A Sterling Solution

Implementing a stamp duty on sterling to finance international development

A report for Stamp Out Poverty by Dr Stephen Spratt of Intelligence Capital Limited
Foreword

At The Co-operative Bank we pride ourselves on our customer-led Ethical Policy and the pursuit of sustainable business. Some of the key ethical concerns of our customers surround Corporate Responsibility and Global Trade, so of course we were pleased to back this research. This report demonstrates how a stamp duty on sterling currency transactions is technically feasible and not worth the risk and expense for banks to avoid. Over the last two years we are delighted to have played a supporting role in strengthening the argument for a levy on the trade in currencies with revenues dedicated to international development. Through this work Stamp out Poverty is making as powerful a case as it can for the implementation of a measure that can harness new finance towards the saving and improving of lives in poorer parts of the world. An initiative we heartily applaud.

Simon Williams, Director of Corporate Affairs, The Co-operative Bank

About the author

Dr Stephen Spratt is Head of Research at Intelligence Capital Limited. His specialist areas include: financial market stability, international regulatory issues, financial crises, domestic financial infrastructure and international capital flows. Stephen holds a BA from the University of East Anglia, an MSc from the University of London and a PhD from the University of Sussex.

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.
Executive summary

The aims of this report are fivefold:

- It establishes the global funding gap in terms of meeting the UN’s Millennium Development Goals (MDGs), and considers the role that ‘innovative sources of finance’ might play in filling this gap.

- It shows 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 wished to do so.

- It establishes that the UK government, therefore, could implement a currency transaction tax – or stamp duty – on all sterling foreign exchange transactions.

- It considers objections to this proposal, and produces quantitative estimates of the impact of the sterling stamp duty (SSD) on financial institutions, weighing these impacts against the costs to financial institutions of avoiding the tax.

- It concludes that the costs of avoidance far outweigh the impact of the SSD.

The result is that the UK government could unilaterally implement the SSD in a cost-effective way that causes minimal disruption to sterling currency markets, but raises significant sums that could be used for international development purposes with the potential to increase UK aid expenditure by 50%.

Throughout 2004 and 2005, it has become increasingly clear that the UN’s MDGs will not be met by 2015. Research presented in Section 1 highlights a clear funding gap today, and illustrates that this will grow progressively larger in the run up to 2015.

This observation has led many observers to consider whether ‘innovative sources of finance’ could provide additional income. A variety of options have been considered, including the International Finance Facility (IFF), an Air Ticket Levy 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.

Whilst 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 done manually by phone between counterparties and settled through a variety of systems, again 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 benefits to international financial institutions. However, these benefits are conditional on participation in the relevant national and international settlement systems. It is this participation that makes an SSD feasible today.

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

In order to avoid market distortions, we propose to levy the SSD at the rate of half of one basis point, or 0.005%. At this rate, the US$160 billion of sterling that is traded every day in the traditional FX market results in an annual tax take of $2.08bn. Applying the SSD to the FX derivatives market in turn produces annual revenues of $1.14bn. In total, therefore, we estimate that the SSD could raise $3.22bn, or £1.86bn per year at today’s exchange rates.

However, we also conservatively assume a 5% drop in volume traded following the introduction of the SDD, leaving a final estimate of £1.77 billion.

When considering the incentives for financial institutions to avoid the SSD, we focused on the benefits that accrue from membership of the CLS system, and set these against the cost of the SSD resulting from CLS settled trades. The annual SSD take from the CLS system would be around $1.1bn. However, when the benefits of the system to its participants are added up, the annual figure is more than six times this at $6.7bn. Consequently, there is clearly no incentive for financial institutions to leave the CLS system to avoid the SSD.

We have 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.

The derivatives issue is largely addressed by the fact that the SSD would also be levied on sterling derivatives transactions, which again use common technical platforms and messaging systems. 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 SSD far outweigh the impact of a very modest 0.005% tax on sterling FX transactions.

The fundamental point is that the only way financial institutions could avoid the SSD 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 SSD levied at the rate proposed.
A more fundamental issue to raise in this regard, however, 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 SSD could also be collected.

An SSD 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 UK aid expenditure by 50%. This would make a real beneficial difference to the people of the developing world, whilst its impact on the sterling 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 UK could unilaterally implement a sterling stamp duty (SSD). Why might it wish to do so, however?

During 2005 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 this year’s summit.

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 for its own currency. 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 the higher turnover.

These developments have also enabled domestic large value payments systems (LVPSs) to become increasingly interlinked, facilitating automated transfers of funds at a speed and of a size that was previously unimaginable. Moreover, domestic LVPSs have established formal, cross-border linkages with the establishment of the continuous linked settlement (CLS) Bank, which now settles almost 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 make an SSD feasible today.

Common communication and messaging systems make it possible to identify sterling transactions wherever they occur. Interdependent and interlinked LVPSs make it possible to collect the SSD 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 SSD is to be seriously avoided. An SSD at a very low rate and with negligible impact is a fractional cost in comparison with these benefits. No bank would 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 £1.77 billion per year would increase UK aid by nearly 50%. This would allow the UK to make a considerable contribution to meeting the MDGs.¹

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

The rest of this report is structured as follows. 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 currency transaction taxes and identifies our preferred approach. 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 explains the proposal in detail, whilst Section 6 considers possible objections to the initiative.

Meeting The Millennium Development Goals: The need for innovative sources of finance

In late 2000 the United Nations published the *Millennium Declaration*. The document, which was ratified by 189 heads of state, expressed a commitment on behalf of its signatories to address critical global problems of poverty, disease and underdevelopment 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 all eight goals.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 the 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 – makes for sobering reading in others.

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.

---

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:2)

4 www.unmillenniumproject.org/reports/index.htm

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

TABLE 1

Global progress on the MDGs

Source: UN (2005a)
Chart 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 all 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 overseas development assistance (ODA) by the G8 in 2005.
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 above 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 $150bn, significantly above that promised at Gleneagles – indeed, the figure needed for 2006 is higher than that currently committed to for 2010. Furthermore, in the recent past less than half of ODA has been spent on the MDGs, as depicted by 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.

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 their agreements. Past experience suggests that it is likely that some of these pledges will become ‘aspirations’. However, even if they were to be fully honoured, the world would still face a significant funding shortfall from that required to meet the MDGs.

Other sources of income are clearly needed, which has led attention to ‘innovative sources of finance’.

In this regard, the greatest impetus has been in support of the International Finance Facility (IFF) – proposed by the UK’s Chancellor, Gordon Brown – wherein future ODA...
flows would be ‘front-loaded’ through the issue of bonds today by participating rich countries. The money raised would be used to pay for the MDGs now, and the bonds paid through future ODA commitments of the countries concerned. Despite the efforts of the UK government, however, the IFF has not attracted the broad international support that was hoped for.

The UN’s World Economic and Social Survey 2005 considers various innovative sources of finance options, distinguishing between the proposals in terms of the need for universal adoption, and the speed with which each option could be implemented – thus identifying ‘quick wins’. A full-scale IFF is the primary ‘quick-win’ identified. However, because the IFF initiative has progressed more slowly and with fewer partner countries than originally intended, it is necessary to look seriously at other possible sources of finance such as the currency transaction tax (CTT). In all likelihood a number of innovative mechanisms will need to be employed to bridge the funding gap and ought to be seen as complementary rather than competitive. 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 implement. However, in one crucial respect we disagree with the UN’s taxonomy as set out in this survey.

The report classifies the currency tax option as requiring universal adoption, which has long been the accepted wisdom. Indeed, for many people – both supporters and detractors – this fact alone has been enough to ensure that it could not happen. However, in this report we argue strongly that a CTT could and should be implemented individually at the national level. This proposal is feasible, cost-effective and would cause minimal disruptions to markets. Furthermore, an SSD would raise significant finance to enhance the UK’s contribution towards meeting the MDGs.

5 See Kapoor S (2005) for a comprehensive rationale for this position.
A history of (currency) transaction taxes

For most observers, a currency transaction tax (CTT) is synonymous with the work of Nobel Laureate, James Tobin. The Tobin Tax, as it came to be known, was first proposed in 1978 with the aim of discouraging speculation in the FX markets, and therefore reducing volatility.

More generally, however, transaction taxes have a long and sometimes distinguished intellectual and practical history. In 1936, John Maynard Keynes proposed that a small transaction tax should be levied on dealings on the London Stock Exchange, where he argued that excessive speculation 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 come to dominate the market.

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)

Interestingly, Keynes was particularly concerned to prevent London going the way of New York, which he saw as a clear example of speculation triumphing over enterprise:

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 UK government did not act on this advice, it might reasonably have concluded that there was no need, as a 0.5% tax on stock and bond transactions was then in place and remained so until 1990 – perhaps Keynes did not consider 0.5% as a ‘substantial’ enough level for the tax. As Table 2 (overleaf) demonstrates, taxes on financial transactions have existed in most countries historically and, although a reasonable proportion have been removed over the past three decades, many remain in place today.

Although the CTT proposed by Tobin was therefore not an unusual concept in either theoretical or practical terms, it was immediately controversial, and has remained so. Tobin’s aim was to ‘throw sand in the wheels’ of the global FX market by disproportionately taxing short-term currency traders with high turnover. He argued that this reduced speculation would lower market volatility by bringing market prices more in line with underlying fundamentals, which drive the behaviour of longer-term – fundamentalist – investors.

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.
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.

Those taking the opposite view, 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 transaction 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 (1987) 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.

### TABLE 2
International experience of transaction taxes

<table>
<thead>
<tr>
<th>Country</th>
<th>Stocks</th>
<th>Bonds</th>
<th>Govt bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>0.35%</td>
<td>0.14%</td>
<td>0.14%</td>
</tr>
<tr>
<td>Denmark</td>
<td>1.0%</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Finland</td>
<td>1.6%</td>
<td>1.6%</td>
<td>–</td>
</tr>
<tr>
<td>France</td>
<td>0.6%&lt;FFR 1mn</td>
<td>0.5%&lt;FFR 1mn</td>
<td>–</td>
</tr>
<tr>
<td>Germany</td>
<td>0.5%</td>
<td>0.4%</td>
<td>–</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1.0%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ireland</td>
<td>1.0%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1,000 IDR</td>
<td>1,000 IDR</td>
<td>–</td>
</tr>
<tr>
<td>Italy</td>
<td>0.05%</td>
<td>0.009%</td>
<td>0.009%</td>
</tr>
<tr>
<td>Japan</td>
<td>0.3%</td>
<td>0.16% or 0.03%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.5%</td>
<td>0.5%</td>
<td>–</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.12%</td>
<td>0.12%</td>
<td>–</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.5% + 90PHP</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.08%</td>
<td>0.04%</td>
<td>0.008%</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.2%</td>
<td>0.2%</td>
<td>–</td>
</tr>
<tr>
<td>South Africa</td>
<td>1.0%</td>
<td>1.0%</td>
<td>–</td>
</tr>
<tr>
<td>South Korea</td>
<td>0.2%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Sweden</td>
<td>1.0%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.3%</td>
<td>0.3%</td>
<td>–</td>
</tr>
<tr>
<td>Taiwan</td>
<td>0.3%</td>
<td>0.1%</td>
<td>–</td>
</tr>
<tr>
<td>UK</td>
<td>0.5%</td>
<td>0.5%</td>
<td>–</td>
</tr>
<tr>
<td>USA</td>
<td>0.004%</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Source: Baker (2000)

---

8 See Krugman (1979) for the canonical model in this regard.
9 See Obstfeld (1986).
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. ‘First generation’ currency crisis models typically saw currency crises as resulting from policy inconsistencies within the countries affected, which prompted rational investors to initiate a run on the currency. That is, they were primarily the ‘fault’ of the countries affected. For many, however, these explanations often did not seem to accord with the facts of crises, with the result that ‘second-generation’ crisis models were developed. 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 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 10% or 20%. In the face of potential profits of this magnitude, a small CTT is no disincentive.

This flaw in the original 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 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 a particularly relevant, but often overlooked point, regarding the Tobin Tax: it is rarely made clear that there is not one Tobin Tax, but two. The Spahn proposal is the most developed example of one of these. Here the aim is not to raise tax revenue, quite the opposite. Indeed, such a system could be said to have failed if it did raise substantial sums. To succeed, the short-circuit mechanism should be so effective that it prevents speculative attacks and currency crises, thereby raising little or no revenue. Consequently, such a 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 second form of Tobin Tax, however, is quite explicit in its tax-raising objectives. This approach is exemplified in Schmidt (2001), where the author demonstrates that, contrary to received wisdom, it is entirely possible for countries to impose a CTT unilaterally 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.

This second form of CTT is what is addressed in this report. It will be demonstrated that the UK government could unilaterally initiate a stamp duty on sterling transactions. Furthermore, we will see that this measure would be relatively straightforward to implement and would raise significant amounts of revenue. As was described in Section 1, there is a clear need for innovative sources of finance to augment traditional sources of aid. A sterling stamp duty (SSD) is one feasible means to increase income for development, and one that would be relatively easy to implement, enforce and collect. The same is also true for any relatively wealthy country of course: all that is required is the political will to invest for the long-term in a safer, more secure world. Clearly, the scale of the MDG shortfall is such that a currency stamp duty such as the SSD cannot fill the gap on its own. It can certainly reduce it, however. Yet if the UK were to implement an SSD, as sterling is one of the world’s most traded currencies, it would set an important example encouraging other countries and currency zones to follow its lead, thus increasing revenues and making an even greater developmental difference.

Before describing the 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.

The global foreign exchange market continues to grow rapidly, as illustrated in Chart 3 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 (gross domestic product) of the United Kingdom.

Chart 4 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 4 shows this trend reversing between 2001 and 2004, as growth in the size of the spot market accelerated.

Turning to the UK, Chart 5 shows that sterling’s share of global FX transactions has increased significantly, from less than 10% in 1995 to almost 17% in 2004 (i.e. 17% of all global FX trades had sterling on one side). Consequently, we can say that sterling transactions account for 8.5% of the $1,880 billion daily figure, or $160 billion. As Chart 5 also makes clear, sterling’s recent increase is almost entirely accounted for by the rise in the market share of the dollar/sterling currency pair, which alone accounted for 14% of the global FX market in 2004. In contrast, Euro/sterling’s (mark/sterling before 2001) share has remained constant at around 2% of the market.

Chart 6 highlights the fact that although sterling trades are on one side of 17% of the total market, more than 30% of all FX transactions occur in the UK, highlighting the importance of London as an international financial centre.
There has also been considerable consolidation in the banking sector, so that by 2004 just 16 UK-based banks dominated the local market.

Chart 7 shows that the growth in the OTC FX derivatives market has been similarly rapid. By 2004, daily turnover equalled $1,292bn, which has been largely driven by the outright forward and foreign exchange swap markets.

In terms of sterling, the currency was on one side of 15% of all OTC FX transactions, and therefore accounts for 7.5% of total turnover as calculated by the BIS. As with the main FX market described above, the UK jurisdiction accounts for a disproportionately large share of the global FX OTC market. In 2004 the UK’s market share was just under 35%, up two percentage points on the 2001 figure.

This macro overview gives a sense of the sheer scale of the global FX market. However, it says nothing about the mechanics 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.
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 systems (LVPSs), again both nationally and internationally. From the perspective of this report, it is these changes that make the SSD 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, 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.*

Any LVPS entails inherent risks, which relate to a) the smooth functioning of the system itself – i.e.: 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 through the system, where the ultimate effect may far outweigh the magnitude of the original default, perhaps even threatening the viability of the entire system.

Much of the reforms to LVPSs that have occurred have been designed to mitigate this ‘settlement risk’, which turns on the timing of payments. Historically, most LVPSs 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 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, threatening the viability of the entire LVPS. For many, this ‘systemic risk’ inherent in DNS systems was unacceptably high, which 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 – i.e.: as soon as they enter the system, but in gross rather than netted form. Real time
settlement is obviously dependent on the participant in question having sufficient funds within the system to settle the transaction. RTGS systems have the key advantage that, 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 LVPSs 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 LVPSs (eg: CHAPS in the UK), as well as b) the respective oversight bodies for each jurisdiction (eg: the Bank of England).

Originally, SWIFT developed its own system to perform these functions, but developments in telecommunications – notably the worldwide web – have enabled 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 is messages related to payments.

SWIFTNet also provides secure messaging services to the vast majority of major LVPSs 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 risk\(^\text{12}\) – 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’ 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 CLS, 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. CLS, in contrast, went live in September 2002, and since that point has grown rapidly.

The CLS system – like the national RTGS systems – settles transactions on a PvP basis, thereby eliminating Herstatt risk. CLS is linked to all the national RTGS systems, and settles FX transactions during a five-hour window when the time zones of the major RTGS systems overlap. Up until 06:30 CET, members are able to submit settlement instructions to CLS. 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 CLS 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.

CLS participants are also able to take advantage of its ‘In/Out Swap’ service, which enables them to manage their funding requirements through multilateral netting with other CLS participants.

CLS 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 CLS, 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, CLS 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, CLS has the capability to settle FX trades for both treasury and securities clearing. The CLS 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

\(^{12}\) 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 Deutschmarks 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).
process has already begun and the proportion of fund managers using the CLS system is expected to grow steadily.

Today, CLS settles between 40% and 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 the bank now settles 90% of all its members’ FX trades. The stated aim of the bank is to settle 90% of all FX trades globally, and if current growth rates continue, it seems likely that they will reach this figure within a few years.\textsuperscript{13}

### 4.1 The UK’s payment and settlement system

The UK’s payment and settlement system is one of the world’s largest, reflecting both the size of the UK economy, and London’s role as an international financial centre. In 2003, for example, around £130 trillion passed through the various parts of the system, which is equivalent to 120 times UK GDP. To put this into perspective, around 50% of the UK’s annual GDP passes through the UK’s payment system on every business day of the year. (Bank of England, 2004)

The Bank of England Act of 1998 sets out the powers and responsibilities of the Bank of England (hereafter ‘the Bank’). Under the Act, the Bank has statutory power to maintain price stability, and, in conjunction with the other key UK financial institutions (the FSA and HM Treasury\textsuperscript{14}), is also charged with:

- maintaining the integrity and value of the currency
- maintaining the stability of the financial system, in both the domestic and international sense
- seeking to ensure the effectiveness of the UK’s financial services sector.

Clearly, maintaining the integrity and efficiency of the payments and settlement system is central to these functions. In the payments sector, the key private sector organisation is the Association for Payment Clearing Services (APACS), which represents the major banks and provides a forum for them to discuss payment issues. APACS is currently comprised of three clearing companies, with each focusing on one aspect of the payment system:

- CHAPS Clearing Company
- BACS Ltd\textsuperscript{15}
- Cheque and Credit Clearing Company.\textsuperscript{16}

For the purposes of this report, the Clearing House Automated Payment System (CHAPS) is the most important of these bodies. CHAPS is the organisation through which most high-value wholesale payments are processed, and it operates under an RTGS system of the form described above. CHAPS provides two different types of clearing: sterling and the Euro. CHAPS sterling moved from a DNS to an RTGS system in 1996, and CHAPS Euro began operations – also using RTGS – in 1999.

CHAPS Euro connects to the European Union’s LVPS, which is called TARGET, with the result that members are able to process both domestic and cross-border payments.
through the CHAPS system. From 2001, both CHAPS systems have been fully integrated, and now operate on a common technical platform run by SWIFT.

For all the UK’s clearing systems, there is a two-tier structure similar to that more recently developed by the CLS. That is, direct settlement members hold accounts at the Bank of England, which are credited and debited using RTGS to settle their trades. Indirect, third-party members access the CHAPS system via their links with direct members, much as occurs with CLS Bank.

The Bank plays a pivotal role in each of the UK’s payments systems in four main ways. First, it is a member and shareholder of each of the clearing systems, as well as of APACS. Second, it owns and operates the RTGS system upon which the payment and settlement systems rely. Third, the Bank facilitates payment flow in CHAPS by providing intraday liquidity through repo agreements. Finally, given its responsibility for ensuring the stability of the UK’s financial system, the Bank plays an active role in ensuring systemic risks are adequately managed and controlled.

In addition to the three payment systems described, the UK has three separate clearing organisations that deal with securities transactions. These are:

- the London Clearing House (LCH), which provides clearing services for the London International Financial Futures Exchange (LIFFE)
- the European Central Counterparty (EuroCCP), which provides clearing services for NASDAQ Europe
- CREST, which is the primary settlement system for UK securities, government bonds and corporate bonds.

CREST is operated by CRESTCo, which assumed responsibility – from the Bank – in 1999 for settling gilts and other sterling debt (CGO), and money market instruments (CMO). CREST has developed increasingly strong links with other securities clearing organisations in Europe and North America, enabling non-UK transactions to be settled in CREST. As a culmination of this process, CREST merged with Euroclear in 2002.

Following the closure of CGO and CMO the Bank is therefore less directly involved with clearing and settling securities-based transactions (CPSS, 2003), but obviously retains its overarching oversight function. In addition to overseeing these major UK payment systems, the Bank performs an oversight role with respect to SWIFT. This is considered necessary because of SWIFT’s importance to the UK economy: the UK accounts for 17% of all SWIFT messages globally; the highest proportion for any country.

In addition, the Bank owns and operates the RTGS system upon which CHAPS sterling and CHAPS Euro rely, placing it at the heart of the UK’s largest and most systemically important payment systems. Finally, in the international sphere, the Bank also has a joint oversight role for the CLS system in conjunction with other major central banks, with the US Federal Reserve having the primary responsibility in this regard.

Unlike many central banks, the Bank of England does not have statutory powers over payment systems. However, it is generally able to exercise decisive influence on the basis of the central role it plays in these systems. Furthermore, under the Financial Markets

---

17 A repo – or ‘repurchase’ – agreement, is a financial transaction in which a market actor sells securities and simultaneously agrees to buy them back at a higher price at a later time. It is therefore, effectively a means of borrowing money. In a reverse repo agreement, the market actor does the opposite by buying securities and agreeing to sell them back at a higher price at a later date.

18 Of the ten Core Principles, the first addresses legal risks; Principles II–VI cover financial risks; Principle VII deals with operational risk issues, while Principle VIII addresses efficiency in the system; Principle IX covers criteria for system access, and Principle X focuses on governance.
and Insolvency Regulations (1999), the Bank does have statutory power to ‘designate’ UK payment systems. This designation protects the system’s rules from legal challenge in the event of insolvency on the part of a system member, and is therefore very important to key players in these payment systems. Therefore, although in theory the Bank cannot require payments systems to seek and obtain ‘designated’ status, in practice this is effectively the case. The Bank designated both the CHAPS systems in May 2000, and CLS in August 2002. The power to award – or to deny – designation status therefore gives the Bank considerable leverage over the functioning of these systems.

Perhaps the most important lever possessed by the Bank, however, relates to settlement in these key payment systems. In particular, interbank settlement ultimately takes place through central accounts held by members at the Bank of England. Therefore, full membership of these payments systems – notably CHAPS sterling, CHAPS Euro and CLS – is dependent upon being eligible to hold such an account at the Bank. This gives the Bank the option of imposing direct contractual obligations on banks wishing to access these systems.

As with other major central banks, the Bank of England’s oversight functions are benchmarked against the Core Principles for Systemically Important Payment Systems, produced by the BIS.** The fact that the other major central banks also use the Core Principles as a benchmark facilitates smooth and effective cooperation between both the banks themselves, and the systemically important payments systems that they oversee. The Core Principles therefore provide a ‘level playing field’, which ensures that systemically important payment systems in different countries are similar enough in key respects to enable effective cooperation and interaction between them.

To summarise, 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 approach based on commonly used technical platforms, thereby greatly reducing costs through increased efficiency. Major LVPSs in developed countries are increasingly interdependent. They rely on the same – or similar – 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 settlement risk – one of the last remaining ‘outposts’ of Herstatt risk in the global financial sector – has also been addressed with the launch of CLS, which enables FX transactions in different time-zones to be settled on a PvP basis. As with national LVPSs, this effectively eliminates settlement risk.

Therefore, whilst the Bank of England has responsibility for ensuring the effective functioning of systemically important UK-based payments systems, the UK is not an island in this regard. Rather, it operates in an interconnected global network of central banks and interlinked national payment systems, and cooperates in the oversight of cross-border payment systems such as CLS.
The next section sets out the proposal for a unilateral sterling stamp duty in the context of these developments. We shall see how the automation and standard messaging systems described make such a tax feasible. Furthermore, we shall also see how the interdependence that has been described makes avoidance of such a tax 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 to any individual player of a sterling stamp duty set at the rate proposed. Consequently, there would be no realistic incentive for banks and other financial institutions to seek to move outside the existing frameworks in order to avoid the tax. To do so would be hugely expensive, would make previous large capital expenditure on ensuring system compatibility a ‘deadweight’ cost, would reduce systemic efficiency (and increase operational risk) and carry significantly higher operating costs on an ongoing basis.

Importantly, however, to be permitted to exit the CLS system (by their respective central banks), financial institutions would have to build a parallel system that effectively dealt with Herstatt risk, that was acceptable under Basel 2\(^{19}\) and that was compliant with anti-money-laundering regulations. Such a system could not avoid the SSD proposed here.

In contrast, the effect of an SSD set at a modest rate would be of little consequence, especially if the tax is ‘hardwired’ and ‘piggy-backs’ on existing system capability. For system members the tax would hardly be noticed. For the peoples of the developing world seeking a more secure future, however, the proceeds of the tax could be life-changing.

---

19 Basel 2 is the reform of the 1988 Basel Capital Accord, which stipulated the level of regulatory capital banks must hold with respect to their lending.
The proposed sterling stamp duty

As detailed in Section 4, the past two decades have seen significant changes in the way FX transactions are settled both nationally (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.  

To be effective, a sterling stamp duty 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 sterling transactions globally.

● It would be set at a low level and would therefore neither distort the market nor provide incentives for financial institutions to move outside current systems in order to avoid the SSD.

The rest of Section 5 will provide details of how the proposed SSD meets each of these three criteria, after which Section 6 will evaluate real and potential objections in each of these areas.

5.1 Implementing a sterling stamp duty

Since the launch of the CLS Bank in 2002, a growing share of sterling FX transactions have migrated to it. Today it is estimated that a little over 50% of all global sterling trades are conducted through CLS. Of the remainder, the overwhelming majority are processed through the UK’s CHAPS RTGS systems. The UK’s CHAPS sterling system is therefore directly connected to the CLS member banks, and through this link also connected with the other major national RTGS systems. Furthermore, CHAPS Euro is directly linked to the EU’s RTGS system, which is called TARGET.

To be effective, therefore, the SSD must be implemented at a number of levels. The most straightforward of these is through CLS Bank. As pointed out above, more than 50% of all sterling transactions are settled in the CLS system, where it would be a straightforward task to identify sterling trades. Indeed, the UK Treasury has accepted the validity of this
point, not least because it would be practically straightforward and, if implemented in the UK, would have to be adhered to by the CLS.

Technically, it is possible to apply a unilateral sterling CTT via CLS. ... CLS Bank settle in fifteen currencies, and in doing so must apply the relevant laws in each jurisdiction – including, for example, a unilateral sterling currency transaction tax.  

In time it is highly probable that an ever-larger proportion of global sterling transactions will be settled through the CLS system. The objective of the CLS is to settle 95% 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 sterling trades on which the SSD can be directly levied through CLS 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 CLS. Growth in new participants to CLS continues apace. Once an institution becomes a participant, however, it faces strong incentives to move all of its FX business to the system. This is demonstrated by the fact that, although CLS settles around half of all FX trades globally, it settles around 90% of its members’ FX trades.

Having accounted for more than 50% of all sterling FX trades, the SSD 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 UK’s LVPS – CHAPS. Here, the developments in the LVPS sector that have been described are key to the feasibility of implementing an effective SSD.

CLS was launched with the aim of removing Herstatt risk. A key consideration in this regard, was that this risk had already been effectively removed from domestic LVPSs through the introduction of RTGS systems and, in particular, the development of PvP and DvP networks. What does this mean in practice?

Domestically, we can imagine a situation where UKBank1 wishes to purchase a UK financial asset from UKBank2. If the sale price is agreed, UKBank1 sends a SWIFTNet message to the relevant LVPS with an instruction to debit its settlement account at the Bank of England, and to credit the settlement account of UKBank2. At the same time, UKBank2 sends a SWIFT message requesting ownership of the relevant asset be transferred to UKBank1. SWIFT then matches the two messages, and after requesting and receiving confirmation from both banks, transfers both the sterling amount and the ownership of the asset. In this instance, both sides of the transaction are in sterling and therefore represent a domestic transaction that does not attract the SSD.

Internationally, however, the situation is rather different. Suppose UKBank1 wishes to buy US dollars for sterling. UKBank1 makes an offer to USBank1 (through any of a number of possible channels) and the offer is accepted. As with the domestic example, UKBank1 then sends a SWIFT message to the LVPS requesting it to debit its settlement account at the Bank of England for the appropriate quantity of sterling, and to credit the account of UKBank2 at the central bank (we assume that USBank1 keeps its sterling holdings with an account at UKBank2, 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 UKBank1 keeps its US dollar holdings in an account with USBank2).

In the UK, SWIFT requests confirmation of the trade from UKBank1, upon receipt of which it debits UKBank1’s account at the Bank of England, and credits that for UKBank2. Unlike the domestic transaction, however, it is unable to match the message from UKBank1 to another sterling-based message in the system. Therefore, although domestically the PvP process requires matching of trades and removes settlement risk, an international FX trade cannot be done on a PvP basis, as each leg of the trade takes place in different domestic LVPSs 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. A consequence of this feature of modern LVPSs, however, is that the failure to match both legs of a transaction in sterling identifies the transaction as an FX trade, upon which the SSD can be levied.

It is clear therefore that an SSD could feasibly be implemented unilaterally in the UK and, through both CLS and CHAPS, would be able to identify the overwhelming majority of sterling transactions undertaken globally. As the stylised example above makes clear, this is based on PvP systems in domestic LVPSs, as well as the PvP approach employed by the CLS Bank. The ‘fuel’ that drives 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 sterling 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 reach of the SSD, and make a reality of the identification of sterling trades in CHAPS described above.

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 CLS, CHAPS, 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:

- Confirm the details of a new FX contract between the parties
- Confirm an exercised foreign currency option
- Confirm the details of an amendment to a previously sent confirmation
- Cancel 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 very important for the purposes of this proposal, as it ensures that the SSD is only levied on sterling FX transactions in the form in which they are ultimately
transacted. Also, because MT300s 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. Obviously 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 sterling transactions is already in place. No dedicated infrastructure is required.

The MT300 messaging system can therefore capture the lion’s share of sterling transactions in the ‘traditional’ FX market. However, this still leaves the important area of the derivatives market which, as pointed out in Section 3, has grown to almost the same size as the traditional FX 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 agreed. In this case, MT305 and MT306 are used as messaging formats.

All other FX OTC derivative contracts are contained within the third category of SWIFT Standard messaging formats, which range from MT300–MT341 and from MT350–MT399. As with the traditional FX 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 SSD 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.*

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 the purposes of this proposal, 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 message. The ideal template, however,
is the 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, that is triggered by the sending of an MT300–MT399 FX trade confirmation message, in either the traditional or the OTC derivatives market. In this instance, a copy of parts of the message – currency, volume and counterparties – is automatically sent to the Bank of England for every FX transaction involving sterling. As with all aspects of the proposal, this process would be automated.

The next aspect of the proposal considers how, when in receipt of this information, the sterling stamp duty would be collected.

5.2 Collecting a sterling stamp duty and preventing avoidance

Once identified in the manner described above, collecting the SSD 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, UK-based members of CLS actually hold their accounts within the Bank of England. These accounts can then be credited and debited by the institution – using its settlement account at the Bank of England, or directly – in accordance with their liquidity requirements for CLS Bank. To collect the SSD from the CLS system, therefore, the tax could be directly taken from the relevant accounts.

Similarly, in order to be a member of CHAPS, a financial institution must hold a settlement account at the Bank of England. Therefore, once the tax to be paid is identified and traced to the CHAPS member, it can be transferred from the relevant settlement account held at the Bank of England to HM Revenues & Customs’ CHAPS account, also held at the Bank of England.

As with the majority of everyday operations in both CLS and CHAPS, this process would be entirely automated. The SWIFT messaging system in general – and the FiNInform Copying function in particular – is also 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 CLS and CHAPS 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 SSD, which would be directly reflected in the spread charged them by CLS/CHAPS members in exchange for executing their FX business.

The remaining sterling trades undertaken outside this system – 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 Bank of England, CLS, or both. Consequently, such sterling trades would ultimately also incur the stamp duty.

On average, SWIFT messages cost approximately £0.067 each. CLS settles 100,000 transactions a day, which is about half of all FX trades. To capture the entire FX market, therefore, we have 200,000 messages a day. If a transaction involving sterling triggers a SWIFT copy message this is 17% of this, which equals 34,000 messages per day. However, this is only the traditional FX market. If we assume the same number of sterling related derivatives messages per day, the total sterling messages needed is in the region of 68,000. This would cost £4,556 per day, or £1,184,560 per year. If we assume the same running cost for the Bank of England to set up their own systems to manage this inflow of information, we reach around £2.4 million as the annual running costs.

5.3 Avoiding market distortions: the appropriate rate

Having established the feasibility of a) identifying sterling FX transactions, and b) collecting the SSD, the final question relates to the level at which the tax should be set. We are not concerned with maximising revenue per se, but with striking a balance between raising sufficient revenue to make a contribution to meeting the MDGs, and with avoiding significant market distortions.

In Section 3 we saw how – as of 2004 – sterling was involved in 8.5% 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 $160 billion. Table 3 illustrates the daily revenue-raising potential of differing tax rates.

<table>
<thead>
<tr>
<th>SSD rate</th>
<th>Daily revenue raised</th>
<th>Annual revenue raised*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>$1.6bn</td>
<td>$416bn</td>
</tr>
<tr>
<td>0.1%</td>
<td>$0.16bn</td>
<td>$41.6bn</td>
</tr>
<tr>
<td>0.01%</td>
<td>$0.016bn</td>
<td>$4.16bn</td>
</tr>
<tr>
<td>0.005%</td>
<td>$0.008bn</td>
<td>$2.08bn</td>
</tr>
</tbody>
</table>

* assuming 260 trading days

As can be seen, a 1% tax would theoretically raise an astonishing $416 billion. However, clearly an SSD at such a level would have a distorting effect on the market, dramatically reducing volumes traded.

At the 0.1% level the annual revenue would be $41.6 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 sterling, with the result that volumes could fall considerably, with the tax take therefore also falling by a significant amount. The fall in volumes would result from traders switching from sterling to another vehicle currency such as the Euro, US dollar or yen.

In order to avoid these problems, the proposal is to set the SSD at a much lower level of half of one basis point (bp) – 0.005%. At this low rate, it is difficult to argue that the tax would distort the market. It would, however, raise $2.08bn annually.
As well as the ‘traditional’ FX market, however, the proposal is that the SSD should also be levied on the OTC FX derivative market. Indeed, in order to capture the highest possible proportion of sterling FX trades, and to prevent market participants leaving the traditional market for the derivative market in order to avoid the SSD, it is essential that the derivative market is covered within the framework.

As with the traditional FX markets, transactions in the FX derivative market usually require a transfer of payments. As with the description above, therefore, such payments can be identified using the same SWIFTNet FINInform messaging, and taxed directly through settlement accounts held at the Bank of England. An exception to this rule, however, is FX options, which may not be executed and may therefore not result in a taxable final payment. To take account of this, we reduce the total taxable quantity of global OTC derivatives by 9%, reflecting the fact that FX options account for this proportion of the market.

In 2004, sterling accounted for 7.5% of all FX OTC derivatives contracts. Applying this market share to the daily $1,175 billion OTC FX derivatives market produces potentially taxable revenues of $88.125 billion per day. Again, assuming a 0.005% SSD, this would produce annual revenues of $1.14 billion.

In combination, therefore, the SSD would produce annual revenues of $3.22 billion, which at current exchange rates equates to £1.86 billion per year.

Of course, this assumes that the implementation of the SSD 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 5% reduction in the volume of sterling traded, and this would amount to an annual receipt of £1.77 billion. The 5% figure is based on a report written for the UN on the revenue-raising potential of currency transaction taxes (Nissanke, 2003). However, the 5% reduction is assumed to come from a tax rate of one basis point (0.01%), which is double the rate here proposed (0.005%).

As with other UK taxes, HM Revenue & Customs would be the agency with statutory power to collect the tax. The mechanics of collection, however, would be greatly eased by taxable funds being held in accounts at the Bank of England. It is already possible to pay taxes through the CHAPS system, which suggests that the simplest method of collection would be for the tax to be paid directly into a dedicated HM Revenue & Customs’ CHAPS account, also held at the Bank of England.

The ‘economic footprint’ of the SSD would, in the first instance, fall upon the large financial institutions that are members of the CLS and CHAPS. 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.

Table 4 (overleaf) details the annual profits made by the UK’s largest banks in 2004, as well as the effective rate of tax that was paid in that year.

As can be seen, the total annual SSD could be absorbed by the big five UK banks alone, and still result in an annual tax rate of 30%, which is the mainstream UK rate. However, in reality of course, 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. Consequently, the impact of the SSD will be dispersed throughout the FX system, with minimal impact on any one institution.

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 sterling stamp duty. In order to avoid producing market distortions, we have proposed that the tax be set at the level of half a basis point on the sterling half of all FX transactions, and demonstrated the mechanism through which this tax could be efficiently identified and collected.

Finally, we have produced some broad estimates of the likely annual revenues that would be raised through the SSD, and suggested that a figure in the region of £1.77 billion per year is a reasonable expectation. When compared with the estimated running costs of the system given in Section 5.2, it is clear that the cost of administration and collection of the duty would be minimal, maximising the amount available for international development purposes.

This should be seen in the context of both existing transaction taxes and other proposals for innovative sources of finance. For example, the UK’s stamp duty on shares at 0.5% is levied at a rate one hundred times larger than that proposed for the SSD. Similarly, taking just the example of the Air Ticket Levy, the proposed SSD is set at a much lower rate and, crucially, will impact upon a sector (ie: financial institutions) that is far more profitable and therefore far better placed to absorb the duty’s impact than is the airline industry.

The next section will deal with specific questions that have been raised in relation to the proposed unilateral SSD. These issues were raised in a recent paper from the UK Treasury, which concluded that such a stamp duty would, ultimately, not be feasible.

In the exposition above, we believe that many of the Treasury’s points have already been addressed, at least to some extent. However, in Section 6 we will take each of the Treasury’s substantive points in turn, and assess their validity in the light of this specific proposal.
What are the objections to this proposal, and how can they be addressed?

Following a meeting with representatives of the Stamp Out Poverty campaign in June 2005, the UK Treasury produced a paper within which they detailed their reasons for concluding that, in practice, a sterling stamp duty would not be feasible. In broad terms, these conclusions are based on four hypotheses given in the document. These are as follows:

- There would be a movement away from continuous linked settlement [ie: CLS] to other, less safe, settlement methods.
- The tax would encourage large-scale netting, avoiding the tax but re-introducing some of the settlement risks that have been removed or reduced by current settlement methods.
- There would be a clear incentive for financial institutions to move to tax-avoiding derivative products.
- Even if it were possible to tax synthetic foreign exchange derivatives ultimately settling within a sterling system, transactions could nevertheless be completed outside any sterling settlement system/process or UK jurisdiction.

The remainder of this section will take each of these hypotheses in turn, with the aim of demonstrating that they are at best an exaggeration, and at worst simply wrong.

6.1 Would an SSD 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, CLS 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, CLS has removed one of the largest remaining risks in the financial system for its participants. As described in Section 3, this initiative is particularly important 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.

The Treasury’s concerns are serious, however. If the implementation of the SSD 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.
It should be mentioned that the Treasury’s hypothesis in this regard seems to be based upon the SSD only being implemented within the CLS. As we have shown, however, we propose to apply the tax in all significant areas where sterling FX transactions occur. Consequently, even if a bank were to leave the CLS, they would still have to pay the SSD.

Having said that, as we will demonstrate below, even on its own terms the Treasury’s hypothesis is incorrect. For this to be the case, the costs of paying the SSD would have to be greater than the benefits which accrue from membership of the CLS system. This is therefore a straight cost-benefit question. How do the two sides of the equation stack up?

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

CLS 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 CLS 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.

● First, transaction costs on CLS differ significantly from what was (and remains) the case under any alternatives.

● Second, liquidity requirements / net funding costs also differ significantly under CLS. 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.

● Third, CLS 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.

### 6.1.1 Fixed costs of joining CLS

To be a full member (and therefore shareholder) of 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 CLS. In
2004, the TowerGroup conducted a survey of financial institutions to assess the costs and benefits of CLS participation. In terms of fixed costs, their results were reported as follows:

*The TowerGroup (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.*

Clearly, such investment is a one-off and is specific to the system needs of CLS. That is, if a bank were to leave CLS, 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 CLS obviously 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, 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 this would be lost, and further investment would be required to engineer new IT systems.

### 6.1.2 Variable cost differential of CLS 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 CLS, 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. 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 CLS 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 half of one basis point – a highly conservative assumption\(^{32}\) – we can estimate the impact of this efficiency saving. The CLS system processes $2 trillion of trades every day. However, CLS data includes both sides of each transaction, with the result that the headline figure produced must be halved to give an accurate reflection of reality. Therefore, half of one basis point’s worth of $1 trillion is $50 million in estimated profit per day. However, as pointed out above, operational efficiency 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 $50 million to $66 million per day, a system-wide daily profit increase of $16 million. Taken annually, this amounts to a direct benefit to CLS participants of $4.1 billion.\(^{33}\)

**Operating costs**

As well as the efficiency gains described, the same survey provides data on the impact of CLS 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, 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, CLS 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 trades are also settled in gross form, they are funded on a net basis. The benefits this produces are described as follows by CLS:

*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%.*\(^{34}\)

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.\(^{35}\) The 10% figure is the average funding gap faced by major UK banks from 2000 to 2003. The funding gap represents the difference between the banks’ total deposits and total lending.\(^{36}\) This shortfall must be met by external borrowing, either domestically or

---

\(^{32}\) 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). The half a basis point estimate is therefore a very conservative assumption.

\(^{33}\) Here and throughout we assume 260 trading days per year.

\(^{34}\) See, About CLS: www.cls-group.com.

\(^{35}\) 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.

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 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 membership.

The CLS Bank’s 550 members execute an average daily value of $2 trillion through CLS. Gross funding would therefore necessitate the entire $2 trillion being available for settlement – unlike the previously halved data, however, this is an 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 only requires $200 billion to be made available, a saving to CLS 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 daily at today’s LIBOR rate of 2%, would cost $2.6 billion over the course of a year (the 2% being an annualised rate and assuming 260 trading days per year). This therefore represents a saving to CLS participants, which is a direct result of their participation in the system, of $2.6 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.

Of all the benefits of CLS participation, it is likely to be the impact on net funding requirements that is the most significant, both for individual participants and for the group as a whole.

CLS 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 risk factor in this regard. It has been suggested that financial institutions that settle FX transactions through CLS, 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 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 such as CLS) 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.**

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 participants will directly benefit from being exempt from this capital charge.

### 6.1.3 Comparing the quantitative benefits of CLS participation with the quantitative impact of the proposed SSD

We have seen how trades involving sterling account for 8.5% of all FX transactions globally. If we assume that the composition of trades within the CLS system is the same as that in the broader FX market, this produces a taxable quantity of $85 billion per day (8.5% of $1 trillion). Levying the SSD at the rate of 0.005% therefore results in a daily tax take of $4.25 million, and an annual take of $1.1 billion.

As is clear from Table 5, the introduction of a SSD at the rate of 0.005% would not create any incentive for participants in the CLS system to leave in order to avoid the tax. Indeed, in order for such an incentive to exist, the SSD would have to be levied at more than six times the rate that we are proposing.

In addition to the variable cost benefits that have been described above, CLS 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 SSD set at the level proposed.

As well as the direct and indirect financial benefits, however, there are a number of other aspects of CLS 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 they would still have to pay the SSD.

6.1.4 Assessing the unquantifiable benefits of CLS participation

Beyond the quantifiable benefits described, CLS participants are discovering other advantages, which flow from the increasing sense of the CLS 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 participants.

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

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 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 everyday 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.37

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 CLS.

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 CLS. However, given the elimination of settlement risk enjoyed by CLS 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, it is clear that CLS participation brings both tangible and intangible benefits. On the tangible side, the quantitative benefits of participation far outweigh the costs of an SSD levied at the rate of half a basis point. This can be seen at the system-wide level – as shown in Table 5 – but is obviously 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 SSD. 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 SSD in the CLS system, therefore, would not produce an incentive for participants to move outside of CLS – even if they could avoid the SSD by doing so – as they would become subject to Herstatt risk.

37 Quote from Olaf Ransome, Director Transaction Services and Solutions, CSFB, in Special Reports: Continuous Linked Settlement, at www.gtnews.com/payments/clsreport.cfm.
Furthermore, to be acceptable to central banks (with oversight responsibilities) and compatible with Basel 2 and anti money-laundering regulations, those wishing to leave CLS would have to set up a parallel system with similar features to those described above. Consequently, the SSD could also be levied through any feasible alternative system.

6.2 Would an SSD encourage a return to large-scale netting in the international sphere?

Another issue raised in the HM Treasury paper cited above, is that an SSD would encourage greater use of large-scale netting in order to avoid the tax. Would this be the case?

The obvious 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 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 become increasingly manifest as the number of participants grows. Consequently, there would be no incentive – rather, there would be a real cost – for a small number of banks to exit CLS and set up their own multilateral system. The benefits of netting within CLS could only be replicated if all the current participants decided to leave the system.

Given the benefits of CLS 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 CLS 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.

In order to be acceptable in this respect – and capable of smooth interaction with domestic LVPSs – 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 UK’s LVPS. As the ‘gatekeeper’ to these systems, the Bank of England 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 Bank of England of gross sterling FX transactions in the UK’s CHAPS system, the same would be true of multilateral netting systems.
The question that this raises is whether banks could abandon SWIFT and move to a proprietary messaging system. As with CLS participation, however, this is essentially a cost-benefit decision facing banks. And as with CLS participation, the benefits of SWIFT membership are likely to far outweigh the cost savings from avoiding the SSD.

As with the CLS, 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 the 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 very 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 SSD, 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 anti money-laundering regulations – would have to be of a form that could not be used to avoid an SSD.

6.3 Would an SSD encourage much greater use of tax-avoiding derivative products?

The third issue raised by the UK Treasury was that the introduction of an SSD would lead to greater use of derivatives in order to avoid the tax. In large part, this objection has already been addressed: by ensuring that the SSD covers both traditional and the OTC FX derivative market, it cannot be avoided by moving activities into the derivative market.

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, CLS Bank will offer a ‘complete end-to-end’ service for the settlement of cash positions for non-deliverable forward (NDF) contracts, and for FX option premiums.

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.

6.4 Would an SSD move derivative activity relating to sterling outside UK jurisdiction and outside the reach of the tax?

The final issue raised by HM Treasury is that derivative activity relating to sterling would move outside UK jurisdiction, and therefore evade the tax.
As we have seen, it is technically entirely possible for an SSD to be collected on sterling derivative transactions, wherever they occur – unless it is being suggested that in order to avoid a 0.005% tax on a small fraction of their FX activities, the world’s leading financial institutions would wish to sever all links with the UK’s financial system.

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 SSD.

Finally, it is not feasible for financial institutions of world-scale to operate in the sterling FX and derivative markets in a sustainable manner without the support of the Bank of England. 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 SSD.

Ultimately, were a sterling stamp duty to become UK law, financial institutions would have to abide by it, as is the case with all other legal obligations.
Concluding remarks

This report has set out the mechanism by which the UK could unilaterally implement a sterling stamp duty (SSD). We do not propose this measure for no reason, however. An argument can be made that a currency transaction tax (CTT) is a good in itself. Indeed, Tobin’s original argument was not made in terms of revenue raising, but as a means of ‘throwing sand in the wheels’ of what was seen as an overly volatile global market. More recently, Spahn has developed the circuit-breaker concept of a CTT, which could be employed by emerging markets wishing to avoid speculative attacks on their currencies.

These arguments are not made here. Rather, the measure proposed is specifically designed to raise revenues. Furthermore, we argue 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 CTT 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 SSD would provide incentives for market participants to leave particular national and international payment and settlement systems. By levying the SSD across all of these systems, however, no such incentive exists. Moreover, even if it were possible to exit these systems and avoid the tax, 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% tax on a small percentage of their foreign exchange activities.

We have shown that the SSD could be implemented easily and cost effectively. Initial start-up costs would obviously 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 tiny fraction of the £1.77 billion estimated annual take from an SSD would be sufficient to cover these operating costs.

To conclude, a unilaterally implemented SSD 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 if the Millennium Development Goals are to have any chance of being met.

In short, this is a sterling solution, with the potential to increase UK aid expenditure by 50%.
Bibliography

Aliber RZ., Chowdhry B, Yan S (2003) ‘Some evidence that a Tobin tax on foreign exchange transactions may increase volatility’ European Finance Review


Schmidt R (2000) A Feasible Foreign Exchange Transactions Tax, Manu, The North-South Institute, Ottawa, p1


Stamp Out Poverty is a coalition of more than 50 UK charities, faith groups and trade unions campaigning for innovative sources of finance for development.

To find out more about Stamp Out Poverty please visit our website

www.stampoutpoverty.org

Stamp Out Poverty
37–39 Great Guildford Street
London
SE1 0ES

Telephone: 020 7620 0757
Email: info@stampoutpoverty.org

Network members

- ActionAid (UK)
- Action for Southern Africa
- Africa Europe Faith and Justice Network – UK
- African Initiatives
- ATTAC
- Bakers, Food and Allied Workers Union
- British Youth Council
- CAFOD
- Catholic Institute for International Relations
- Christian Aid
- Chartered Society of Physiotherapy
- Christian Socialist Movement
- Communications Workers’ Union
- Fellowship of United Reformed Youth
- Fire Brigades Union
- Freedom to Care
- Friends of Le Monde Diplomatique
- Friends of the Earth (England, Wales & Northern Ireland)
- GMB
- Greenpeace UK
- Hope for Children
- ICFTU
- Movement for the Abolition of War
- Muslim Parliament of Great Britain
- National Board of Catholic Women
- National Council of Hindu Temples
- National Federation of Women’s Institutes
- National Justice and Peace Network
- New Economics Foundation
- New Internationalist Cooperative
- National Union of Journalists
- One World Trust
- Oxfam
- People & Planet
- RESULTS (UK)
- Save the Children
- Stakeholder Forum for a Sustainable Future
- STUC
- Tearfund
- Traidcraft
- Transport and General Workers’ Union
- TUC
- UNISON
- United Nations Association
- United Reformed Church
- United Society for the Propagation of the Gospel
- War on Want
- Welsh Centre for International Affairs
- World Development Movement
- World Vision
- WWF (UK)