadly encouraging, it gives a very unrealistic picture of the reality on the ground at the regional and country level.

Table 1 shows that the proportion of people living in absolute poverty (measured as those living on less than \$1.08 per day) has fallen from 28% to 21% over the past 12 years. However, as Chart 1 below demonstrates, these global aggregate figures give little sense of the prevalence of absolute poverty in each region: in 2001, the figure for sub-Saharan Africa was more than 45% of the population, whilst the corresponding figure for the Middle East and North Africa was just 2%. Furthermore, the decline in the global average over the period considered is almost entirely the result of large reductions in poverty levels in East Asia and South Asia, containing the billion-plus populations of China and India respectively.



In East Asia, the proportion of the population living in absolute poverty fell from 30% to 15%, whilst South Asia saw a reduction of 10 percentage points, from 41% to 31%. In contrast, Latin America and the Caribbean saw a very small improvement, the situation in the Middle East and North Africa was unchanged, and Eastern Europe and Central Asia saw a significant deterioration. The most alarming region, however, is sub-Saharan Africa, where the proportion of the population living in absolute poverty actually rose from 45% to 46% between 1990 and 2002.

Much of these regional differences can be explained by two factors: economic growth rates and levels of population growth. For example, while India's growth record has been impressive in recent years, the country's population has also increased substantially. In contrast, China's relatively stable population growth has allowed its impressive economic growth rates to feed through into significantly higher per capita incomes. Sub-Saharan Africa has seen the worst of both worlds: low (even negative) economic growth combined with rapid population growth.

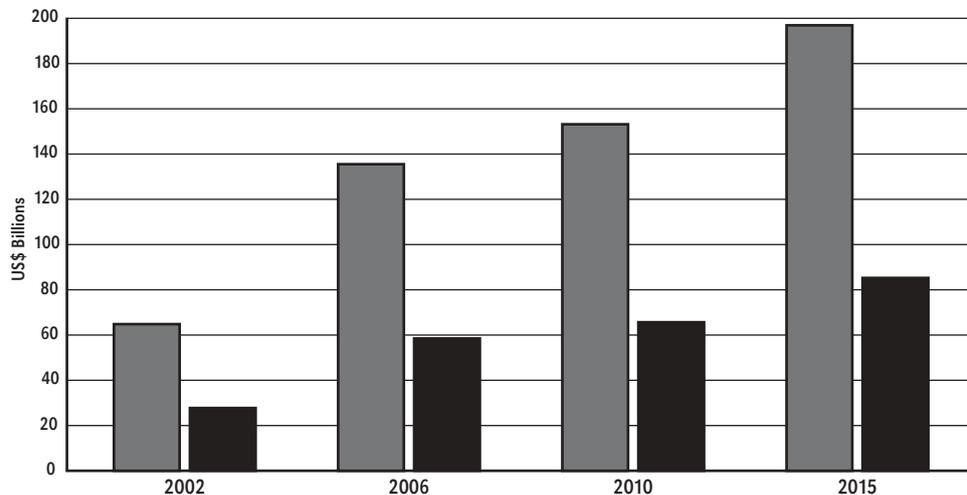
Indeed, the situation in sub-Saharan Africa is such that, on current trends, few if any of the MDGs have a realistic chance of being met. It was concerns of this kind that motivated the Make Poverty History campaign in 2005, and which contributed to the

announcement of modestly increased official development assistance (ODA) by the G8 at their summit that year.

Recognising the crucial importance of accelerating progress if the 2015 deadline is to be met, particularly in Africa, G8 leaders committed to incremental increases in aid budgets – with some setting a deadline to meet the long-standing 0.7% of GDP target – and reductions in the debt burdens of some of the poorest developing countries. Meeting in Gleneagles, Scotland, in July 2005, the Heads of Government therefore agreed to double aid to Africa from \$25 billion per year to \$50 billion by 2010, and to increase total ODA to \$129 billion by the same year.

If fulfilled, these pledges have the potential to accelerate progress on meeting the MDGs. However, even with this additional funding, it is likely that many MDGs will not be met, particularly – though not exclusively – in sub-Saharan Africa. Chart 2 below gives the most authoritative estimate of the total ODA needed to meet the MDGs by 2015. As can be seen, in 2010, required ODA is more than \$150 billion, significantly above that promised at Gleneagles – indeed, the figure needed for 2006, is higher than that currently committed to for 2010. Furthermore, historically less than half of ODA has been spent in a way that would contribute to the MDGs, as depicted with the darker bars in Chart 2. If this trend were to continue, then MDG-dedicated-ODA, would be less than half that required, with clear implications for the world’s ability to meet the development goals.

CHART 2
 Estimated global ODA required to meet MDGs
 Total required ODA
 ODA allocated to MDGs (2002 proportion)
 Source: UN (2005b)



A final issue in this regard relates to the willingness (or ability) of donor governments to honour the pledges made in 2005. The G8 Summit had barely finished before a number of governments began talking of budget constraints and fiscal considerations affecting their ability to honour these pledges. Past experience suggests that it is highly likely that these pledges will become ‘aspirations’ – indeed, it is important to note that actual dispersals of ODA have been equally as volatile as private capital flows. However, even if this were to change fundamentally and all pledges were to be fully honoured, the world would still face a significant funding shortfall from that required to meet the MDGs by 2015.

Other sources of income are clearly needed, which has led attention to 'innovative sources of finance'. The preface to this report describes the dramatic progress that is happening in 2006, with three pilot projects to create new income streams for development being launched:

In February, in Paris, President Chirac and Kofi Annan opened a conference attended by representatives from 93 countries, including 70 Ministers. Here, the first ever 'development tax' was agreed – an airline-ticket solidarity levy that is set to raise \$200–500 million in its first year. Funds are earmarked for an International Drug Purchase Facility (IDPF) to combat HIV/AIDS, tuberculosis and malaria. In addition, the IFF for immunisation (IFFIm) is about to be launched and is set to raise \$500 million. As well, a Global Lottery is due to start before the end of the year with an estimated income of \$400 million to finance the World Food Programme.

At one level this is remarkable progress – the three pilot initiatives will produce between them more than \$1 billion of new development aid annually. And these are just 'pilot' projects, testing the ground, showing the way – potential revenue is exponentially greater.

A closer look at these initiatives reveals the following. Firstly, all are clearly linked to outcomes: ATL for drug treatment; IFFIm for immunisations; Global Lottery to the World Food Programme. Secondly, the concept of a number of 'complementary' mechanisms is now broadly accepted and has seemingly prevailed over the idea of one all-encompassing initiative (such as a large-scale IFF), which was effectively 'in competition with' all other proposals. Thirdly, there are clearly three different strands of financing: the ATL is a **tax**, the IFFIm a **borrowing mechanism**, and the Global Lottery a **voluntary contribution**. Fourthly, there is a growing awareness that the phenomenon of innovative financing is as much about aid **quality** – secure on-going revenue streams providing predictability of finance, which is essential for development planning – as it is about aid **quantity**.

However, despite this progress, there is still a critical funding shortfall when it comes to financing the MDGs. It is, therefore, necessary to look urgently at other possible sources of finance such as Currency Transaction Taxes. The UN's *World Economic and Social Survey 2005* considers various innovative financing options, distinguishing between the proposals in terms of the need for universal adoption, and the speed with which each option could be implemented. Clearly, the need for universal adoption is a key drawback of any proposal – even if such agreement could be reached, it would inevitably take a long time to be implemented. Therefore, in one crucial respect we disagree with the UN's taxonomy as set out in this survey.

The UN report classifies the currency tax option as requiring universal adoption. On the contrary, as this report strongly argues, a CTT can and should be implemented unilaterally at national or regional level.⁵ The proposal is feasible, cost effective and would cause minimal disruption to markets. Furthermore, a euro transaction levy would raise significant finance, enabling the EU to contribute more towards paying for the MDGs.

⁵ See Kapoor, S (2005) for a comprehensive rationale for this position.

2 Financial transaction taxes

Financial transaction taxes have a long and distinguished intellectual and practical history. In 1936, John Maynard Keynes proposed that a small transaction tax should be levied on dealings on Wall Street, where he argued that excessive speculation⁶ by uninformed financial traders increased volatility.

For Keynes, the key issue was the proportion of ‘speculators’ in the market, and his concern that, if left unchecked, these types of players would become too dominant.

Speculators may do no harm as bubbles on a steady stream of enterprise. But the situation is serious when enterprise becomes the bubble on a whirlpool of speculation.
(1936:159)

It is usually agreed that casinos should, in the public interest, be inaccessible and expensive. And perhaps the same is true of stock exchanges. That the sins of the London Stock Exchange are less than those of Wall Street may be due, not so much to differences in national character, as to the fact that to the average Englishman Throgmorton Street is compared with Wall Street to the average American, inaccessible and very expensive. ... The introduction of a substantial Government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprise in the United States.
(1936:159-60)

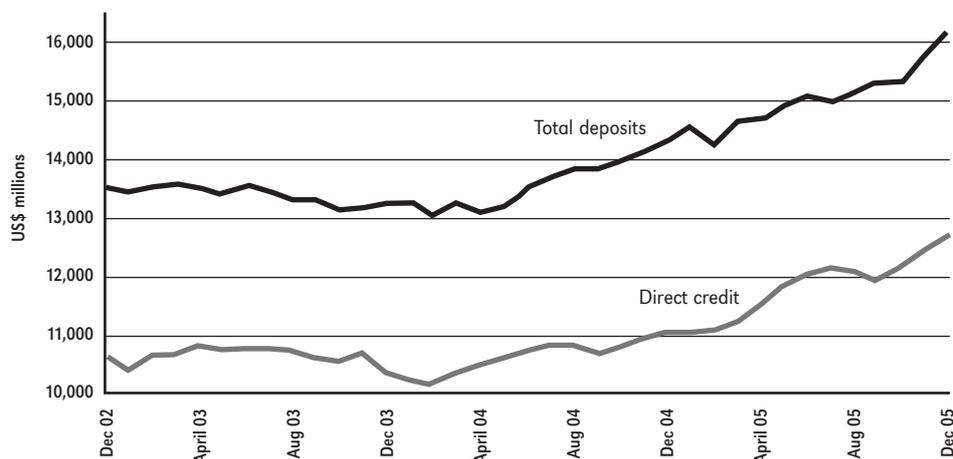
Although the US government did not act on this advice, the stamp duty on shares in the UK remains in place today. Indeed, as shown in Table 2 (page 15), taxes on financial transactions have been common historically, remain so today, and are generally many times greater than the ETL rate proposed. In many ways, the ‘anomaly’ is that no tax is levied on foreign exchange transactions, despite the FX market having the greatest volume in the world.

A common objection to the introduction of financial transaction taxes is that they will a) distort the market, and b) drive investors/financiers out of the economy or sector to other, untaxed economies. In reality, however, the practice is often very

6 Keynes distinguishes between ‘speculation’ and ‘enterprise’, with the former being akin to gambling, and the latter a financial transaction serving an underlying economic purpose.

CHART 3
Bank deposit and credit levels following Peru’s introduction of a financial transaction tax in 2003

Source: Superintendencia de Banca y Seguros, Lima. December, 2005



different. For example, in 2003 the Peruvian government introduced a 0.1% general financial transaction tax, with the aim of raising finance for the education sector. At this time, the national and international financial press, concerned private investors and international financial institutions such as the IMF predicted severe negative consequences to the Peruvian economy. In particular, they feared that bank deposits would be withdrawn, adversely affecting the availability of credit in the economy, and thereby restraining growth rates.

Chart 3 illustrates what actually happened in practice in this respect. As can be seen, far from reducing bank deposits and therefore credit, the period following the introduction of the financial transaction tax saw both bank deposits and access to credit increase steadily.

Furthermore, as shown in Table 2, general financial transaction taxes have also been introduced in Argentina, Brazil and Colombia in recent years. As with the case of Peru, dire warnings were given about the consequences of these taxes, but as with Peru, these proved to be unfounded. In each case, the financial sector has adapted itself to the transaction tax with no major repercussions, and this is despite the fact that the rate at which these taxes are levied are many multiples of the ETL rate proposed here.

Despite this, these countries remain under pressure – not least from the IMF – to remove this tax that efficiently and effectively raises significant sums to fund education. The fact that the dire consequences of implementing the tax – that had been predicted – did not happen suggests that this continuing pressure is not based upon empirical analysis. It is of course unsurprising that private investors will predict doom following the implementation of taxes that directly affect them, but the evidence strongly suggests these concerns are unfounded. An ETL would be no different in this respect. Indeed, given the extremely low rate proposed, it is likely that very little impact of any kind would be felt in the financial markets.

2.1 Evolution of the Currency Transaction Tax

For many observers, a Currency Transaction Tax (CTT) is related to the work of Nobel Laureate James Tobin. The Tobin Tax, as it came to be known, was first proposed in 1973 with the aim of discouraging speculation in the FX markets, and therefore reducing volatility.

His aim was to ‘throw sand in the wheels’ of the global FX market by disproportionately taxing short-term, high turnover currency trading. He argued that this would reduce speculation and lower volatility by bringing market prices more in line with underlying fundamentals, which drive the behaviour of longer-term investors.

Opponents cited Friedman (1953), arguing that speculators act to stabilise markets through rational arbitrage. That is, when prices rise above their fundamental ‘fair value’, rational speculators will sell and drive prices back to their equilibrium level. Conversely, when speculators see prices below this equilibrium level, they will buy thus bidding prices up. Reducing speculation would not therefore reduce price misalignments, but rather would enable them to persist for longer periods.

TABLE 2
Security transaction
taxes around the world

Source: Pollin (2005)

V = VAT on trade costs

Country	Stocks	Corp Bonds	Govt Bonds	Futures	Detail
Argentina	0.60%	0.60%	0.60%	0.60%	Tax of 0.6% on all financial transactions approved by legislature March 2000
Australia	0.30%	0.15%	–	–	Reduced twice in 1990s: currently 0.15% each for buyer and seller
Austria	0.15%	0.15%	–	–	Present
Belgium	0.17%	0.07%	0.07%	–	Present
Brazil	0.3% [0.38%]	0.3% [0.38%]	0.3% [0.38%]	–	Tax on FX from 2% to 0.5% in 1999. Tax on stocks increased and bonds reduced 1999
Chile	18% V	18% V	–	–	Present
China	0.5% or 0.8%	[0.1%]	0	–	Tax on bonds eliminated 2001. Higher rate on stock exchanges applies to Shanghai
Colombia	1.5%	1.5%	1.5%	–	Introduced 2000
Denmark	[0.5%]	[0.5%]	–	–	Reduced in 1995, 1998. Abolished 1999
Ecuador	[0.1%]	[1.0%]	–	–	Tax on stocks introduced 1999, abolished 2001. Tax on bonds introduced 1999
Finland	1.6%	–	–	–	Introduced 1997, applies only to trades on HEX electronic exchange
France	0.15%	See note	–	–	Present. Sources ambiguous as to whether tax applies to bonds
Germany	[0.5%]	0.4%	0.2%	–	Removed 1991
Greece	0.6%	0.6%	–	–	Imposed 1998, doubled 1999
Guatemala	3%	3%	See note	–	Present. Sources ambiguous as to whether tax applies to government bonds
Hong Kong	0.3% + \$5 SF	[0.1%]	[0.1%]	–	Tax on stocks reduced from 0.6% in 1993. Tax on bonds eliminated 1999. \$5 stamp fee
India	0.5%	0.5%	–	–	Present
Indonesia	0.14% + 10% V*	0.03%	0.03%	–	* VAT on commissions. Introduced 1995
Ireland	1.0%	–	–	–	Present
Italy	[1.12%]	–	–	–	Stamp duties eliminated 1998
Japan	[0.1%], [0.3%]	[0.08%], [0.16%]	–	–	Removed 1999
Malaysia	0.5%	0.5%	0.015% [0.03%]	0.0005%	Present
Morocco	0.14% + 7% V	7% V	7% V	–	Present
Netherlands	[0.12%]	[0.12%]	0	–	1970–1990
Pakistan	0.15%	0.15%	–	–	Present
Peru	[0.1%], 0.08% + 18% V	[0.1%], 0.08% + 18% V	[0.1%], 0.08%	–	Financial transaction tax implemented 2003, reduced to 0.08% 2005. VAT Present
Philippines	[0.5%] + 10% V	–	–	–	VAT present
Portugal	[0.08%]	[0.04%]	[0.008%]	–	Removed 1996
Russia	0.8% [†] + 8% V	–	–	–	[†] 0.8% on secondary offerings. Present
Singapore	0.05% + 3% V	–	–	–	Reduced 1994, eliminated 1998. VAT present
South Korea	0.3% [0.45%]	0.3% [0.45%]	–	–	Reduced 1996
Sweden	[1%]	–	–	–	Removed 1991
Switzerland	0.15%	0.15%	0.15%	–	Present 0.3% on foreign securities, 1% new issues
Taiwan	0.3% [0.6%]	0.1%	–	0.05%	Reduced 1993
UK	0.5%	–	–	–	Present
Venezuela	0.5% [1%]	–	–	–	Reduced May 2000
Zimbabwe	0.45% V	–	–	–	Present

Those taking the opposite view,⁷ however, argue that ‘noise traders’ do not tend to move the market towards fundamental equilibrium but, in fact, do the exact opposite. Consequently, a transaction tax that disproportionately targets such traders – such as the Tobin Tax – would, *ceteris paribus*, keep prices closer to their fundamental values by increasing the proportion of traders in the market who base their decisions on underlying fundamentals.

The evidence on this issue remains inconclusive. For example, Umlauf (1993) concludes that the imposition of a transaction tax increased the volatility of the Swedish stock market. Habermeier and Kirilenko (2001) report similar findings, where the imposition of a securities transactions tax increases volatility through a reduction in the volume of trading. Aliber et al (2003) find evidence that transaction costs were positively related to volatility (and inversely related to volume) for four major global currencies between 1971 and 1999. In contrast, using a model-based approach, Wei and Kim (1997) find transaction taxes reducing volatility in the FX market, a result confirmed in a separate model developed by Westerhoff and Dieci (2004), which uses a behavioural finance approach to the issue.

Interest in the idea of the Tobin Tax grew substantially in the 1990s, largely due to the increased incidence of financial crises in general and currency crises in particular. Early theoretical work on currency crises, offered little explanation for many of these events. For example, ‘first generation’ currency crises models⁸ typically saw crises as resulting from policy inconsistencies within the countries affected, which prompted rational investors to sell their holdings, thus initiating a run on the currency. That is, they were primarily the ‘fault’ of the countries affected. For many, these explanations often seemed to be at odds with the facts of crises, resulting in the development of ‘second-generation’ crisis models with more explanatory power.⁹ These models stressed the self-fulfilling, herd-like nature of many currency crises, with the role of speculators being key: market actors did not simply respond to changing fundamentals; their behaviour itself shaped those fundamentals. Changing this behaviour would therefore change the incidence of crises.

Most commentators came to view the second-generation models as being more reflective of the real world, which raised hopes that the Tobin Tax could reduce the incidence of these developmentally damaging events, by influencing the (individually rational, but collectively irrational) behaviour of speculators. However, this view was countered by the observation that, in many such events, speculators are betting on forcing a devaluation from a fixed exchange rate peg, where ‘success’ might see the currency devalued by as much as 40%. In the face of potential profits of this magnitude, a small CTT is no disincentive.

This shortcoming in the original CTT concept was effectively addressed in Spahn (1996), where a two-tier structure was proposed. Under normal market conditions, a minimal (perhaps zero) ‘transaction charge’ would apply to all currency transactions. However, this charge would be augmented by an ‘exchange surcharge’, which would only come into effect when the exchange rate moved outside a predetermined range. In these circumstances, a very high rate of tax would apply to transactions in the affected currency, which would act as a severe disincentive to currency speculators, who would no longer be facing a ‘one-way’ bet. In effect, the Spahn proposal would short-circuit

7 See Stiglitz (1989) and Summers & Summers (1989), for example.

8 See Krugman (1979) for the canonical model in this regard.

9 See Obstfeld (1986)

speculative attacks. Indeed, as Spahn argued, in practice the exchange surcharge might never be invoked, since speculators seeing the exchange rate approach the level at which it would become operational would adjust their behaviour to avoid being caught by the tax.

This discussion has, it is hoped, served to highlight an important, but often overlooked point: it is rarely made clear that there is not one CTT, but three. The original proposal by James Tobin had the aim of reducing short-term, high-frequency currency trading. The second proposal, the Spahn variation, had the aim of 'short-circuiting' speculative attacks and currency crises, rather than raising tax revenue. This framework is best suited to middle-income emerging and developing countries which wish to protect their economies from the highly damaging impacts of exchange rate volatility and financial crises.

The third form of the CTT, however, is quite explicit in its tax raising objectives. This approach is exemplified in Schmidt (2001), where the author demonstrates convincingly that, contrary to received wisdom, it is entirely possible for countries to unilaterally impose a duty on their own currency's transactions. Furthermore, although the revenues raised could be used for any purpose by the government concerned, it has been historically argued that these should be ring-fenced and used for international development objectives. This approach is therefore suited to developed countries seeking ways to increase aid volume for purposes such as meeting the MDGs.

It is this third form of CTT that is addressed in this report. It will be demonstrated that the EU **could** unilaterally initiate a transaction levy on euro transactions. Furthermore, we will see that this measure would be relatively straightforward to implement and would raise significant sums that could be used to make progress on the MDGs.

As was described in Section 1, there is a clear need for 'innovative sources of finance' for this purpose. A euro transaction levy (ETL) is one feasible means to increase revenue for aid, and one that would be relatively easy to implement, enforce and collect. The same is also true for any developed country or regional zone, whose currency is traded in sufficient volume as to yield a significant revenue stream. Clearly, the scale of the MDG shortfall is such that a currency levy such as the ETL cannot fill the gap on its own. It can certainly reduce it, however. Yet if the EU were to implement an ETL, as the euro is one of the world's most traded currencies, it would set an important example encouraging countries and currency zones to follow its lead, thus increasing revenues and making an even greater developmental difference. In this regard, Appendix 1 presents a picture of the potential annual revenues obtainable from a CTT implemented on the world's most traded currencies.

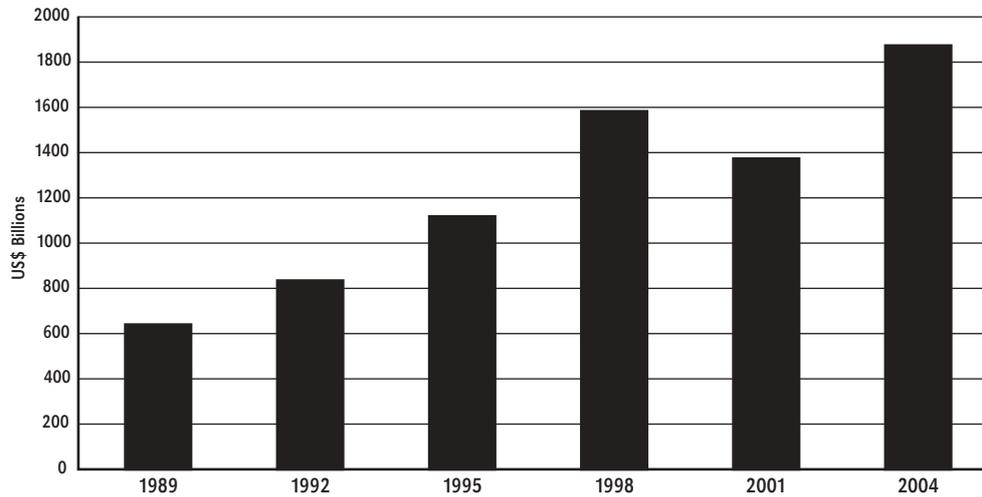
Before describing the euro transaction levy proposal in detail, the next two sections give a review of broad trends in the global FX market and developments in international payment and settlement systems – trends that are directly relevant to the detailed exposition of the proposal that will follow.

3 The global foreign exchange market

In March 2005, the Bank for International Settlements (BIS) released the results of its triennial survey of foreign exchange market activity.

CHART 4
Daily foreign exchange market turnover

Source: BIS (2005)



The results show that the size of the market continued to grow rapidly, as illustrated in Chart 4 above. Following the fall in daily turnover reported in 2001 – largely the result of the introduction of the euro, which significantly reduced the number of traded currencies – the upward trend continued.

By 2004, global FX markets saw average daily turnover of US \$1,880 billion, which is broadly equivalent to the annual GDP of the United Kingdom, for example.

CHART 5
Global foreign exchange market shares

spot transactions
outright forwards
FX swaps
Source: BIS (2005)

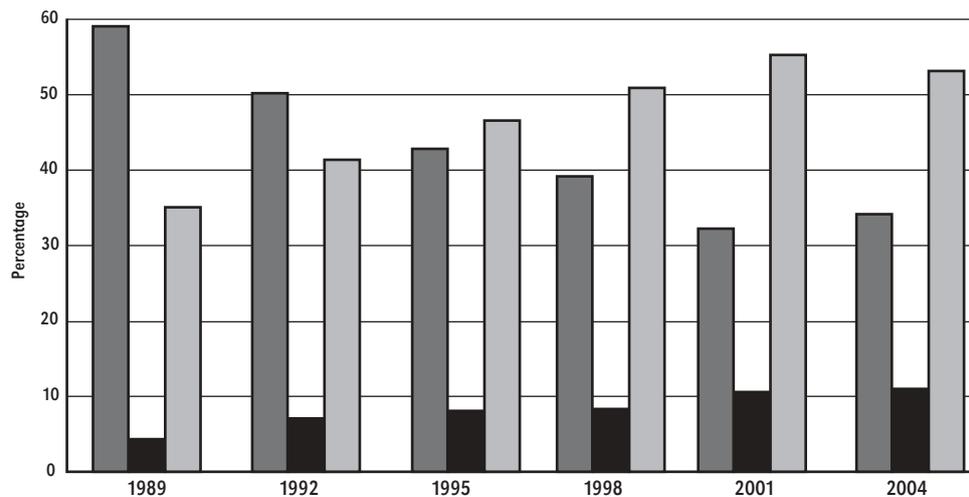
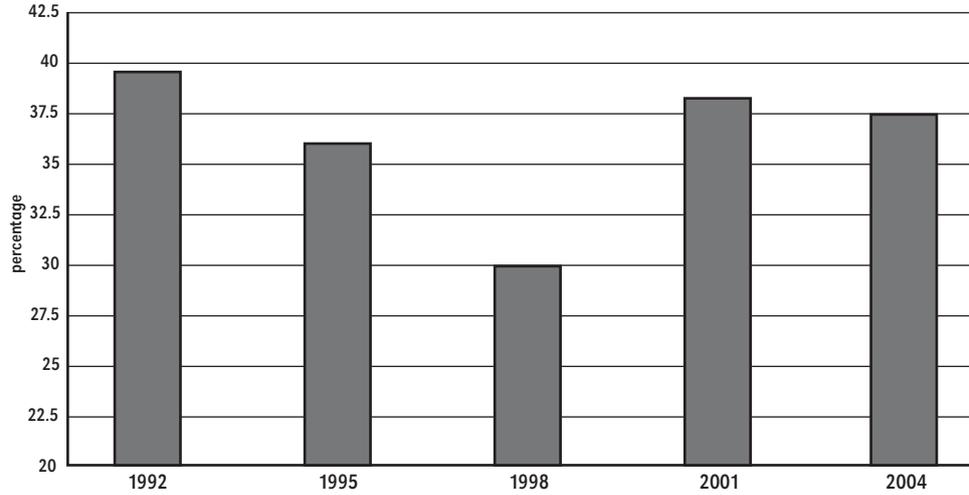


Chart 5 breaks down this headline figure into its major components in terms of market share. The biggest change over the period is the relative decline in the importance of

the spot market and the increase in the importance of the swap market. However, a closer look at Chart 5 shows this trend reversing between 2001 and 2004, as growth in the size of the spot market accelerated.

CHART 6
Euro share of global FX turnover, 2004
dollar/euro
Source: BIS (2005)



Turning to the Eurozone, Chart 6 shows that the euro’s share of global FX transactions has remained relatively constant at a little over a third (ie: 37% of all global FX trades had the euro on one side in 2004). Consequently, we can say that euro transactions account for 18.5% of the \$1,880 billion daily figure, or \$348 billion.

CHART 7
Daily turnover in the foreign exchange OTC derivative market
Total
Currency swaps
Options
Source: BIS (2005)

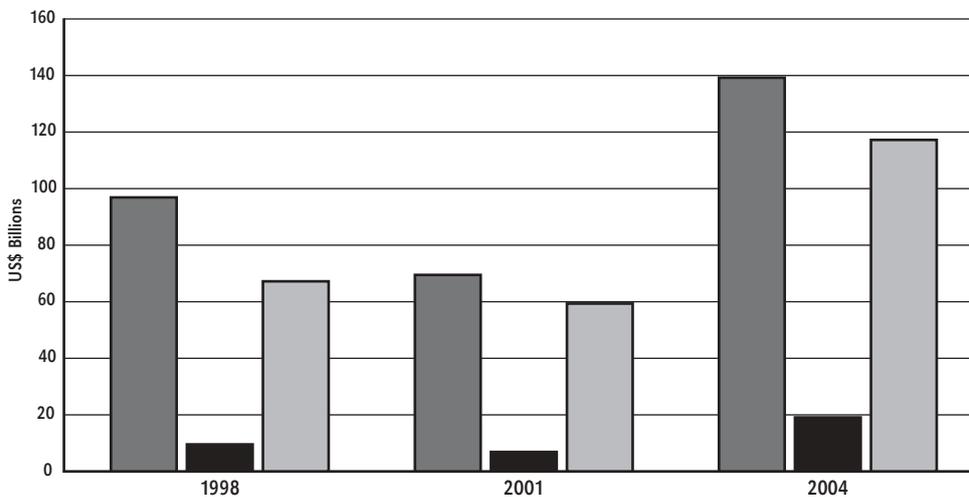


Chart 7 shows trends in the OTC FX derivatives market. Although ‘outright forwards’ and ‘foreign exchange swaps’ are classified as OTC derivatives, they are ultimately settled in the ‘traditional’ market and would therefore fall unavoidably within the ambit of the ETL. Consequently, the data for these trades are included in the total traditional FX market figures, as shown in Chart 5 above. The main derivative figures not included in this section are ‘currency swaps’ and ‘options’, details of which are given in Chart 7. As can be seen, by 2004, daily turnover equalled \$138 billion, with the overwhelming majority being accounted for by FX options.

Since all options are not ultimately executed, this market needs to be treated differently from the traditional market where the gross amounts change hands. Some commentators have suggested that if the ETL were not applied to FX option contracts, this would risk undermining the general effectiveness of the duty – as traders would naturally gravitate towards the untaxed sector and greatly increase their use of those option contracts that do not settle in the spot market.¹⁰ To prevent this occurring, it is proposed that the ETL be applied to all executed FX options contracts that settle on a cash for difference basis, as well as to the traditional FX market.

However, this risk is not as great as often supposed, as hedging activity related to FX option contracts will also leave a significant ‘footprint’ in the traditional FX market, which would also be captured by the ETL. Most sellers of options (mostly banks and big financial institutions) and other contingent derivatives, will not carry a ‘naked’ or un-hedged position, which is fundamentally risky, but will cover their exposed positions through a series of hedging transactions in the traditional market – the most common of which is called delta hedging. This means that option (and other contingent derivative) transactions are not stand alone but are intimately linked to the underlying traditional market and generate a significant footprint in these markets. So by virtue of having sold an option, a bank will in most cases increase its transactions in the traditional markets and thus pay a proportionately higher amount of ETL. As well, while most options (and other contingent derivatives) expire worthless, some will be exercised – in which case the currency value that changes hands will be captured by the traditional markets in any case.

This macro overview gives a sense of the sheer scale of the global FX market. However, it says nothing about the mechanics – or ‘plumbing’ – that allow these huge daily transfers of funds to actually happen. For this we must examine developments in domestic and international payment and settlement systems. This is the subject of Section 4.

¹⁰ FX options can be settled either with an exchange of currency in the spot market, which would fall within the ambit of the proposed ETL, or may be settled on a cash for difference basis with no exchange of currencies.

4 International payment and settlement systems

The past two decades have seen major changes in both national and international payment and settlement systems. The most relevant developments, from our perspective, relate to the structure and practice of Large Value Payment Systems¹¹ (LVPS). From the perspective of this report, it is these changes that make the ETL proposal feasible today in a way that was not the case in the relatively recent past.

The LVPS of any country is fundamental to the smooth functioning of its economy. Consequently, such systems tend to be directly or indirectly owned and operated by the financial authorities of the country concerned, usually the central bank. In the UK, for example, the Bank of England has this responsibility, and describes the importance of this function as follows:

A payment is a transfer of value between agents. A payment system can then be defined as any organised arrangement for transferring value between its participants. So defined, it is clear that payment systems are fundamental to the functioning of all economies. If transactions are the lifeblood of market economies, then payment systems are the circulation system for these transactions.¹²

Any LVPS entails inherent risks, which relate to a) the smooth functioning of the system itself – ie: the efficiency of the ‘plumbing’ – and b) to the behaviour of participants in the system. In particular, a default by any member of the LVPS has the potential to trigger a multiplier effect, where the ultimate outcome may far outweigh the magnitude of the original default, perhaps even threatening the viability of the entire system.

Much of the reforms to LVPS that have occurred have been designed to mitigate this ‘settlement risk’, which turns on the timing of payments. Historically, most LVPS have operated on a Deferred Net Settlement (DNS) basis. In a DNS system, payment orders are accumulated throughout the day, and then typically settled as a block at close of business. Trades are settled on a net basis, thus reducing liquidity requirements on participants in the system, and ultimately the central bank.

Despite these advantages, however, DNS systems do carry particular risks. In particular, settlement risk accumulates throughout the day, and remains unmitigated until the final net settlement occurs. Up to this point, any participant could default which, given the netted nature of the final settlement, would result in a large proportion of netted trades having to be unwound. The initial default therefore has the potential to trigger further defaults throughout the system. For many regulatory authorities, this ‘systemic risk’ inherent in DNS systems has long been unacceptably high, which has led directly to the replacement of DNS with Real Time Gross Settlement (RTGS) systems.

In an RTGS system, as the name suggests, payments are settled in real time – ie: as soon as they enter the system, but in gross rather than netted form. Real time settlement is dependent on the participant in question having sufficient funds within the system to settle the transaction. RTGS systems have the key advantage that,

¹¹ Large Value Payment Systems can be distinguished from large Volume systems in that the former typically refer to the wholesale sector, whilst the latter refer to the retail sector.

¹² Bank of England (2004)

unlike DNS systems, settlement risks do not accumulate throughout the day – thereby cumulatively increasing systemic risk – but are settled on a case-by-case basis as they enter the system. Crucially, trades are settled **simultaneously** in RTGS systems, thus eliminating settlement risk. This is done on either a payment versus payment (PvP) basis, or as delivery versus payment (DvP) for securities transactions.

One disadvantage of RTGS systems, however, is that by settling on a gross rather than a net basis, participants in the system are required to maintain higher levels of liquidity than is the case with DNS systems. This is a trade-off, wherein central banks have had to balance their desire for robustness, with the desire of participants in the system to minimise liquidity requirements and maximise operational efficiency. Concerns over systemic risk clearly outweighed other considerations in the 1990s, however, when RTGS systems became the dominant form of LVPS, first in developed markets, but increasingly in emerging markets also.

The process of developing and refining LVPS within countries has been greatly facilitated by advances in IT and communication systems. In particular, for nearly 30 years, financial transactions between institutions have been facilitated by the Society for Worldwide Interbank Financial Telecommunications (SWIFT). SWIFT is a cooperative body owned and managed by its members, which are the world's major financial institutions. Domiciled in Belgium, SWIFT provides secure messaging services between financial institutions. SWIFT also serves the same function in providing messaging between these financial institutions and a) the infrastructure of LVPS (eg: TARGET in the Eurosystem), as well as b) the respective oversight bodies for each jurisdiction (eg: the European Central Bank).

Originally, SWIFT developed its own system to perform these functions, but developments in telecommunications – notably the worldwide web – have allowed it to move to an internet based service: SWIFTNet. The SWIFTNet FIN messaging service today has more than 7,500 active users in more than 200 countries. The service sends an average of nearly ten million messages a day, which are divided into ten categories organised as five separate functions. By far the largest of these functions relate to payments messages.

SWIFTNet also provides secure messaging services to the vast majority of major LVPS globally, as well as to the major international payment and settlements systems, which have been developed in recent years.

The most relevant of these, for the purposes of this report, is the Continuous Linked Settlement (CLS) system for settling FX transactions. As described above, a key advantage of RTGS systems is that payment is not deferred, but occurs as orders arrive and are settled on a PvP or DvP basis. That is, both sides of any transaction are settled simultaneously, ensuring that one side cannot execute its side of the transaction and then run the risk of a default by the other party. In foreign exchange markets, however, which almost by definition are cross-border, this is often not possible due to different time zones.

Historically, institutions have tried to mitigate this risk – often called Herstatt Risk¹³ – through bilateral and then multilateral netting systems. Examples of the former include FXNet and VALUENet. These bilateral systems enabled pairs of financial institutions to offset concurrent obligations to each other, leaving only each institution's 'net-net'

13 On 26th June 1974 at 15:30 CET, the German authorities closed Bankhaus Herstatt, a middle-sized bank with a large FX business. Prior to the closure, however, a number of Herstatt's counterparty banks had irrevocably paid Deutsche marks into Herstatt but, as US financial markets had just opened, had not yet received their dollar payments in return. This failure triggered a ripple effect through global payment and settlement systems, particularly in New York. Ultimately, this fed into New York's multilateral netting system, which over the following three days, saw net payments going through the system decline by 60% (BIS 2002).

position to be settled. The Exchange Clearing House (ECHO) subsequently extended this function from two participants to a wider group, where each institution's net-net position was settled through a central party. ECHO ultimately merged with the other large multilateral netting system, MultiNet, as it had become clear that, in order to operate efficiently and cost-effectively, multilateral netting systems needed to include a high proportion of significant international banks.

In 1997, however, the G20 announced the plan to develop the CLS Bank, so as to eliminate settlement risk in the FX market. ECHO was brought under the CLS aegis in 1998, before being switched off in 1999. ECHO was ultimately stopped due to its relatively high cost, demonstrating that such systems are only viable if operating with very high values and the highest possible proportion of relevant participants. The CLS Bank became operational in September 2002, and since that point its market share has grown rapidly.

The CLS system – like the national RTGS systems – settles transactions on a PvP basis, thereby eliminating Herstatt Risk. The CLS Bank is linked to all the national RTGS systems, and settles FX transactions during a five-hour window when the time zones of the major LVPS overlap. Up until 06:30 CET, members are able to submit settlement instructions to the CLS Bank. At 06:30 members receive their final 'pay-in schedule' for the day and pay the necessary funds into their settlement accounts at their respective central banks (which are directly linked to the CLS system). From 07:00 to 09:00 the CLS Bank receives funds from its members' accounts and settles all trades across its books, by paying out to settlement members. If trades cannot be settled due to insufficient funds being transferred – thereby preventing PvP settlement – they are placed in a queue and regularly revisited until settlement is achieved. By midday, assuming no problems, all funds have been dispersed to members.

The CLS Bank is owned by 71 shareholders, which comprise the major international banks that are active in the global FX market. To be a member of the CLS Bank, and therefore be entitled to hold a multi-currency account, it is necessary to also be a shareholder. There are also a larger – and growing – number of third-party members of the CLS Bank, who do not hold their own accounts, but are customers of settlement members, who act on their behalf in settling FX trades. In 2004, it was estimated that around 80% of third-party members were banks. However, the CLS Bank is becoming increasingly attractive to non-bank financial institutions, and is specifically targeting this market with a number of initiatives.

In particular, through its 'Enhanced Fund FX' programme, the CLS Bank has the capability to settle FX trades for both treasury and securities clearing. The CLS Bank expects the next wave of participants to be fund managers working in the pension fund sector, as well as the asset management divisions of banks and insurance companies. In 2005 this process has already begun and the proportion of fund managers using the CLS system is expected to grow steadily.

Today, the CLS Bank settles around 50% of all FX trades globally, and 60% of all interbank FX trades. This represents a doubling of market penetration in the past year, and it now settles 90% of all its members' FX trades. The stated aim of the CLS Bank is

to settle 95%¹⁴ of all FX trades globally, and if current growth rates continue, it seems likely that they will reach this figure within a few years.¹⁵

4.1 The Eurozone's payment and settlement system

The Eurozone's payment and settlement system is one of the world's largest, reflecting the size of the European economy and the increasing importance of the euro as an internationally traded currency. In 2004, for example, €1,714 billion of transactions were processed through TARGET – the Eurozone's LVPS – every day. Of this figure, around one third entailed cross-border settlement in euro.

Over the years, TARGET has evolved out of the system of national payment and settlement systems employed by the member countries of the European Union. Unsurprisingly, given the diverse nature of member-states' economies and financial systems, these national payment and settlement systems were of widely varying forms, and therefore not ideally suited to facilitating large volumes of cross-border transactions in euro within a single currency zone. This has been overcome by linking these national systems through the creation of the Trans-European Automated Real-Time Gross Settlement Express Transfer (ie: TARGET), which is used to settle central bank payments, cross-border and national interbank transfers and other euro payments of large value. However, what is the institutional framework within which TARGET sits?

4.1.1 Institutional framework

The introduction of the euro, in a context where not all members of the European Union adopted the currency, raised some serious issues that needed to be resolved. The Bank for International Settlements (BIS 2003:76) describes the manner in which this was achieved:

Most of the provisions of the Treaty establishing the European Community (the Treaty) which relate to monetary union and most of the provisions of the Statute of the European System of Central Banks and of the European Central Bank (the Statute of the ESCB) apply only to EU member states which have adopted the euro and/or their central banks and to the ECB. In order to clarify which central banks are meant in which context, the name 'Eurosystème' was coined at the beginning of stage three of EMU. The Eurosystème comprises the ECB and the NCBs (national central banks) of those EU member states which have adopted the euro.

The Eurosystème therefore comprises the European Central Bank (ECB) and the national central banks (NCBs) of those member countries that have adopted the euro. That is, the NCBs of the EU members that have not adopted the euro – Denmark, Sweden and the UK – are not part of the Eurosystème, and have no direct influence over decision-making within the system. In this respect, the Executive Board and Governing Council of the ECB are the key decision-making bodies

The ECB also has a third key decision-making body – the General Council – which is used when financial decisions relating to all EU members, regardless of whether they

¹⁴ See interview with Joseph De Feo, Chief Executive of CLS Bank, 9 September 2004, FX&MM magazine.

¹⁵ From 2004 – 2005 the volume of transactions being settled in CLS doubled, for example.

have adopted the euro, are discussed. When referring to this wider group, the term ‘European System of Central Banks’ (ESCB) is used.

As with national central banks, one of the primary tasks of the Eurosystem is to ensure the smooth functioning of payment and settlement systems. The authority to perform this role is set out in the Treaty and the Statute of the ESCB, which has the following legal provisions with respect to payment and settlement systems (BIS 2003:77):

- Article 105.2 of the Treaty (reiterated in Article 3.1 of the Statute of the ESCB), which defines as a basic task of the Eurosystem the promotion of the smooth operation of payment systems.
- Article 22 of the Statute of the ESCB, which states that the ECB and NCBs may provide facilities, and the ECB may make regulations, to ensure efficient and sound clearing and payment systems within the Community and with other countries. Such ECB regulations are directly applicable in the member states which have adopted the euro.

The body assigned the specific regulatory powers to implement regulation to ensure the proper functioning of the Eurosystem is therefore the ECB. In this regard, there are two distinct forms of legislation that the ECB can implement. Firstly, there are internal regulations that relate to the Eurosystem and its members and take the form of ECB Guidelines, ECB Instructions and Internal ECB decisions. Secondly, the ECB can also promulgate regulations that relate to third-parties that are not part of the Eurosystem.

As well as the ECB, the Treaty also has provisions whereby the EU Council and European Parliament are able to implement legal provisions, primarily in the form of Directives. These Directives relate to the legal framework within which the banking and financial services operate, including payment and settlement systems. Directives are designed to harmonise relevant rules in each member-state, are implemented at the national level, and are applicable in all EU countries.

4.1.2 The Eurosystem

As is the case with national central banks, the smooth functioning of payment and settlement systems within the European Union is of key importance to the ECB for the following reasons (BIS 2003:78):

- A major malfunction in a payment system could undermine the stability of financial institutions and markets
- the soundness and efficiency of payment systems and the security of payment instruments affect the confidence of users and, ultimately, public confidence in the currency
- payment systems represent essential vehicles for the implementation of monetary policy. The payment system policies of central banks are aimed at ensuring the efficiency and soundness of payment systems.

Payment and settlement systems can be seen as the ‘oil’ that enables modern economies to function, and are therefore of fundamental importance. Consequently,

it is generally the case that they are overseen – and often directly controlled and operated – by central banks. As we saw in the previous section, central banks also offer settlement services themselves, and in the case of the Eurosystem, this dual role is set out in Article 22 of the Statute of the ESCB.

Clearly, close cooperation between national payment system overseers is essential if the system is to function effectively. To formalise this process, national authorities responsible for the oversight of payment systems – as well as banking supervisors – have signed a Memorandum of Understanding (MoU), which enshrines the nature of this cooperation.

Within the ESCB, this cooperation is ensured through the operations of the Governing Council of the ECB, which formulates policy by: ‘determining the objectives and setting the standards for payment systems whose functioning may affect the implementation of monetary policy, systemic stability, the establishment of a level playing field between market participants and cross-border payments within the European Union and with other countries.’ (BIS 2003:80)

However, while the Governing Council of the ECB has responsibility for formulating these policies relating to common oversight of payment systems, their implementation is the responsibility of each NCB in relation to its own national payment system.

In terms of cooperation outside the European Union, the ECB also participates in the Committee on Payment and Settlement Systems (CPSS) of the G10 central banks, which is based at the Bank for International Settlements (BIS).

As we have seen, national central banks oversight of payment and settlement has generally evolved so that the NCB directly controls and operates the main LVPS. In the UK, for example, this is CHAPS; in the Eurosystem the corresponding body is TARGET.

4.1.3 TARGET

Section 3 described the transition of international payments and settlement systems from a deferred-net-settlement (DNS) framework, to one based on real-time-gross-settlement (RTGS). TARGET is therefore the RTGS system for payment and settlement in euro.

TARGET was borne of a decision of the Council of European Monetary Institutes (EMI) in 1995, went live in January 1999, and was designed to achieve three objectives.

- First, TARGET was implemented to facilitate the increased integration of European money markets to enable a single monetary policy to be possible with the launch of the euro.
- Second, the more general aim was to develop the efficiency of national and cross-border payments in euro.
- Third, TARGET was designed to minimise settlement and systemic risk by introducing payment and settlement across the European Union on a RTGS basis.

As discussed above, TARGET was designed as an overlay to existing national systems, and is therefore a decentralised framework of 15 national RTGS systems. These national RTGS systems are connected by TARGET's 'Interlinking System', which also allows the ECB payment mechanism (EPM) to function. TARGET's Interlinking System was designed to introduce common procedures – particularly messaging functions which allow payment orders to move between national RTGS systems, regardless of their own distinct protocols and procedures.

TARGET processes both interbank and retail transfers in euro. Specifically, the following three forms of transactions are processed and settled in TARGET:

- payments directly connected with central bank operations where the Eurosystem is involved on at least one side of the transaction
- the settlement of large-value netting systems operating in euro
- interbank and retail payments in euro.

It is noteworthy that it is mandatory for the first two types of transaction to be settled through TARGET (BIS 2003).

Transactions within TARGET are effectively between the national RTGS systems of EU member countries. That is, confirmation and payment messages are exchanged bilaterally between national RTGSs, using TARGET's 'Interlinking System' described above. Although no information on cross-border payments is sent to the ECB during the course of the working day, the ECB does undertake an 'End-of-Day Application' process, which checks that all bilateral messages have been sent and received, and that all cross-border payments have been made.

The Interlinking System described is clearly fundamental to the effective functioning of TARGET. The system is based upon a telecommunications network, which is connected to the 'National Interlinking Component' in each country. Importantly, the Interlinking procedures are standardised and are the same for all countries and employ the industry standard SWIFT messaging system.

How does TARGET work in practice?

Within TARGET – as is now the case in all major payment and settlement systems – transactions are settled individually as they enter the system using central bank money: that is, by crediting and debiting settlement accounts held at national central banks. To initiate a cross-border payment within TARGET, a private financial institution sends a payment order to its own central bank through the local RTGS system – in the UK, this would be CHAPS, for example.

The central bank then converts the order into the standard format used by the Interlinking system, and sends the message through the Interlinking network to the receiving central bank using the SWIFT messaging function. Assuming the payment is valid and that the private financial institution has sufficient funds to permit the payment, the funds are debited from its RTGS account at the central bank and credited to the Interlinking account of the receiving central bank. On the receiving side, the national central bank converts the incoming SWIFT-format message from the

Interlinking standard into its own domestic format and credits the receiving private sector institution's RTGS account. To conclude the transfer, the receiving central bank then sends the SWIFT payment message, through its local RTGS system, to the relevant private financial institution.

Although this process may sound rather convoluted, in reality it is a largely automated process that occurs smoothly and efficiently. This is made possible by the constant exchange of messages between the parties involved, which as we have seen are provided by SWIFT.

The rather ad hoc nature of TARGET has been a concern of European monetary authorities since its launch. As a result, recent years have seen work progress rapidly on designing its successor: TARGET2.

4.1.4 TARGET2

Unlike its predecessor, TARGET2 will not be built upon existing national RTGS systems, but will be a dedicated, pan-European RTGS system in its own right. The introduction of TARGET2 will therefore remove the need for countries within the Eurozone to operate their own national RTGS systems. All central banks will share the same technical platform – the Single-Shared-Platform (SSP) and, as with TARGET, the messaging function between the relevant parties will be undertaken by SWIFT.

In TARGET2, it will no longer be necessary for each national central bank to maintain a national RTGS system of its own. All central banks will be able to share one technical platform, the Single Shared Platform (SSP), thus supporting the RTGS services that they offer to their banks. However, the settlement account relationship and the intraday credit provision will continue to belong to the business relationship between each central bank and its national banking community (CPSS 2005:41). So, there will be a greater centralisation, standardisation and harmonisation of settlement in central bank money in Europe.

As with TARGET, settlement will ultimately take place in settlement accounts using central bank money. However, as is the case with major euro multilateral netting institutions such as EURO1¹⁶, and the CLS Bank, TARGET will contain mechanisms to offset payment obligations between institutions. However, each of these individual transactions will itself trigger SWIFT confirmation and payment messages, which precede any bilateral or multilateral netting. Consequently, the identification of individual euro trades will remain the same as under TARGET.

4.1.5 Summary of Developments in European and Global LVPS

The last two decades have seen significant changes in the practice of payments and settlement systems globally. As overseeing authorities have sought to reduce settlement risk **and** enhance systemic efficiency, DNS systems have given way to RTGS systems, where – at least domestically – settlement risk is effectively eliminated due to the use of PvP and DvP. In general terms, advances in IT have led to greater uniformity, as heterodox forms have gradually been replaced by a more homogenous

¹⁶ The only privately owned and operated EU-wide payment system is the EURO1 system of the Euro Banking Association (EBA). EURO1 processes interbank payments as well as commercial payments. (BIS 2003)

approach based on commonly used technical platforms, thereby greatly reducing costs through increased efficiency. Major LVPS in developed countries are increasingly interdependent. They rely on the same technological infrastructures, which ensure that this interdependence functions smoothly and effectively. The messaging function pioneered by SWIFT has become central to this process, as economies of scale considerations have made it increasingly sensible for all global players to use the same system.

Internationally, cross-border FX Herstatt Risk – one of the last remaining outposts of settlement risk in the global financial sector – has also been addressed with the launch of the CLS Bank, which enables FX transactions in different time-zones to be settled on a PvP basis. As with national LVPS, this effectively eliminates settlement risk.

Therefore, whilst the Eurosystem has responsibility for ensuring the effective functioning of systemically important euro payments systems, the European Union is **not** an island in this respect. Rather, it operates in an interconnected – and interdependent – global network of central banks and national payment systems, and cooperates in the oversight of cross-border payment systems such as the CLS Bank.

The next section sets out the proposal for a unilateral euro transaction levy in the context of these developments. We shall see how the automation and standard messaging systems described make such a levy feasible. Furthermore, we shall also see how the interdependence that has been described makes avoiding it extremely difficult. Finally, we shall see how the benefits of the developments described above – in terms of efficiency, cost and systemic stability – far outweigh the cost of an ETL set at the rate proposed.

Consequently, even if regulators were to allow them to do so – which they would not – there would be no rational incentive for banks and other financial institutions to seek to move outside the existing frameworks in order to avoid the ETL. To do so would be hugely expensive, would make previous large capital expenditure on ensuring system compatibility a ‘dead-weight’ cost, would reduce systemic efficiency (and increase operational risk) and carry significantly higher operating costs on an ongoing basis.

Importantly, however, the only feasible way that banks would be permitted to exit TARGET, the CLS Bank, or any comparable system (by their respective central banks), would be to build a parallel system that effectively dealt with Herstatt Risk, that was acceptable under Basel 2 and that was compliant with anti-money laundering regulations. Such a system could not avoid the ETL proposed here.

In contrast, the effect of an ETL set at a modest rate would be of little consequence, especially if the tax is ‘hardwired’ and ‘piggy-backs’ on existing system capability.

5 The euro transaction levy proposal

The proposal is for a 0.005% transaction charge to be levied on all euro FX transactions worldwide.

As detailed in Section 4, the past two decades have seen significant changes in the way FX transactions are settled both nationally and regionally (using RTGS systems) and internationally (using the CLS Bank). It has been suggested that these developments have made a unilaterally implemented CTT feasible, which has not always been the case. A leading scholar in the field today is Rodney Schmidt, who put the issue as follows in 2000:

... the infrastructure for settling foreign exchange trades is increasingly formal, centralized and regulated. This is due to new technology, subject to increasing returns to scale, and to cooperation between trading and central banks to reduce settlement risk. Settling a foreign exchange trade requires at least two payments, one of each of the currencies traded. Settlement risk is eliminated when payment obligations are matched and traced to the original trade, and then payments are made simultaneously. The technology and institutions now in place to support this make it possible to identify and tax gross foreign exchange payments, whichever financial instrument is used to define the trade, wherever the parties to the trade are located, and wherever the ensuing payments are made.¹⁷

To be effective a euro transaction levy would need to have the following attributes:

- It could be implemented relatively easily and cheaply, using existing market infrastructure and networks.
- It would capture the vast majority of euro transactions globally.
- It would be set at a sufficiently modest level as to neither distort the market or provide incentives for financial institutions to move outside current systems in order to avoid the ETL.

This section provides details of how the proposed ETL meets each of these three criteria.

5.1 Implementing a euro transaction levy

Since the launch of the CLS Bank in 2002, a growing share of euro FX transactions have migrated to it. Today it is estimated that a little over half of all global euro trades are conducted through the CLS system. Of the remainder, the overwhelming majority are processed through the EU's TARGET RTGS system. TARGET is directly connected to the CLS member banks, and also linked with the national RTGS systems of its members' national central banks, as well as other major international RTGS systems.

To be effective, therefore, the ETL must be implemented at a number of levels. The most straightforward of these is through the CLS Bank. As pointed out above, more than 50% of all euro transactions are settled in the CLS system, where it would be a straightforward task to identify them.

¹⁷ Schmidt (2000)

In time it is highly probable that an ever-larger proportion of euro transactions will be settled through the CLS system. The objective of the CLS Bank is to settle 95%¹⁸ of all FX trades globally – which, given growth in market share since the bank's launch, does not seem an unreasonable aspiration. Consequently, over time the proportion of euro trades on which the ETL can be directly levied through the CLS system is likely to rise steadily. A key driver in this regard – of which more will be said below in Section 6 – is the economies of scale and intra-organisational efficiency gains that can be achieved through a large financial institution moving all of its FX operations to the CLS Bank. Growth in new participants to the CLS system continues apace. Furthermore, once an institution becomes a participant it faces strong incentives to move all of its FX business to the system. This is demonstrated by the fact that, although the CLS Bank settles around half of all FX trades globally, it settles around 90% of its members' trades.

Having accounted for more than 50% of all euro FX trades, the ETL must also address the remainder – though, as described above, this 'remainder' is likely to become an ever-smaller proportion in the years ahead. By far the most important organisation, in this regard, is the EU's LVPS – TARGET. Here, the developments in the LVPS sector that have been described are key to the feasibility of implementing an effective ETL.

The CLS Bank was launched with the aim of removing Herstatt Risk. In respect of this, a key consideration was that Herstatt Risk had already been effectively removed from domestic LVPS through the introduction of RTGS systems, and, in particular, the development of PvP and DvP networks. What does this mean in practice?

Within the Eurozone, we can imagine a situation where EUBank1 wishes to purchase a European financial asset from EUBank2. If the sale price is agreed, EUBank1 sends a SWIFTNet message through TARGET with an instruction to debit its settlement account at the relevant national central bank, and to credit the settlement account of EUBank2. At the same time, EUBank2 sends a SWIFT message requesting ownership of the relevant asset be transferred to EUBank1. SWIFT then matches the two messages, and after requesting and receiving confirmation from both banks, transfers both the euro amount and the ownership of the asset. In this instance, both sides of the transaction are in euro and therefore represent a domestic transaction that does not attract the ETL.¹⁹

Internationally, however, the situation is rather different. Suppose EUBank1 wishes to buy US dollars for euro. EUBank1 makes an offer to USBank1 (through any of a number of possible channels) and the offer is accepted. As with the domestic example, EUBank1 then sends a SWIFT message to the LVPS requesting it to debit its settlement account at the national central bank for the appropriate quantity of euro, and to credit the account of EUBank2 at the central bank (we assume that USBank1 keeps its euro holdings with an account at EUBank2, which reflects standard international banking practice). At the same time, USBank1 sends a message to its LVPS requesting that the appropriate dollar amount is transferred from its balance to that of USBank2 (again, we assume that EUBank1 keeps its US dollar holdings in an account with USBank2).

In the Eurozone, SWIFT requests confirmation of the trade from EUBank1, upon receipt of which it debits EUBank1's account at the national central bank, and credits that for EUBank2 in its equivalent central bank. Unlike the domestic transaction, however, it is unable to match the message from EUBank1 to another euro-based message in the

18 See interview with Joseph De Feo, Chief Executive of CLS Bank, 9 September 2004, *FX&MM* magazine.

19 This stylised example is an adaptation of that used in Schmidt (2001).

system. Therefore, although domestically the PvP process requires matching of trades and removes settlement risk, an international FX trade cannot be settled on a PvP basis in a national system such as TARGET, as each leg of the trade takes place in different domestic LVPS operating in different time-zones. Indeed, it was this particular feature of the international FX market, which first led to the creation of cross-border multilateral netting systems such as ECHO, and ultimately to the launch of CLS bank, which does allow settlement of FX trades on a PvP basis. A consequence of this feature of modern LVPS, however, is that the failure to match both legs of a transaction in euro identifies the transaction as an FX trade, upon which the ETL can be levied.

It is clear therefore that an ETL could feasibly be implemented unilaterally in the Eurozone, with the overwhelming majority of euro transactions undertaken globally being identified through the CLS system and TARGET. As the stylised example above makes clear, this is based on PvP systems in domestic LVPS, as well as the PvP approach employed by the CLS Bank. The 'oil' that lubricates this process and makes it possible, however, is the ubiquity of standardised messaging formats within the financial sector.

A key feature of the various interlinked systems through which euro FX transactions can be settled is their use of the SWIFTNet messaging system. Importantly, SWIFT also provides messaging services for major electronic FX trading platforms such as FXall, as well as for the major global bilateral and multilateral FX netting systems, past and present. This global reach offers the chance to further extend the scope of the ETL, and ensure that all euro trades in TARGET are identified.

Within each of the systems in which it operates, SWIFTNet provides secure payment messaging between members through its FIN system and, crucially, has a dedicated message form – the MT300 – which is used to confirm individual FX trades. That is, whether in the CLS system, TARGET, FXall or a multilateral netting system, an FX trade is confirmed between the counterparties by means of a SWIFTNet FIN MT300 message, or one of its variants.

The MT300 message performs the following functions:

- It confirms the details of a new FX contract between the parties.
- It confirms an exercised foreign currency option.
- It confirms the details of an amendment to a previously sent confirmation.
- It cancels a previously sent confirmation.

The MT300 message is initially exchanged by or on behalf of the parties that have agreed to a foreign exchange contract. The fact that MT300 messages also provide notification of amendments to contracts and cancellations of previously held confirmation is important for the purposes of our proposal, as it ensures that the ETL is only levied on euro FX transactions in the form in which they are ultimately transacted. Also, because MT300 messages confirm individual FX trades, they precede any subsequent bilateral netting process that may occur, after which identifying the individual trades concerned may not be possible.

Within each MT300 message, a number of fields must be completed. For an FX trade, the currencies concerned and the amounts bought and sold are included here. In the Mandatory Subsequence sections of the MT300 message, the relevant sections are B1 (Tag 32b) for the currency and amount bought, and B2 (Tag 33b) for the currency and amount sold. Consequently, all the information needed to identify euro transactions is already in place. No dedicated infrastructure is required.

The MT300 messaging system can therefore capture the lion's share of euro transactions in the 'traditional' FX market. However, this still leaves the important area of the OTC derivatives market. In one important respect, this market is also covered by the MT300 messaging series, which is used to confirm that FX options have been executed. In this case, MT305 and MT306 are used as messaging formats.

All other FX OTC derivative contracts are contained within the third category of SWIFTStandard messaging formats, which range from MT300 to MT341 and from MT350 to MT399. As with the traditional market, messages require the currency, amount and counterparties to be identified within the message, as well as the facility to amend or cancel contracts.

The next piece of 'plumbing' is to gather relevant messages of this form in a central location, to enable the ETL to be levied. Again, however, it is possible to 'piggy-back' upon existing networks by using the SWIFTNet FIN Copy messaging function.

SWIFT describe the Copy service as follows:

The SWIFTNet FIN store-and forward messaging service includes the option of automatically sending copies of messages to a third party by means of the SWIFTNet FIN copying services. The simple, flexible and secure functionality of FIN Copy and FINInform caters to the diverse needs of the SWIFT community in a broad range of scenarios, such as clearing and settlement, monitoring and reporting and third-party or outsourced services.²⁰

The majority of recipients of SWIFT FIN Copy messages are central banks, as the messages facilitate settlement in the centralised RTGS systems described above. To perform this function, Copied FIN payment messages take the Y-Copy Form, where the message is sent to the central bank – but not the counterparty – in the first instance. Once the central bank has established that the bank initiating the transfer has sufficient funds in its settlement account, the transaction is performed and the message released to the counterparty.

For our purposes, however, the simpler T-Copy form, where the copied message is released to the central bank at the same time as to the counterparty, is closer to what is needed. A problem with both Y and T Copies, however, is that they are automatically triggered regardless of the type of transaction. The ideal template, however, is FINInform, where copied messages are triggered to the central bank depending on either the identity of the parties or, crucially, the type of message sent.

A key aspect of the proposal is therefore to establish a SWIFTInform messaging service, which is triggered by the sending of an MT300–MT399 FX message, in either the traditional or the OTC derivatives market. In this instance, a copy of parts of the

²⁰ See, FIN Copy and FINInform: The SWIFTNet FIN copying services at: www.swift.com

message – currency, volume and counterparties – is automatically sent to the ECB for every FX transaction involving the euro. As with all aspects of the proposal, this process would be automated and would require no dedicated infrastructure.

The next aspect of the proposal considers how, when in receipt of this information, the euro transaction levy would be collected.

5.2 Collecting a euro transaction levy and preventing avoidance

Once identified in the manner described above, collecting the ETL would be a relatively straightforward process. To be able to participate in the CLS system, financial institutions must hold an account with the CLS Bank. However, in practice, EU-based CLS Bank members actually hold their accounts within their respective central banks. These accounts can then be credited and debited by the institution in accordance with their liquidity requirements for the CLS Bank. To collect the ETL from the CLS system, therefore, the tax could be directly taken from the relevant accounts.

Similarly, in order to be a member of TARGET - which as we have seen is an interconnected network of national LVPS - a financial institution must hold a settlement account at their central bank, where euro transactions undertaken through TARGET are ultimately settled. Therefore, once the tax to be paid is identified and traced to a LVPS member, it can be transferred from the relevant settlement account held at, for example, the Bank of France, to a dedicated ETL account held at the European Central Bank.

The SWIFT messaging system in general – and the FINInform Copying function in particular – is completely automated on a day-to-day basis. Consequently, though the relevant systems would have to be slightly modified to facilitate tax identification and tax take from the appropriate centrally held accounts, the changes would be relatively minor. Furthermore, once the fixed, start-up costs were met, the marginal cost of operating the system would be very low.

Direct members of both the CLS system and TARGET are relatively few in number, with a significant proportion of all trades being undertaken by members on behalf of their third-party customers. Whilst these market participants would not be directly taxed, they would be affected by the ETL, which would be directly reflected in the spread charged them by CLS/TARGET members in exchange for executing their FX business.

The remaining euro trades undertaken – by corporations, for example - would still be identified by use of the SWIFTNet messaging service described. Furthermore, these trades would be settled by correspondent banks on behalf of the underlying corporate. These correspondent banks would hold accounts with the national central bank, the CLS Bank, or both. Consequently, such euro trades would ultimately also incur the transaction levy.

On average SWIFT messages cost approximately €0.1 each. The CLS Bank settles 200,000 transactions a day, which is about half of all FX trades. To capture the entire FX market, therefore, would equate to 400,000 messages a day. Since euro transactions account for 37% of the total, this amounts to the generation of 148,000 SWIFT copy messages daily. This would cost €14,800 a day, or €3.85 million per year.

If we assume the same running cost for the national central banks and the ECB to set up their own systems to manage this inflow of information, we reach a little over €7 million as the annual running costs.

5.3 Avoiding market distortions: the appropriate rate

Having established the feasibility of a) identifying euro FX transactions, and b) collecting the ETL, the final question relates to the appropriate level at which to set the duty. The objective is not to maximise income *per se*, but to strike a balance between raising sufficient revenue to make a contribution to meeting the MDGs, and avoiding market distortions.

In Section 3 we saw how – as of 2004 – the euro accounted for 18.5% of all FX trades globally, out of an average daily total of \$1,880 billion. This equates to a potentially taxable daily total of around \$348 billion.

TABLE 3
Potential daily revenue raised from ETL using differing tax rates in traditional FX market

ETL rate	Daily revenue raised	Annual revenue raised*
1%	\$3.48bn	\$904bn
0.1%	\$0.34bn	\$90.4bn
0.01%	\$0.034bn	\$9.04bn
0.005%	\$0.017bn	\$4.52bn

* assuming 260 trading days

Table 3 illustrates the potential daily revenue from differing ETL rates. As can be seen, a 1% tax would theoretically raise more than \$900 billion. However, an ETL at such a level would be likely to have a distorting effect on the market, reducing volumes traded significantly.

At the 0.10% level the annual revenue would be \$90.4 billion. However, it is likely that a 10 basis points (bp) tax rate would also have a sizeable impact on the market. In particular, it would provide a clear disincentive to trade in euro, with the result that volumes could fall considerably, with the tax take therefore also falling by a significant amount.

A more realistic rate to set the ETL at would be 0.01%, or 1 basis point, where annual revenues would be in the order of \$9 billion. While it is likely that a 1 basis point ETL would not cause major disruptions in the euro market, this rate is not proposed. Rather, the proposal is to set the ETL at half of one basis point: 0.005%. At this low rate, it is difficult to argue that the tax would distort the market. It would, however, raise \$4.52 billion annually.

As well as the traditional FX market, however, the proposal is that the ETL should also be levied on OTC FX derivative market transactions not included in the traditional market estimates – ie: currency swaps and FX options, with the overwhelming bulk being accounted for by the latter. Indeed, in order to capture the highest possible proportion of euro FX trades, and to prevent market participants leaving the traditional

market for the derivative market in order to avoid the ETL, it is essential that the full derivative market is covered within the framework.

As with the traditional FX markets, FX option contracts, if executed, require a transfer of payments and trigger a specific MT300 SWIFT message. As with the description above, therefore, such payments can be identified using the same SWIFTNet FINInform messaging system, and taxed directly through settlement accounts held at national central banks. Given uncertainty over the proportion of euro FX options that are ultimately executed, however, we do not include this source of income in our total estimate of the ETL's annual revenue.

Based on conservative assumptions we therefore estimate that the ETL would produce annual revenues of \$4.52 billion, which at current exchange rates equates to €3.58 billion.

Of course, this assumes that the implementation of the ETL has no impact upon volume traded. Given the extremely low level of the tax, this is not an unreasonable assumption. However, in order to err on the side of caution, we assume a 2.5% reduction in the volume of euro traded, and this would amount to an annual receipt of \$4.4 billion, or €3.5 billion. The 2.5% figure is based on a report written for the UN on the revenue raising potential of Currency Transaction Taxes (Nissanke 2003).^{21, 22}

As with other national taxes in the European Union, national tax collection bodies are the agencies with statutory power to collect the levy. The mechanics of collection, however, would be greatly eased by taxable funds being held in accounts at the national central banks of EU member countries.

The 'economic footprint' of the ETL would, in the first instance, fall upon the large financial institutions that are members of the CLS Bank and TARGET. These are primarily international banks. If this was as far as the process went, there is little doubt that major international banks could comfortably absorb this within the record profit margins that have become the norm in recent years (Table 4).

However, in fact, major international banks will not absorb this cost in its entirety – or anything like it – but will pass it on to their FX customers in the form of a slightly wider spread.

- 21 Some of the fall in volume could reflect a migration to stock exchanges, where FX deals can be executed by trading stocks denominated in different currencies. This practice already occurs to some extent, though its potential growth is limited. However, traded stocks are also settled in centralised systems of the kind described in this report, and could therefore be brought within the ambit of the ETL relatively easily.
- 22 More clarity will be gained on this issue, when Professor Rodney Schmidt's ongoing research into the price elasticities of FX volumes is published.
- 23 US banks' data: http://money.cnn.com/magazines/fortune/fortune500/full_list/index.html; Non-US banks' data: each institution's consolidated financial statements 2005; US Dollar figures for non-US banks converted at exchange rate of 3/1/2006.

TABLE 4
Major global FX trading banks²³

Bank	Annual profit 2005
Citigroup	\$24.59bn
HSBC	\$15.84bn
UBS	\$10.80bn
JP Morgan Chase	\$8.48bn
Barclays	\$6.68bn
Goldman Sachs	\$5.63bn
ABN Amro	\$5.32bn
Merrill Lynch	\$5.12bn
Morgan Stanley	\$4.94bn
Deutsche Bank	\$4.23bn

Furthermore, a significant proportion of euro transactions are not undertaken by EU institutions. Although relatively few in number, large international banks dominate the global FX market. These banks' trades are ultimately undertaken for a wide range of clients – for example, the CLS Bank estimate that an average of 200,000 separate transactions are settled every day, which gives some sense of the number of ultimate participants in the global FX market. The impact of the ETL would therefore be dispersed widely throughout the global financial system, with minimal impact on any one institution.

As we have seen, the CLS bank processes an average of 200,000 FX transactions every day. In line with the global picture, we assume that 37% of these have the euro on one side of the trade, which gives 74,000 euro transactions in the CLS system per day. However, the CLS Bank settles only around half of all FX transactions, which suggests a global figure of 148,000 euro trades per day. Over a year, therefore, we can estimate the total number of euro transactions as being somewhere in the order of 38.5 million.

For the 38.5 million ultimate clients in the euro FX market, the impact of the ETL would be somewhere in the region of \$117 per trade, on an average trade size of a little over \$2 million.

For corporations, however, the situation is clearly different. The Eurozone exports somewhere in the region of \$1.5 trillion of goods per year. Based on the profit margins of EU companies from 1990 to 2002, we assume an average margin of 8%²⁴. Eight percent of \$1,500 billion is \$120 billion, which we take as a rough estimate of the annual profit of the EU's export sector.

Assuming 5% of euro transactions are initiated by exporting EU corporations, the impact of the ETL on the EU corporate sector would be somewhere in the region of \$225 million. Consequently, the impact on EU exporters would be just 0.18% of their annual profits, which is very small when set against the many other factors that influence company profitability. For example, over the past ten years, EU companies' average profitability has fluctuated by a magnitude of 3% per year in Germany, 5% in France and Italy, and almost 50% in Spain. It is clearly the case that when compared to the impact of changes to general business conditions, and movements in indicators such as interest rates and the euro exchange rate, an ETL of 0.005% will have hardly any discernable impact.

To summarise, we have seen how developments in international payment and settlement systems, have resulted in an interrelated global network, which is lubricated by common technological and communication systems. It is precisely this highly interdependent network that makes it feasible today to unilaterally implement a euro transaction levy. In order to avoid producing market distortions, we have proposed that the levy be set at the rate of 0.005% on the euro half of all FX transactions. As well, the mechanism through which the ETL could be efficiently identified and collected has been demonstrated.

We have also produced an estimate of the likely annual revenue that would be raised through the ETL, and suggested that a figure in the region of \$4.4 billion, or €3.5 billion, per year is a reasonable expectation. When compared with the

24 See Citron and Walton (2002)

estimated running costs of the system given in Section 5.2, it is clear that the cost of administration and collection of the levy would be minimal, maximising the amount available for international development purposes.

Finally, we have shown that the ‘footprint’ of the ETL would be widely spread globally, and would amount to just \$117 on an average FX trade of \$2 million. For the EU corporate export sector, we see a similarly modest impact of 0.18% of average annual profits. Clearly both the financial and non-financial private sector could comfortably absorb the impact of the ETL at the rate proposed, as do comparable institutions in other countries and regions.²⁵ In Brazil and Colombia, for example, financial transaction taxes are more than 100 times greater than the ETL rate proposed, at between 0.5% and 1.5% respectively.

The next section considers objections to the proposal and provides responses to them.

²⁵ See Section 2.

6 Responses to objections

This section responds to both general objections and detailed concerns regarding the ETL proposal raised in high-level dialogue with Government departments and EU institutions.

6.1 **Would a euro transaction levy not cause the financial market to trade the currency abroad in order to avoid payment, therefore taking transactions away from the Eurozone?**

In responding to this key question it is critical at the outset to make a distinction between the trade of euro throughout the world, and the trading of all currencies in the Eurozone. The proposal here is for a transaction levy on euro transactions alone. Like any other tax, it would be illegal to avoid, and major financial institutions, who rely on having and maintaining their good reputations, would pay it. This unilateral approach both underlies the only way for progress in this field to happen – since it is clearly completely unrealistic that all countries would agree to levy some kind of CTT at the same time – and also defines why avoidance is not realistically possible. In a nutshell, a small levy on euro transactions cannot be avoided because the global settlement system provides sufficient electronic connection to the ECB and settlement system within the Eurozone that the levy can be collected regardless of the geography of the trade, including tax havens.

To explain briefly, while it may have been the case in the past that an ETL could not be implemented unilaterally, this is no longer so. Historically, the global foreign exchange (FX) market had consisted of disparate parts with little or no links between them – trades were conducted and settled manually by phone between counterparties. Today, however, the different components of the global FX market are built on the same technical platforms, use the same electronic messaging providers and trade electronically using the same systems. Furthermore, these trades are settled through either the recently established CLS Bank – which centralises the system and now settles around half of all global FX transactions – or through the High Value Domestic Settlement systems run by the world's central banks.

The only way financial institutions could avoid a CTT on a specific currency would be effectively to remove themselves from the international FX transaction, messaging and settlement systems. However, the benefits they obtain from being in these systems dwarf the cost of a CTT levied at the low rate proposed. Since no advantage would be gained by trading euro outside the Eurozone there would be no incentive to re-locate trading.

6.2 Where would the incidence of the ETL fall? Which actors would bear the economic footprint?

The 'economic footprint' of the ETL would, in the first instance, fall upon the large financial institutions that are members of the CLS Bank and TARGET. These are primarily major international banks. However although these institutions could comfortably absorb this cost in its entirety – or a large proportion of it – in fact they will pass it on to their FX customers in the form of a slightly wider spread. Consequently, the impact of the ETL will be dispersed throughout the FX system, with minimal impact on any one institution.

Please see Section 5.3 for a more detailed explanation in which, for example, it is shown that the impact on Eurozone exporters would be just 0.18% of their annual profits, which is very small when set against the many other factors that influence company profitability. For example, over the past ten years, EU companies' average profitability has fluctuated by a magnitude of 3% per year in Germany, 5% in France and Italy, and almost 50% in Spain. It is therefore clearly the case that when compared to the impact of changes to general business conditions, and movements in indicators such as interest rates and the euro exchange rate, an ETL of 0.005% will have hardly any discernable impact.

6.3 Would an ETL encourage a move away from the CLS system?

As has been discussed, the primary reason for establishing the CLS Bank, was to eliminate settlement risk – as manifested with the collapse of Herstatt Bank – from cross-border FX transactions. In this, the CLS Bank has been remarkably successful.

Since its launch in 2002, the system has worked virtually flawlessly. By moving to a PvP system in a dedicated settlement window that applies for all participants globally, the CLS Bank has removed one of the largest remaining risks in the financial system for its participants. As described in Section 3, this initiative is particularly significant, given the huge size of the global FX market. Considering the sums involved in daily transactions, the failure of a major international bank involved in the FX market has the potential to produce a ripple of systemic risk around the world, with unknowable consequences for both individual banks and, ultimately, national and international payment and settlement systems.

This concern is therefore important. If the implementation of the ETL did result in existing members leaving the CLS system, or provided a strong disincentive for those considering joining the network, this would have serious consequences. In what follows, however, we shall demonstrate that, ultimately, these fears are unfounded, not least because the ETL would also be levied on transactions outside the CLS system, rendering the issue of leaving the CLS Bank to avoid it relatively meaningless.

Having said that, the hypothesis is incorrect, even on its own terms. For the ETL to create an incentive for banks to leave the CLS system, the costs of paying it would have to be greater than the benefits which accrue from CLS Bank membership. This is therefore a straight cost-benefit question. How do the two sides of the equation stack up?

Before addressing the costs to CLS Bank members of paying the ETL, we will consider the benefits they derive from CLS Bank membership and, where possible, attempt to quantify these to allow a direct cost-benefit comparison.

CLS Bank members face both fixed and variable costs as a result of their membership of the system. On the fixed cost side, these relate to the cost of developing IT systems, organisational logistics and the training of staff to enable them to function on the system. If a member were to leave the CLS system these costs would be 'dead-weight', and must therefore feature in any sensible cost-benefit assessment. Furthermore, the costs of leaving would effectively double this figure, as the systems and processes put in place would have to be removed and replaced with new systems.

From the variable cost perspective, there are a number of relevant factors that need to be considered.

- Participation in the CLS Bank brings significant – and quantifiable – efficiency gains, relative to the alternatives.
- Transaction costs in the CLS system are lower than costs elsewhere.
- Liquidity requirements/net funding costs also differ significantly in the CLS system. This is a serious concern for major international financial institutions, and again no assessment of the costs and benefits of remaining within the CLS system can be made without taking this issue into account.
- CLS Bank membership brings differential treatment under the new Basel Capital Accord due to varying risk factors in different settlement systems. Again, an assessment of the benefits and costs to banks in this respect must be incorporated in the analysis.
- Finally, there are a number of less quantifiable factors that will also weigh heavily in any such decision.

6.3.1 Fixed costs of joining the CLS Bank

To be a full member (and therefore shareholder) of the CLS Bank requires a \$5 million subscription fee. However, as presumably a member/shareholder who wished to leave the system would be able to sell its shareholding – assuming another party wished to buy it – it should be possible to recoup some or all of this upfront investment.

The same does not hold for investment in the internal systems required to operate effectively within the CLS system. For example, upfront investment in IT systems is likely to account for a large part of the potentially dead-weight fixed costs of joining the CLS Bank. In 2004, the TowerGroup conducted a survey of financial institutions to assess the costs and benefits of participation in the CLS system. In terms of fixed costs, these results were reported as follows:

The Tower Group (the financial services IT research and consultancy) has estimated the total spending by settlement members, user members and third parties for changes and enhancements to existing IT applications to be approximately US \$183 million between 1999 and 2003. This expenditure will be similar to that for the euro and Y2K

in the sense that it is a one-off cost for related enhancements. Given that the top 25 member banks, who will market CLS services globally, are likely to spend up to US \$5 million on IT applications, one has to question whether there is an alternative.²⁶

Clearly, such investment is a one-off and is specific to the system needs of the CLS Bank. That is, if a financial institution were to leave the CLS Bank, the systems they had developed – at a cost of up to \$5 million per bank – would not be compatible with any potential alternatives. Therefore, not only would the \$5 million be effectively lost, but also IT systems would have to be fundamentally changed to be compatible with another system, at considerable additional costs.

Third-party participants in the CLS system face lower fixed costs, though it is reasonable to assume that these would not be negligible. Furthermore, third-party participants directly benefit from the larger up-front costs incurred by full settlement members, without which they would have no access to the benefits of the CLS system.

By the middle of 2003, the CLS Bank had approximately 50 direct settlement members, and 70 third-party members. If we therefore assume an average up-front investment of \$4 million for the top 25 member banks, and an average \$2 million investment for the remaining 25 members, we can assume that third-party participants have incurred upfront investment costs relating to IT systems of approximately \$0.5 million each. These are not negligible sums, particularly for some of the smaller third-party players. However, if they were to leave the CLS Bank this would be lost, and further investment would be required to engineer new IT systems.

6.3.2 Variable cost differential of CLS Bank participation vs alternative systems

Prior to its launch, proponents of the CLS system argued that, despite the relatively high up-front investment costs, participants would see benefits in terms of lower variable – or operating – costs. For the purposes of this report, we can divide these into distinct categories:

Efficiency gains

For participants in the CLS Bank, a key benefit has been the ability to increase FX volume traded, but with the same or even with fewer staff. This was illustrated in the results of a survey by the London-based Z/Yen Research group, which was based on data for 2004.²⁷ The results show that average interbank FX volume increased significantly over the year, whilst average headcount fell over the same period.

The survey demonstrates that participation in the CLS Bank has resulted in direct efficiency savings of 32% for participants in the system.

If we assume that, on average, each FX transaction produces clear profit (in terms of the spread) of 1.5 basis points – a reasonable assumption²⁸ – we can estimate the impact of this efficiency saving. The CLS system processes \$2 trillion of trades every day. However, CLS Bank data includes both sides of each transaction, with the result that the headline figure produced must be halved. One and a half basis points' worth of \$1 trillion is \$150 million in estimated profit per day. However, as pointed out above, operational efficiency

²⁶ See www.gtnews.com/payments/clsreport.cfm

²⁷ See www.zyen.com/ for full copies of this survey.

²⁸ In 2002, for example, spreads in inter-bank wholesale markets were 0.023% for the US dollar/yen transactions and 0.021% for the US dollar/UK pound. (Spahn 2002).

gains within the CLS system enable participants to increase the scale of transactions by 32% with no impact upon operating costs. Consequently, participation within the CLS system offers the opportunity to increase FX profits from \$150 million to \$198 million per day, a system-wide daily profit increase of \$48 million. Taken annually, this amounts to a direct benefit to CLS Bank participants of \$12.48 billion.²⁹

Operating costs

As well as the efficiency gains described, the same survey provides data on the impact of CLS Bank participation on average inter-bank transaction costs for FX trades. In the non-CLS interbank market, for example, the average internal cost of processing an interbank FX trade is \$3.70. Within the CLS system, however, the cost falls to just \$1.30, a saving of \$2.40 per trade.

On average, the CLS bank settles 200,000 trades every day. However, as with its value data, it is necessary to halve this figure to get a true picture. Applied to 100,000 daily trades, the efficiency gains described therefore represent a daily saving to participants of \$240,000, or \$62.4 million per year. By October 2005, the CLS Bank had approximately 550 participants, including banks, non-bank financial institutions and investment funds. Clearly some banks will benefit far more than this, particularly the key settlement members who are processing the largest quantity of trades in the system. However, for comparative purposes, it is useful to consider the savings (and costs) on an average basis.

Liquidity / net funding costs

In domestic RTGS systems, the 'G' stands for gross rather than net. Whilst CLS Bank transactions are also settled in gross form, they are **funded** on a net basis. The benefits this produces are described as follows by the CLS Bank:

By providing Settlement Members with a multilateral net position on which to base necessary daily funding rather than gross transaction-by-transaction funding, CLS reduces necessary funding by over 90%.³⁰

This feature of the CLS system brings real financial benefits to participating banks, which we assume fund 10% of their net funding requirements in the interbank market.³¹ The 10% figure is the average funding gap faced by major UK banks from 2000–2003. The funding gap represents the difference between the banks' total deposits and total lending.³² This shortfall must be met by external borrowing, either domestically or overseas. Clearly, a bank's activities in the domestic loan and international FX markets are very different. However, at a group level, a liquidity saving (in terms of a 90% reduction in net funding requirement for CLS Bank financing) frees up group-wide liquidity for other functions. The result is a reduction in the funding gap, and therefore a decrease in the quantity of funds that must be externally raised to support the bank's activities. The size of this reduction, it can reasonably be assumed, directly reflects the reduced liquidity requirement resulting from CLS Bank membership.

The CLS Bank's 550 members execute an average daily value of \$2 trillion through the CLS system. Gross funding would therefore necessitate the entire \$2 trillion being available for settlement – unlike the previously halved data, however, this is an

²⁹ Here and throughout we assume 260 trading days per year.

³⁰ See, About CLS: <http://www.cls-group.com/>

³¹ In reality, of course, Banks fund their activities from diversified sources. However, the LIBOR rate offers a reasonable estimate of these sources in the aggregate.

³² See Bank of England (2003) for a detailed review of the funding patterns of the UK banking sector.

accurate reflection of the real situation, since both parties to the transaction would, in the absence of any netting, be required to provide the full quantity as liquidity.

By reducing the net funding requirement by 90%, however, the system requires only \$200 billion to be made available, a saving to CLS Bank participants as a whole of \$1,800 billion per day in liquidity. If we assume that, on average, 10% of this would have been financed externally, the figure 'saved' in this regard becomes \$180 billion per day. To fund this every day at an overnight LIBOR rate of 3% would cost \$5.4 billion over the course of a year (the 3% being an annualised rate and assuming 260 trading days per year). This therefore represents a saving to CLS Bank participants, which is a direct result of their participation in the system, of \$5.4 billion per year.

As with the previous estimate, the savings will clearly be considerably higher for the largest participants with the greatest number of trades. However, the savings are perhaps most relevant when viewed at the level of the entire CLS system.

The CLS system and Basel 2

Under the new Basel Capital Accord (Basel 2) the regulatory capital that banks are required to hold with respect to their loans will vary according to the creditworthiness of the counterparty. For the Basel Committee on Banking Supervision (BCBS), settlement risk is an important factor in this regard. It has been suggested that financial institutions that settle FX transactions through the CLS system – and have therefore eliminated settlement risk – will attract lower capital charges than institutions that do not use the system. Specifically, the Accord will ultimately levy a capital charge on FX trades where both legs are not settled on the same day – the CLS system was specifically designed to overcome this Herstatt Risk and so CLS Bank participants' trades will not be subject to this charge.

At the time of writing, however, no final decision had been taken on this issue, and it is therefore not possible at this stage to quantify the impact. It is clear from publications of the Basel Committee, however, that they do intend to level such a charge. The BCBS explains the delay as follows, distinguishing clearly between 'settled' FX transactions (ie: PvP systems, as employed by the CLS Bank) and 'unsettled' transactions (ie: those that do not settle simultaneously):

With regard to unsettled securities and foreign exchange transactions, the Committee is of the opinion that banks are exposed to counterparty credit risk from trade date, irrespective of the booking or the accounting of the transaction. Until the treatment of counterparty credit risk has been reviewed further, however, the specification of a capital requirement in this Framework, for foreign exchange and securities transactions, will be deferred. In the interim, banks are encouraged to develop, implement and improve systems for tracking and monitoring the credit risk exposure arising from unsettled transactions as appropriate for producing management information that facilitates action on a timely basis. (BIS 2006)

As with the benefits from lower net funding requirements, the option of holding less regulatory capital is a real benefit to banks, as it frees up valuable group capital that

can be employed more productively, and reduces the need for external borrowing to fund group activities. When the new Accord is fully operational, CLS Bank participants will directly benefit from being exempt from this capital charge.

Comparing the quantitative benefits of CLS Bank participation with the quantitative impact of the proposed ETL

We have seen how at the proposed rate of 0.005% the ETL would raise approximately \$4.5 billion per year. However, as around half of all euro transactions are settled through the CLS Bank, this equates to an annual tax take from the CLS system of \$2.25 billion.

TABLE 5
Benefits of CLS Bank participation vs impact of euro transaction levy

Annual ETL tax take	Benefit category	Annual benefit of CLS
\$2.25bn	Efficiency gains	\$12.48bn
	Operating cost gains	\$0.0624bn
	Net funding requirement gains	\$5.4bn
Total: \$2.25bn	versus	Total: \$17.94bn

As is clear from Table 5, with the benefit of CLS Bank participation equating to almost \$18 billion annually, the introduction of an ETL at a rate of 0.005% would not create any incentive for participants to leave the CLS system to avoid the levy. Indeed, in order for such an incentive to exist, the ETL would have to be levied at more than seven times the rate proposed.

In addition to the variable cost benefits that have been described above, CLS Bank participants’ decision-making process in this regard would also be affected by the fixed cost investment they have already made. Both fixed and variable cost factors, therefore, clearly outweigh the impact of an ETL set at 0.005%.

As well as the direct and indirect financial benefits, however, there are a number of other aspects of CLS Bank participation, which, although not necessarily quantifiable, would also provide strong incentives to remain within the system. Furthermore, as pointed out above, even if banks chose to exit from the CLS system they would still have to pay the ETL.

Assessing the unquantifiable benefits of CLS Bank participation

Beyond the quantifiable benefits described, CLS Bank participants are discovering other advantages, which flow from the increasing sense of the CLS Bank settlement system being the ‘gold standard’ in global FX settlement terms. For example, Reuters trading conversations are beginning to include ‘this price CLS only’ messages, which suggests a price advantage being available for CLS Bank participants.

This is supported by 2005 survey evidence from TowerGroup research, who report that 54% of third-party CLS Bank users have altered their approach to counterparties depending on whether they are CLS Bank participants or not. Specifically, the survey evidence shows that 68% of respondents – who were already third-party CLS Bank

users – said they favoured counterparties also within the CLS system, and 47% said they had obtained larger trading lines as a result of their participation in the CLS Bank.

Anecdotal evidence of these types of ‘softer’ benefits is steadily accumulating. The quote below from the Director of Transaction Services for a major international bank explains how this produces both benefits of CLS Bank participation, and costs for those choosing not to participate.

*Latent business opportunities are emerging because counterparties do not have to worry about settlement limits on every day trades once they are both on CLS. On the other hand, you are starting to see people regularly being turned down on large funding trades because they are not on CLS.*³³

Another benefit that is emerging but was not necessarily predicted, is the reduced need for market participants to retain expensive Nostro accounts in separate currencies as more and more of their FX business is settled through the CLS system.

As well as these benefits, there is also the issue of third-party credit ratings. At present, it is not clear if or how the major ratings agencies will differentiate between participants and non-participants in the CLS Bank. However, given the elimination of settlement risk enjoyed by CLS Bank users, it seems highly probable that such a differentiation will occur. Clearly, this will have a direct impact on banks’ activities, not least through the terms upon which they can finance themselves.

To summarise this section: CLS Bank participation brings both tangible and intangible benefits. On the tangible side, the quantitative benefits of participation far outweigh the costs of an ETL levied at any realistic rate. This can be seen at the system-wide level – as shown in Table 5 – but is evidently true for individual participants. Clearly, a member bank with a high level of FX trades going through the CLS system will be disproportionately affected by the ETL. However, this cost will be more than offset by the additional financial benefits that this high volume flow brings to the bank. The implementation of an ETL in the CLS system, therefore, would not produce an incentive for participants to move outside of the CLS Bank – even if they could avoid the ETL by doing so – as they would become subject to Herstatt Risk.

Furthermore, to be acceptable to central banks (with oversight responsibilities) and compatible with Basel 2 and anti money-laundering regulations, those wishing to leave the CLS Bank would have to set up a parallel system with similar features to those described above. Consequently, the ETL could also be levied through any feasible alternative system.

6.4 Would an ETL encourage a return to large-scale netting in the international sphere?

Another issue often raised, is that an ETL would encourage greater use of large-scale netting in order to avoid the tax. Would this be the case?

The first point to make is that such a multilateral netting system does already exist, and it is integral to the CLS system. Furthermore, as we have seen, the benefits to

³³ Quote from Olaf Ransome, Director Transaction Services & Solutions, CSFB, in Special Reports: Continuous Linked Settlement, at www.gtnews.com/payments/clsreport.cfm

participants in terms of lower net funding requirements are large. This is not, however, an inevitable feature of netting systems. Historical experience has demonstrated that the benefits of such systems only become meaningful as the number of participants reaches a critical mass. Consequently, there would be no incentive – rather, there would a real cost – for a small number of banks to exit the CLS system and set up their own multilateral system. The benefits of netting within the CLS system could only be replicated if **all** the current participants decided to leave the system.

Given the benefits of participation that have been described, as well as the fixed-cost investment in systems and processes, it is difficult to argue that banks would abandon the CLS Bank in order to set-up their own hugely expensive multilateral netting system in order to avoid a half a basis point charge on a small percentage of their FX transactions.

Even if they were to do so, however, it must be remembered that multilateral netting systems cannot operate in isolation. In particular, given their importance to domestic and international payment and settlement systems, national central banks maintain an oversight role over their activities. Indeed, as set out in Section 5, it is mandatory for international netting systems operating in euro to settle their transactions within the Eurosystem's LVPS, TARGET.

In order to be acceptable in this respect – and capable of smooth interaction with domestic LVPS – any multilateral netting system must operate as an RTGS using PvP settlement techniques. In this basic respect, central banks therefore have considerable leverage over the activities of multilateral netting systems. No international system of this sort could function without access to the Eurosystem's LVPS. As the 'gatekeeper' to these systems the European Central Bank therefore has direct leverage over the activities of any multilateral netting system.

As with domestic RTGS infrastructures, multilateral netting systems require efficient messaging between participants to match and net gross trades (Schmidt 2001). Major multilateral netting systems have therefore been built on technical platforms by the market leader, and virtual monopoly-provider, in this area: SWIFT.

Therefore, just as SWIFT messaging can identify and inform the ECB of gross euro FX transactions in Europe's TARGET system, the same would be true of multilateral netting systems. Crucially, SWIFT messages are exchanged before any netting process takes place, thereby allowing individual transactions to be identified and the information relayed to the ECB and national central bank.

The question that this raises is whether banks could abandon SWIFT and move to a proprietary messaging system. As with CLS Bank participation, however, this is essentially a cost-benefit decision facing banks. And as with CLS Bank participation, the benefits of SWIFT membership are likely to far outweigh the cost savings from avoiding the ETL.

Again, similar to the CLS example, full participation in the system requires significant upfront investment in IT systems and processes. For a large financial institution such investment is likely to run into many millions. Again, to leave the SWIFT system would transform this investment into a 'dead-weight' cost, which would be amplified by the need to develop alternative messaging systems at equally high cost.

Much of SWIFT's competitive advantages come from its size, ubiquity and consequent efficiency. A group of banks starting from scratch could not hope to replicate these benefits for the same cost as SWIFT. Again, the financial incentives to remain in the existing system, would far outweigh the impact of the ETL, and this would be greatly amplified by the huge cost of setting up a parallel system to replace it.

Finally, as has been pointed out, concerns over systemic risk in the FX market are such that any alternative system that was acceptable to central banks – as well as compatible with Basel 2 and money-laundering regulations – would have to be of a form that it could not be used to avoid an ETL.

6.5 Would an ETL encourage much greater use of tax-avoiding derivative products?

This issue addresses whether the introduction of an ETL would lead to greater use of derivatives in order to avoid the levy. In large part, this objection has already been addressed: by ensuring that the ETL covers both traditional **and** the OTC FX derivative market, it cannot be avoided by moving activities into the derivative market, particularly as derivative contracts are also ultimately settled in the traditional FX market. One possible exception to this relates to 'contracts for difference' (CFDs) and 'non-deliverable forwards' (NDFs), where only the difference between the contracts (ie: the net position) is settled, as opposed to the gross value of the transactions. However, although this is the case, it is also true that financial institutions which sell CFDs and NDFs are unwilling to carry this exposure on their books, and therefore seek to hedge the risk these contracts entail. This hedging process can only be undertaken in those sectors of the FX market already covered by the ETL, meaning that this also would fall within the ambit of the levy.³⁸

There are a number of other relevant factors in this regard also. First, the CLS Bank is progressively increasing its abilities to settle derivatives contracts within the system. By 2007, the CLS Bank will offer a 'complete end-to-end' service for the settlement of cash positions for NDF contracts, and for FX option premiums, further simplifying the ETL collection process.

As with its other services, it is likely that the increased capacity to settle derivative contracts will result in significant cost savings within the CLS system. As we have seen, once an institution starts to participate within the CLS system, it becomes increasingly efficient to settle a high proportion of all their FX business within it. The same will be true for derivatives.

6.6 Would an ETL move derivative activity relating to euro outside EU jurisdiction, and therefore outside the reach of the tax?

As we have seen, it is technically entirely possible for an ETL to be collected on euro derivative transactions, wherever they occur – unless it is being suggested that in order

³⁸ See Kapoor (2005) for a more detailed account of this aspect of the global FX market.

to avoid a 0.005% on a small fraction of their FX activities, the world's leading financial institutions would wish to sever all links with the Eurozone's financial system. Equally, as we have mentioned elsewhere in the report, it is not possible for derivative markets to exist in isolation from traditional markets – OTC derivative transactions will generate a footprint in the traditional market through the process of hedging. So this is not a viable way to avoid the ETL as no benefits will come about from shifting derivative transaction overseas.

As with all the issues addressed above, the key question is: why, in purely financial terms, would a major international bank choose to act in this way? There exists today an efficient, profitable, IT-dependent financial infrastructure for FX transaction of both the traditional and derivative form. Much of this activity is made possible (and cost-effective) by standardised messaging and communication provided by SWIFT. To extricate oneself from this system would mean that financial institutions would have to write-off their initial investments and invest an even larger amount setting up an alternative. Furthermore, as we have seen, there are real financial benefits from participation in large, global networks which exhibit real economies of scale as they grow. Again, financial institutions would have to abandon these benefits, despite the fact that, quantitatively, they far outweigh the impact of the ETL.

Finally, it is not feasible for financial institutions of world-scale to operate in the euro FX and derivative markets in a sustainable manner without the support of the European Central Bank. This support would only be forthcoming, however, if these institutions were operating in a system that reflected best practice in terms of risk management and anti money-laundering. Such a system could not be used to avoid the ETL.

Concluding remarks

This report has set out the mechanism by which the European Union could unilaterally implement a euro transaction levy (ETL). The measure proposed is specifically designed to raise revenues. Furthermore, it has been argued that these revenues should be ring-fenced and used to help fill the funding gap required to meet the Millennium Development Goals. There is a clear need for 'innovative sources of finance' in this regard, and we have demonstrated that a Currency Transaction Tax does not need to be universally implemented to be feasible, but could be implemented by any developed country or currency zone.

It has been suggested that an ETL would provide incentives for market participants to leave particular national and international payment and settlement systems. By levying the ETL across all of these systems, however, no such incentive exists. Moreover, even if it were possible to exit these systems and avoid the levy, we have clearly demonstrated that banks would not rationally choose to do so: the real, financial, benefits they receive from membership of these systems far outweigh the negligible impact of a 0.005% charge on a small percentage of their foreign exchange activities.

We have shown that the ETL could be implemented easily and cost effectively. Initial start-up costs would clearly have to be centrally met – as is the case with any new tax – however, once established, the ongoing cost of maintaining the system would be relatively small, as it is specifically designed to 'piggy-back' on existing networks and best practice. A small fraction of the \$4.5 billion estimated annual take from an ETL would be sufficient to cover these operating costs.

To conclude, a unilaterally implemented ETL is perfectly feasible. It could be implemented quickly and relatively easily. It would cost very little to maintain and would raise significant funds – funds that are urgently needed to help finance the Millennium Development Goals.

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APPENDIX 1 Potential income for development from a transaction levy on the world's most traded currencies

The table shows the amount of income that can be generated by a CTT at rates of 0.005% and 0.01%.

TABLE
Estimates of annual revenue (in US \$ billions) from levying a Currency Transaction Tax on the world's most traded currencies
First figure:
CTT=0.005%
Second figure:
CTT=0.01%

*The figures in the final column reflect a downward adjustment of 2.5% for the 0.005% CTT and 5% for the 0.01% CTT to allow for a possible reduction in volumes

There is a certain margin of error in these calculations, as the figures in respect of euro have been extrapolated to other currencies without taking full account of their individual circumstances. However, the estimates given are, we believe, a broadly realistic picture of the potential revenues available.

Country/zone	FX spot	FX derivatives	Total	Adjusted*
USA	\$4.20bn \$8.39bn	\$6.82bn \$13.64bn	\$11.02bn \$22.03bn	\$10.73bn \$20.93bn
Eurozone	\$1.76bn \$3.52bn	\$2.65bn \$5.31bn	\$4.41bn \$8.83bn	\$4.30bn \$8.39bn
Japan	\$0.96bn \$1.92bn	\$1.60bn \$3.19bn	\$2.56bn \$5.11bn	\$2.50bn \$4.85bn
UK	\$0.80bn \$1.60bn	\$1.32bn \$2.65bn	\$2.12bn \$4.25bn	\$2.07bn \$4.04bn
Australia	\$0.26bn \$0.52bn	\$0.51bn \$1.01bn	\$0.77bn \$1.53bn	\$0.75bn \$1.45bn
Switzerland	\$0.29bn \$0.58bn	\$0.32bn \$0.63bn	\$0.61bn \$1.21bn	\$0.59bn \$1.15bn
Canada	\$0.20bn \$0.40bn	\$0.39bn \$0.77bn	\$0.59bn \$1.17bn	\$0.58bn \$1.11bn
Hong Kong	\$0.09bn \$0.18bn	\$0.38bn \$0.75bn	\$0.47bn \$0.93bn	\$0.46bn \$0.88bn
Sweden	\$0.11bn \$0.22bn	\$0.25bn \$0.49bn	\$0.36bn \$0.71bn	\$0.35bn \$0.67bn
Norway	\$0.07bn \$0.13bn	\$0.15bn \$0.31bn	\$0.22bn \$0.44bn	\$0.21bn \$0.42bn
Korea (South)	\$0.06bn \$0.11bn	\$0.14bn \$0.28bn	\$0.20bn \$0.39bn	\$0.20bn \$0.37bn
Denmark	\$0.04bn \$0.09bn	\$0.16bn \$0.32bn	\$0.20bn \$0.41bn	\$0.20bn \$0.39bn
Singapore	\$0.05bn \$0.09bn	\$0.12bn \$0.23bn	\$0.17bn \$0.32bn	\$0.17bn \$0.30bn
Mexico	\$0.05bn \$0.10bn	\$0.07bn \$0.15bn	\$0.12bn \$0.25bn	\$0.12bn \$0.24bn
South Africa	\$0.04bn \$0.08bn	\$0.11bn \$0.22bn	\$0.15bn \$0.30bn	\$0.15bn \$0.29bn
New Zealand	\$0.05bn \$0.09bn	\$0.06bn \$0.12bn	\$0.11bn \$0.21bn	\$0.11bn \$0.20bn
Brazil	\$0.01bn \$0.02bn	\$0.02bn \$0.04bn	\$0.03bn \$0.06bn	\$0.03bn \$0.06bn
Chile	\$0.005bn \$0.01bn	\$0.02bn \$0.03bn	\$0.03bn \$0.04bn	\$0.02bn \$0.04bn
Totals	\$9.05bn \$18.05bn	\$15.09bn \$30.14bn	\$24.14bn \$48.19bn	\$23.54bn \$45.78bn

APPENDIX 2 Abbreviations and acronyms

APACS	Association for Payment Clearing Services
ATL	Air Ticket Levy
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
CFD	contracts for difference
CHAPS	Clearing House Automated Payment System
CLS	Continuous Linked Settlement
CTT	Currency Transaction Tax
DNS	Deferred Net Settlement
DvP	delivery versus payment
ECHO	Exchange Clearing House
ETL	euro transaction levy
FX	Foreign Exchange
IDPF	International Drug Purchase Facility
IFF	International Finance Facility
IFFIm	International Finance Facility for Immunisation
LVPS	Large Value Payment Systems
MDGs	Millennium Development Goals
NDF	non-deliverable forwards
ODA	Official Development Assistance
OTC	over-the-counter
PvP	payment versus payment
RTGS	Real Time Gross Settlement
SWIFT	Society for Worldwide Interbank Financial Telecommunications
TARGET	Trans-European Automated Real-Time Gross Express Transfer



Campagna per la riforma della Banca mondiale (CRBM)

'Campaign for Reform of the World Bank' started its activities in 1996, based in Rome. It works for democratic and radical reform of international finance institutions in solidarity with local communities affected by projects and investment worldwide. CRBM specialises in the impacts of public and private investments from the North to the South of the world, regarding environment, development and social and human rights.

www.crbm.org



11.11.11

'11.11.11' has a broad membership of development NGOs, social organisations (such as major trade unions) and a network of local groups in most towns and villages in the Flemish part of Belgium. It combines work with southern partners, with development education and advocacy on issues ranging from debt, aid and trade to democratisation in central Africa. In recent years it has been a strong advocate on financial issues, playing an active role in the achievement of Currency Transaction Tax legislation in Belgium in July 2004.

www.11.be



Oikos

Oikos is the Ecumenical Institute for Church and Developmental Co-operation. Oikos supports work in the Netherlands that contributes to world-wide just and sustainable development. Its main activities include research, lobbying, education, and campaigns.

www.stichtingoikos.nl



Stamp Out Poverty

Stamp Out Poverty is a network of more than fifty UK organisations, including charities, campaign agencies, trade unions and faith groups, campaigning primarily for additional sources of development finance to help pay for the Millennium Development Goals.

www.stampoutpoverty.org



Weltwirtschaft, Ökologie & Entwicklung (WEED)

'World Economy, Ecology and Development' is a Berlin-based think tank, which specialises in issues of finance, trade and investment in relation to development and the environment. WEED is also involved in capacity-building for civil society and participates in national and international networking in relation to financial, developmental and environmental issues.

www.weed-online.org

**A Euro Solution
Implementing a levy on euro transactions
to finance international development**

by Dr Stephen Spratt

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