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Emergent Global Challenges: What Europe Needs to Do to Tackle the Triple Crises of Tax, Finance and Climate

NOTE

Abstract

This paper considers how globalization has changed the nature of risks we are facing. It shows how, at the same time as idiosyncratic risks have fallen, the threat of system wide risks has risen significantly. This has been accompanied by an ever increasing degree of externalities and faster and larger cross border flows of not just commerce but people, information technologies and pathogens. While the increase in cross border flows has generated new opportunities, it has also exposed us to new threats. This calls for new institutional structures and a new approach to global governance. The European Union should, as the most integrated region in the world, take the lead in both taking these emergent challenges head on and developing a model for new governance that can be replicated at the global level. This would be beneficial for Europe, and for the world. In the second part, this paper lays out specific short to medium term measures that Europe must take in order to tackle the triple fiscal, financial and climate crises confronting the world. This would not only help Europe emerge stronger and more integrated but would also allow the Union to take the lead in global affairs.

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Executive Summary

This paper highlights how old approaches to international governance are increasingly out of date in the day and age of increasing globalization. We now live in a world that is highly interconnected, is full of externalities and is increasingly fast paced.

The ever faster and larger cross-border flows of commerce, people, and information technologies has reduced the idiosyncratic risks by allowing us access to an increasing array of options for example for investments or suppliers. At the same time, the higher degree of interconnectedness that this has brought about means that the risk of system wide failure – the dominoes all falling together - has increased significantly as demonstrated by the recent world wide collapse in cross border finance and trade.

Existing international governance structures to pursue shared global goals and manage externalities were designed at a time when systemic risk, externalities and the pace of change was much slower. These institutions and their approach to global governance now look increasingly out of touch. There is an urgent need to plug this governance gap that grows by the day.

As the most integrated region in the world, the European Union should take the lead in both tackling the emergent challenges head on, and developing a model for new governance that can be replicated at the global level. This would be beneficial for Europe, and for the world. The 20th century brought about technological revolutions in transport and communications. It was also a century of economic globalization that registered an unprecedented expansion international commerce.

The expanding size of cross border flows of people, information, technology, finance and trade has meant that the world is now more interconnected and interdependent than ever before. This has brought undisputed economic gains to an ever expanding set of individuals and countries. It has also, at the same time brought new vulnerabilities in the form of significant increases in tax flight, international financial instability and the cross border flow of pathogens to name a few.

Moreover, the economic expansion was based substantially on fossil fuel based technologies and an exponential rise in the exploitation of natural resources. The rapid and accelerating accumulation of man made Green House Gases (GHGs) driven by fossil fuel consumption and deforestation is one manifestation of humanity's expanding footprint on the environment. Global warming is already underway and if allowed to run unchecked could trigger sudden catastrophic climate change.

While previous crises were mostly local or regional in character, the most serious problems confronting us now are global in scope. We are faced with a very pressing fiscal, financial and environmental 'triple' crisis. The systemic nature of the challenges involved necessitates an international, preferably global approach. But as a first step we must act at the level of the European Union. This makes sense since the EU is the most integrated region in the world with the most advanced supranational governance structures.

To this end, this paper discusses a series of specific short to medium term steps that Europe must take in order to tackle this triple threat.

Greater externalities, faster contagion and increased systemic risk

We now live in a complex world where progress or setbacks in one part of the world get propagated through the interconnections and interdependencies between various parts.

Policy decisions, previously made in purely local contexts, increasingly have a footprint across country borders, **an increase in externalities**. The operation of 'tax havens' in the Caribbean contributes significantly to increased tax flight from the European Union. Financial instability, as this crisis has re-emphasized, increasingly does not respect sovereign boundaries.

The world has also witnessed a major increase in the pace of life across all fields: travel, communication, manufacturing and finance. This exposes us to ever **faster contagion**, where risks and opportunities are propagated across borders at an ever faster pace. The news of the failure of Lehman Brothers had a near instantaneous impact on European financial markets.

Technological development and globalization have substantially **increased the size and impact of cross border activities**. Whereas previously, increase in CO2 emissions from outside the EU would only have impacted EU climate only gradually, the rate at which large, fast growing countries such as China and India are contributing to overall GHG levels and hence potential climate change is unprecedented. The growth of banking behemoths has a similar impact on potential financial instability.

This increase in externalities, size of impact and the possibility of fast contagion has exposed us to a new form of risk where problems arising in one part of the world, get amplified and transmitted through the interconnections and interdependencies and bring about systemic meltdown. A small shock in an obscure section of the US real estate market was transmitted and amplified in this manner to cause the biggest financial and economic crisis since the great depression. The world is now increasingly prone to such **systemic risks**.

A growing governance gap

This new complex world offers great opportunities and new challenges. Our capacity to reap the opportunities and face the challenges depends more and more on our ability to act together across national borders. This applies regionally as well as globally.

Existing global institutions, many of them created decades ago, are ill-equipped to harvest these opportunities or tackle the emergent risks. They are not equipped to handle complex, fast moving systemic risks and innovations. The governance mindset, that underpins present day approach to international policy, is 'well past its use by date'.

The financial crisis has been a wake up call for world leaders, demonstrating the yawning governance deficit that has emerged in recent decades. Deep structural changes as well as new approaches to governance and policy making are urgently needed. While any changes of this scale will take time and need to overcome entrenched interests, we cannot afford to stand still.

The European Union should play a leading role

With its multilateral character and flexible institutional tools, the European Union is particularly well placed to play a leading role in responding to these new developments. This is possible at two levels.

First, the EU with its model of pooled sovereignty, single market and multilateral institutional structures is better placed to tackle the emergent complexities and 21st century challenges than any other set of states or region in the world. Systemic risks posed by climate change and international financial crises need systemic responses which the EU should be able to provide at least within the single market.

Second, the EU in its response to these risks provides a template to the rest of the world as to handling these systemic risks at the appropriate level – globally. If the EU succeeds, it will be in a position to provide both moral and intellectual leadership to the rest of the world. If the EU fails even within our integrated sphere, then there is little hope that global governance would evolve to match global challenges.

The Triple Crises of Climate, Tax & Finance

While the importance of the threat posed by climate change has been recognized ever more widely since the early 1990s, the urgency of action is only now becoming clear as ice packs melt, sea temperature rises and rainfall patterns change. Despite the years of negotiations that went into the global discussions on tackling climate change, the Copenhagen summit in 2009 did not produce any binding outcome.

No matter how favourable the long term cost benefit analysis of tackling climate change looks, it will entail significant upfront costs. It would also involve some form of financial redistribution from the rich countries responsible for the greatest stock of green house gases towards poorer countries that have both less responsibility for emissions and are less able to afford these upfront costs.

The money needed for this is particularly hard to come by at a time when the financial crisis and associated recessions have left governments with near record fiscal deficits. The need for additional funds for tackling climate change and the yawning fiscal deficits come at the same time as tax systems have been under increasing stress from revenue losses through tax flight. We will not solve the environmental problems unless we address the fiscal challenges we face, and this clearly will not happen unless we address problems with the financial system.

Another link in the chain is between the financial system and tackling climate change. No matter how much public money we might be able to allocate towards tackling climate change, it would not be enough and would clearly need to be supplemented by significant amounts of private investment. For this investment to happen, we need a well-functioning financial system that supports the real economy and encourages, rather than penalize green behaviour.

We need to face the challenges posed by climate change, the financial and the fiscal crisis simultaneously

This paper uses the broadly accepted basic principles of Efficiency, Equity and Sustainability to inform the best response to this triple crisis. It is important to respect these principles while seeking to **mitigate the potential for systemic meltdown**, **reduce negative externalities** and **minimise contagion**. It is also sensible to look for policy solutions that help address multiple problems at the same time. While focussing on Europe, it is essential that we keep a development focus since it is developing countries which have the least resources that are often most affected by the climate, finance and tax crisis.

However, before we move on to suggesting solutions, it is instructive to examine in some more detail the nature of the problems we are confronted with. Seemingly different in nature, the three challenges share some common characteristics.

Let us look at the economics of investing in a new coal fired power plant. In the absence of an international agreement on tackling climate change and a minimum price on carbon, the pure financial return on investment looks positive. We know now that this private rate of return for investors does not reflect the true cost benefit analysis for society as a whole. Specifically, this does not take into account the externality the coal power plant poses on the rest of society through its contributions to green house gas emissions and consequent global warming.

Climate change, as we increasingly see, has a real economic and social cost to it. This means that because of the externalities involved i.e. others having to bear the full costs and consequences of the additional GHG emissions, private investors will continue to find it profitable to make 'dirty' investments that are socially and economically value destroying for society as a whole. Substitute country for private investors and the same result applies.

Let us now put ourselves in the shoes of the CEO of a large financial firm, say AIG. Your bonus is linked to the annual profit generated, so you seek to maximise this profit and take home a substantial bonus every year. If things go wrong, the government steps in to rescue the firm you run or you simply move to another job in the private sector, so your downside is limited. This means that you will have an incentive to take excessive risks to make higher profits.

It is privately optimal for you to pursue a 'picking pennies in front of a steamroller' strategy. This, for example, could entail selling ever larger amounts of credit insurance, which in most states of the world generates profits, but in the event of a systemic shock, will generate losses that far exceed these cumulative profits.

Limited liability and the possibility of a bailout mean that your losses as the manager, or even the shareholder, would be limited though you stand to reap the full upside. Your behaviour, like that of the coal fired plant investors, will impose externalities on the rest of society when AIG gets into financial trouble and destroys economic value but is privately profitable. Loosely regulated financial centres have been operating on a similar premise and impose risk pollution on the rest of the world.

Imagine now that you can invest in a project that yields a 7% rate of return but that you can borrow only at 8%. Normally, this is not an investment you will make. But if you are able to claim a tax deduction on interest in a jurisdiction with a 30% tax rate whilst channelling your return to a zero tax haven, this transaction suddenly becomes profitable. Note the similarity with the other examples: socially and economically value destroying, privately profitable. Tax avoiding actors and tax havens both impose fiscal pollution on the rest of the world.

The examples used above are not hypothetical but are very much real world scenarios which get played out in various forms each day. All of them involve actions which, though privately profitable, destroy economic value for society as a whole.

Since planet Earth does not yet trade with Mars, our economic progress is limited to the sum total of the economic value we generate in this world. This makes these choices inefficient.

A second feature common to these choices is that they allow a few to garner profits while imposing real costs on the rest of society. This is inequitable.

The third feature common to these actions is that, while a few people can get away with these actions for a while, in the long run these are not sustainable.

The fourth common element in these actions is the increased systemic risk they pose on society.

All of our three chosen principles are violated. Clearly, these actions need to be mitigated and systemic risk tackled; the question is how best to do that.

There are two ways of mitigating externalities of the kind discussed above: co-operation or isolation. One could decide to minimise externalities by retreating into the proverbial shell. For taxation as well as finance this would mean that a county isolates itself economically from the rest of the world so the collapse of AIG and the existence of tax havens no longer pose a threat. Such a choice would carry with it great costs, in the form of lost opportunities, perhaps significantly in excess of the problems it seeks to tackle. In the case of climate change, such a choice is not even possible, at least not under the technologies currently available.

Closer and better co-operation is the only way of facing up the triple crises

Of the three problems we consider in this paper, climate change is perhaps the most serious. Estimates show that the present value impact of climate change, if not addressed, would be a multiple of the costs of the financial and economic crisis we have just confronted. The issue at stake is a distributional one, not just between developing and developed countries or the rich and poor, but across generations. Especially at a time when budgets are tight, it is tempting to say we do not want to pay for the actions of the past generations and to let the future generations take the hit. This makes the challenge particularly complex.

The problem of tax flight is perhaps next on the list in terms of its magnitude, with direct estimates of lost global tax revenue amounting to several hundred billions of Euros every year. More than this, continuing and growing tax flight threatens to gnaw at the very fabric of society by threatening the sustainability of the welfare state, by contributing to increased inequality, by thwarting development, by allowing corruption and crime to flourish, and by contributing to financial instability.

Here, the issue is one primarily of distribution across income levels and between 'legitimate' states and 'pirate' states. So the main obstacles to overcome are the interests of those in the top percentiles of income and of tax haven states that benefit from tax flight. The political and public anger at tax flight generated by the financial and fiscal crisis has opened some new opportunities for action.

The financial crisis, while staring us in the face most pressingly, is perhaps the most tractable of all of these problems, with solutions that lie in the short to medium term. Moreover, the culprits are relatively easy to identify and the real problems were limited to a few countries with highly 'developed' financial systems, with the rest of the countries suffering mostly because of second and third order effects.

The **systemic** nature and **size** of the three challenges, the **large externalities** involved and the **speed of contagion** mean that we need to act urgently, ideally at a global level. However, this goes hand in hand with regional and national responses as long as they contribute to global efforts and are properly co-ordinated.

As a first step it is essential for the European Union to take a lead on co-ordinating member state responses to these challenges. This would work at two levels. First we need to have a strategic approach to what we could do within the single market, pending global agreement.

At the second level, taking these internal steps towards closer pan European co-operation and making progress on these issues would help strengthen the EU's position internationally; it would increase the likelihood of international agreements; it would allow the international community to use the European Union as a model for making progress; and additionally it would give the EU first mover advantages and would help push Europe in the direction of integration.

A brief summary of the nature of problems faced and solutions sought is presented in the table below:

Externality	**Increasing Size**	**Faster Contagion**	**Systemic Risk**	**Prevention**	**Contingency Plan**
Excessive risk taking leading to financial instability	Larger financial systems, institutions and cross border financial flows	Faster and larger financial flows, increased interconnectedness and Just in Time finance	Widespread and deep financial crisis	Reducing the size, speed and interconnectedness of the financial system and increasing capital and liquidity buffers	Resolution and Restructuring Plans for Systemic and Cross Border Financial Institutions
Low tax and secrecy leading to tax flight	Increased internationalisation of commerce and finance	Electronic funds transfers, complex supply chains and increasing trade in services	Sudden drop in voluntary taxpayer compliance	Increased global and regional tax co-operation through an effective treaty and co-ordinated action against tax havens	Unilateral action against tax havens and other actors facilitating tax flight
Emissions of GHGs leading to global warming and climate change	Increased use of fossil fuel technology and larger scale emissions with fast growth in emerging economies	Vastly increased scope and scale of fossil fuel technology	Sudden climate change triggered by global warming exceeding critical thresholds	Binding and effective Global Greenhouse Gas mitigation treaty	Adaptation strategy and possible economic sanctions against non compliant jurisdictions

Tackling Tax Flight

Tax systems lie right at the heart of modern states and form the backbone of the social contract between citizens and their governments. Good tax policy and related good governance was primarily a domestic affair in the past; but that is no longer the case. Changes to the international economy, such as: 1) growing cross-border trade and financial flows 2) increasing complexity of multinational corporation operations and international production networks 3) the liberalization of capital and current accounts, and 4) the growth of '**tax havens**' jurisdictions which legislate specifically to help economic actors avoid regulatory and tax obligations in other jurisdictions, have significantly increased the opportunities for economic actors to legally and illegally reduce their tax payments.

This internationalisation of economic activity has not been accompanied by the internationalization of tax governance or even significant progress on cross-border co-operation on tax matters. This has allowed economic actors to use international economic linkages to escape paying taxes – **tax flight**. This tax flight reduces public revenues, weakens the social contract and undermines good governance.

Modern tax systems rely on voluntary compliance by the vast majority of citizens. Citizens willingly pay taxes because they see the benefits that public expenditures bring to themselves and the society at large. In the current environment, resentment is building up against bailing out the financial system especially because those responsible for the financial crisis have gone back to business as usual. Ordinary citizens are being asked to make sacrifices and fork out higher taxes exactly at a time that tax flight by those at the top of the income spectrum is on the rise. This is rightly seen to be highly unfair, and there is a real and growing danger that we might be getting closer to a tipping point where growing frustration amongst tax payers leads to a large sudden decrease in voluntary compliance. Such an outcome would feed on itself as fewer and fewer people would be willing to pay taxes knowing that few others are. This potential '**systemic risk**' to the very existence of welfare states should be taken with utter seriousness by governments, and provides a strong reason to tackle tax flight.

Near record levels of fiscal deficit and the urgent need for greater tax revenues sharply increases the urgency of the task.

Tax havens, which rely on a combination of low taxes and a lack of transparency, lie right at the heart of tax flight. These haven jurisdictions, such as the Cayman Islands, also often host offshore financial centres which are characterized by a large scale existence of financial services catering to non-resident customers. The combination of zero or low taxes, light touch regulation, and secrecy space offered by such centres are highly attractive for a number of international actors. Financial institutions seeking to minimise tax and regulatory burdens often choose to have subsidiaries in tax havens. Lehman Brothers, Northern Rock, Bear Stearns, and IKB all had significant offshore operations which were poorly regulated. Tax havens are increasingly used by wealthy individuals as well as commercial enterprises to avoid and sometimes evade taxes. The secrecy they offer also attracts corrupt and criminal money flows.

Moreover, tax havens distort investment flows and allow economically inefficient decisions, of the kind discussed in a previous section in this paper, to be made. Their existence is thus economically inefficient. By enabling the disproportionately rich segments of populations, who are more likely to have access to international channels for tax flight , to avoid paying their fair share of taxes, tax havens operations are also inequitable. Increasing tax flight continues to threaten the sustainability of public finances across both developing and developed countries, and so their continuing existence is also incompatible with the principle of sustainability and poses an increasing risk of a systemic breakdown in voluntary compliance. Because tax havens pose externalities on other states and on the social and economic fabric of society through enabling tax flight, facilitating corruption and crime and allowing a hidden build up of financial risks, tackling them would deliver multiple dividends.

Looking beyond tax havens and at fiscal policy in general, it is important to note that the number of challenges faced by policy makers, as evidenced by the very existence of this CRIS Committee at the European Parliament, has increased. At the same time, especially within the Euro zone, the number of policy tools available to tackle these challenges has shrunk. This necessitates that the few policy tools that we do have left are used more effectively. Euro zone members do not have an independent monetary policy and have restrictions on fiscal deficits through the Stability and Growth Pact. This means that the parameters of fiscal policy, such as tax take, tax rates, sector specific taxes, tax breaks and tax credits and the progressivity of tax policy, need to be used far more efficiently.

In line with the issues under discussion in this paper, EU Member States need to pursue a fiscal policy that seeks to minimise tax flight at the same time as facilitating financial stability and helping tackle climate change.

Because of the externalities discussed above and the high degree of economic integration of EU economies, co-ordination of action on all three fronts would be essential.

Tackling tax havens

Tax havens typically earn their keep not from taxes but from levying an annual fee on each of the shell companies, trusts, foundations or personal bank accounts they host. Typically, this annual fee is only of the order of a few hundred dollars. This means that a Cayman Island shell structure, which could be used to avoid millions of dollars of taxes in other onshore economies, would typically bring in only a few hundred or a few thousand dollars of revenue to the Cayman Island government. At an aggregate level, the think tank Re-Define estimates that tax havens typically earn less than 1% of the tax losses that their existence inflict on onshore economies[i]. The negative externality posed by havens is thus huge, and their existence is highly inefficient from the perspective of overall tax revenue in the world.

In a perfect world, the zero/low tax rates offered by tax havens would not pose a very serious threat. Tax regimes around the world operate primarily on the basis of source and residence principles wherein states can tax incomes generated within their borders or incomes attributable to their residents. Tax haven operations are often shell operations that usually perform no economic activity, so the real income is always generated in an onshore economy and could in theory be taxed there even when it is reported as the income of a tax haven resident entity. Likewise the assets belonging to offshore bank accounts, trusts and foundations come from an onshore source and should be taxable there. This would be the case were it not for the fact that tax havens also offer secrecy in combination with low tax rates. This means that governments are often not able to attribute such income and assets to their residents or to a source within their territory. That is why tackling secrecy is central to the question of tackling tax havens.

Championing the creation of a global tax organization

Despite the massive internationalization of commercial activity, the world of taxation lacks a truly international body and a cohesive regime but works instead through a network of bilateral Double Tax Agreements and Tax Information Exchange Agreements (TIEAs). These lay out principles for sharing tax revenues and exchanging information between the two respective jurisdictions. With 192 countries in the world, there is a need for more than 18,000 bilateral tax treaties to cover all nations. Of these only about 3,600 are in place yet. A multilateral tax system akin to the World Trade Organization – an International Tax Organization – would be a far more efficient way of organizing global fiscal affairs. This is a worthy goal that the European Union should champion.

Absent such a global level agreement, the EU, as the largest economy in the world, still has the wherewithal to act to establish new rules of the game. But it can only do so by acting in concert as one EU rather than a motley collection of disparate Member States pushing their own agendas.

Negotiating stronger bilateral TIEAs at a pan European level

Tax havens are reluctant to undermine their secrecy, so have typically been hesitant to enter into bilateral tax treaties. When they did so, it was only because up until recently the text of such agreements did little to pierce this secrecy. Typically, only information that the havens kept could be shared, so they kept few records of beneficial owners of bank accounts and legal entities registered in their territories. Even where the records existed, the havens were under no obligation to share them and did so only on the basis of specific requests from treaty partners. These requests typically have a very high burden of proof in terms of the specificity of the information, so, in a manner of speaking, requesting partners 'already need to have the information that they request'. That is why there were fewer than ten episodes of information exchange annually under most of these TIEAs.

Some of this has changed under pressure from bodies such as the OECD, and more recently the G-20, and tax havens are now required to maintain proper records of beneficial ownership. They are also increasingly under increasing pressure to negotiate more TIEAs. However, there is little change to the mechanism for the exchange of information which has not been automated, and so remains ad hoc and highly ineffective. Urgent progress is needed on 1) the negotiation of more TIEAs, and 2) improving the sharing of tax relevant information.

It makes little sense for Member States to negotiate separate tax treaties with haven countries as has been the case. In fact, bilateral deals with tax havens can be negotiated on a multilateral basis so the European Commission should negotiate TIEAs for Member States. The OECD 'Model TIEA' provides for such a multilateral option. In the absence of a pan EU directive, the Member States will have to separately pass the required legislation at the country level once such an agreement has been struck. Such a mechanism has been used effectively by the Nordic Council since 2006, where TIEAs are negotiated jointly and signed separately. This not only strengthens the bargaining hand of the onshore economies but is also far more efficient and moves the world in the direction of a truly multilateral tax regime. The European Commission should initiate a parallel process for introducing a directive that allows the European Union to strike fully multilateral tax treaties with other countries on behalf of all the Member States.

Reviving a truly multilateral approach with automatic exchange of information

Despite the 'multilateral' option discussed above, the model TIEA being used bears little resemblance to the truly multilateral Council of Europe/OECD Convention of 1988. This convention provides for true multilateralism as well as the automatic exchange of information - the two tools necessary for an effective international tax regime. The European Commission and the Parliament should initiate a process of fully adopting the Council of Europe/OECD Convention of 1988 on Mutual Cooperation in Tax Matters across all Member States. The European Union should intensively push for the adoption of the same by other OECD countries and tax havens in particular. Technical assistance from the EU should be made available where required, especially to developing countries and tax havens. Alternatively, upgrading the UN Committee of Tax Experts to a full statutory international tax body and locating a truly multilateral treaty under the aegis of the UN would be an even more inclusive option.

Expanding the scope of the EU Savings Tax Directive

The EU Savings Tax Directive broke new ground for being both multilateral in nature and requiring an automatic exchange of information. Its effectiveness has, however, been severely hampered by its limited geographic and transactional scope since it applies only to the EU and some satellite territories, and covers only the interest income on personal savings. The extent of its limitation is clear from the following example:

Say an EU citizen transfers $1,000,000 of unreported and hence untaxed income to his account in Switzerland. Most savings accounts pay an interest of around 1% so the annual interest income would equal $10,000. The withholding tax on this would be around 30% or $3,000 part of which will be transferred to the member state.

However, there is no withholding tax on capital gains or income relating to equity, derivatives and other forms of investments which in recent (pre crisis) years have been generating 10% - 20% annual return. Much more important, the tax due on the original $1,000,000, of between $300,000 and $500,000 in most European countries has simply not been paid. So the EUSTD captures $3,000 but misses out the $500,000. Moreover, the account holder could simply avoid even this miniscule tax simply by transferring their account to a non EU STD jurisdiction or by setting up a legal structure in the form of a corporation, trust or foundation.

There is consequently an urgent need for the EU to push hard for a strict revision and expansion of the scope of the EU STD. The EU STD, suitably extended, could serve as yet another template for a truly multilateral system complete with automatic exchange of information. The new EU STD should also contain a provision for sharing tax relevant information with or collect revenue on behalf of developing countries - the Least Developed Group of countries in particular on a non reciprocal basis to help tackle capital flight and corruption.

Introducing country by country reporting and a consolidated pan EU Tax base

Since tax flight is facilitated primarily by a lack of information for onshore tax authorities, any steps that improve the information available could provide a substantial boost to the efforts to reduce tax losses. If a country by country reporting provision is made mandatory for corporations, this would generate significant new and relevant information for tax authorities. If, for example, they find that a multinational corporation is reporting 50% of its world-wide profits in a low tax jurisdiction with less than 1% of total employees, their suspicions would be aroused and they would be able to take follow up action to minimise tax flight. The EU is already in a lead position world wide on taking up the issue of country by country reporting but could and should go much further. Requiring EU based MNCs to institute the standard while slowly expanding its reach through the International Accounting Standards Board would benefit both the EU as well as it developing country partners. Parallel moves to institute an EU wide Comprehensive Consolidated Corporate Tax Base would help stem the destructive tax competition amongst Member States that has been on the rise and would help boost tax revenues overall.

Tackling the mis-pricing of trade transactions

The mis-pricing of trade transactions is perhaps the most important channel for tax flight. In a world where supply chains are becoming ever more complex and the percentage of cross border service transactions are increasing, it has become ever easier for MNCs and other commercial actors to use internal and external mis-pricing of these transactions to shift profits to low tax jurisdictions and tax havens. The EU, which has a customs union, should act immediately to apply an intelligent mis-pricing detection filter to its international trade transactions to help tackle this large channel of abuse. This filter would be useful for detecting illicit financial flows both out of and into the union. Where relevant, the information generated should also be shared with developing countries.

Learning from successful country level strategies

The European Union could do much to apply lessons learnt from country level initiatives against tax flight. The US program of qualified intermediaries, which obliges bank and other fiduciaries to share tax relevant information on US citizens, could easily be replicated at the EU level. The fact that this has not happened yet is indicative of how much less effective fractious Member States are acting alone than when they act together as the European Union. Some other unilateral measures that should be considered for replication at the EU level are:

- Adopting a financial transaction tax which increases the risk of detection (This generated information that helped substantially reduce domestic and cross-border tax evasion in Brazil). A penalty rate for transactions with tax havens would be effective.
- Adopting special reporting requirements and fewer exemptions for investments and financial flows to and from ‘tax havens’ (Argentina and Spain)
- Requiring accounting firms to register tax shelters before selling them (USA and UK)

- Initiating a cross-functional program of the kind that exists in Australia (Project Wickenby – which is a task force that comprises the tax office, crime commission, security and investment commission and a number of other relevant governmental bodies and helps tackle tax flight)
- Aiming for legal rulings (as done in the UK and Ireland) which would require banks to report customers with undeclared offshore bank accounts.
- Tax amnesties of the kind being offered by Italy and the UK and offering rewards for information from tax havens as Germany has done unilaterally are other somewhat less orthodox options to consider.

Offering compensatory financing to tax haven jurisdictions

Last but not the least, it is important to remember that the benefits to tax havens from being havens are at least an order of magnitude lower than the tax losses they inflict on onshore economies. To this end, a strong case could perhaps be made for setting up a compensation fund, funded from say 2%-5% of the additional tax revenue that would accrue to onshore economies if tax havens voluntarily gave up their haven status. This would be especially useful for small island states with vulnerable economies.

Summary thoughts

Estimates of undeclared wealth held offshore typically exceed $10 trillion of which around 30% or more is likely to belong to EU Member States. The annual tax flight from the EU easily exceeds $100 billion. Additional tax revenues from both reducing this tax flight as well as repatriating some of the money held offshore can easily generate much needed additional annual tax revenues for EU Member States running into the hundreds of billions of Euros. The need for this revenue both to repair the hole left by the financial crisis in public finances as well as to address the urgent challenge of climate change was never more urgent.

Additional tax revenues can be raised not just through tackling tax flight but also through new sources of taxation. Taxing the financial services sector in the form of financial transaction taxes and through bank levies can help recover some of the costs of financial bailouts and simultaneously help support the reform of the financial sector as discussed in the next section. Changing the way the tax system has inadvertently helped incentivise excessive risk taking in the financial sector and tackling tax havens, which have also contributed to financial instability, would be another synergistic policy.

Imposing new green taxes could both help shore up public finances while helping address the threat of climate change. These taxes would help reduce environmentally unfriendly investments and behaviour while at the same time raise funds part of which could be used for green friendly investments. This would need to happen at the same time as 'dirty' fiscal subsidies provided on fossil fuels and on other sources of green house gas emissions are cut back.

Reforming fiscal systems with an eye on minimising tax flight, improving incentive structures in finance and tackling climate change and keeping the interests of developing countries in mind would be an effective and synergistic way of tackling the triple crises.

Reforming the Financial System

Grandmothers and finance professors both offer the same lesson, "do not put all your eggs in one basket". The idea behind this tenet is simple: diversifying your exposure, say across different financial markets, helps reduce risk. You are less likely to lose your money if you have bought both Apple and Microsoft stocks than if you have bought only one of them. This simple principle underpins almost all of the financial industry, much of which seeks to maximise diversification so as to minimise risk to losses in any one of its investments.

This principle has broader applicability and is used by governmental and commercial actors to diversify across trading partners, suppliers, customer base, technologies, investments and alliances. Finance professionals as well as regulators assumed that, as the investment portfolios of asset managers and banks became increasingly diversified, their exposure to risks in any one particular sector of the financial market or a particular category of assets was significantly reduced.

This type of risk, which can be interpreted as the risk of loss or disruption if problems emerge in a particular market sector or financial institution, is called idiosyncratic risk. Globalization did indeed reduce idiosyncratic risk. However what policy makers failed to grasp was that the reduction in idiosyncratic risk was accompanied by a concomitant rise in systemic risk – the risk that the whole financial system, not just component parts, breaks down at once just as it did in the ongoing financial crisis.

What happened was that everyone listened to grandma's advice and tried to invest in as many different assets classes and geographic markets as possible. While capital controls, market segmentation and strict limits on the kind of investments that particular kinds of firms could make meant that there were several distinct markets that were only loosely connected, this changed with the advent of technological and economic globalization. Capital controls were dismantled, market segments were opened to all kinds of investors and deregulation and advances in information technology allowed financial institutions much more freedom of action. These institutions consolidated and grew in size and in the pursuit of diversification ended up having a footprint in almost all different asset classes and markets around the world. While it reduced firm level risk it meant that all the previously distinct markets (or egg baskets) were now connected to each other so systemic risk increased drastically since there now was just one large basket of eggs.

This internationalization of finance combined with significant advances in communication technology has increased the cross border flows in finance by an order of magnitude. Cross border loans, foreign direct investment, international portfolio investments and foreign exchange trading all expanded enormously. This was the advent of the so called financial globalization. Advances in computing meant that financial institutions were able to create ever more complex derivatives which started out as tools for hedging risk but soon became the financial instrument of choice for speculators. Derivative markets grew from almost nothing to a size greater than 50 times the global GDP in a matter of decades.

At the same time that the size of these cross exposures and the interconnections between previously different financial markets and different financial institutions expanded, the advent of the internet meant that the speed of financial transactions and financial flows became much faster. The days of the ticker tape and hand held calculators are gone and transactions in stock exchanges are now executed automatically by computers in a manner of nanoseconds. This has increased the turnover of financial markets exponentially.

This simultaneous increase in the size, speed and interconnectivity of finance has made it highly susceptible to instability and systemic crashes. That is why urgent measures are required for:

- Monitoring systemic risk
- Reducing it where possible

- Planning for contingencies

Another way of looking at this problem is that we need a combination of 1) structural changes to the financial system 2) behavioural changes of actors within the financial system and 3) contingency measures in case better structures and regulations fail to contain the systemic threat.

Steps that need to be taken to reduce systemic risk

The instability of the global financial system needs to be tackled urgently. The world clearly cannot afford another crisis of the kind we have just had. Ideally, given the global nature of finance, the regulatory reforms would be carried out at the global level. However, there is no global finance regulator or supervisor to take this forward.

The current global financial governance structure that comprises institutions such as the International Monetary Fund, the newly reconstituted Financial Stability Board, associations of bank, securities and insurance regulators and most recently the G-20 lacks the legitimacy, competence, capacity and willingness to play this role. Most important, countries with large financial systems, such as the US and the UK are reluctant to cede sovereignty to any global regulator.

In the absence of a proper global governance mechanism, we need to make sure that the financial sector is governed and reformed appropriately at least within the single market area. This is important for three reasons.

- The failure of cross border banks in the EU demonstrated the yawning gaps in cross border financial co-operation within the EU. These need to be filled.
- The single market has a highly integrated financial system which makes the need for integrated supervision and regulation ever more urgent
- As the largest economy in the world, the EU, acting together can influence the shape and form of the global discussion on regulatory reform and the global governance of the financial system

Establishing a system-wide watchdog

The supervision and regulation of the financial sector thus far has been bottom up oriented, focussing on ensuring that individual institutions and market actors were sound and did not violate regulatory requirements. This was appropriate in a world where markets were fragmented and financial institutions primarily faced institution specific idiosyncratic risk. This old fashioned approach to supervision and regulation failed to keep up with the changing nature of finance and the growth in systemic risk.

That is why the European Union urgently needs to establish a supervisory body that has an eagle eye system-wide view of the financial system at least within the single market. The ongoing discussions on setting up a European Systemic Risk Board go in the right direction.

However they simply do not go far enough. Under the current proposals, the real powers would still lie with national level regulators whose primary interest is ensuring the safety of institutions not the financial system. That is why the European Union needs to act on three levels here:

- Given how much more important systemic risk has become vis a vis idiosyncratic risk, it is necessary to significantly strengthen the European System Risk Board by giving it wide-ranging statutory powers. The systemic risk regulator/supervisor discussion in the US for example is focusing on a powerful systemic regulator with wide ranging powers.
- The European Union should mandate the introduction of national level systemic risk regulators across the Member States.
- Because the single market is highly connected to international markets, the EU should put forward a bold proposal for setting up a global systemic risk regulator either as a new dedicated institution or under the aegis of an existing institution such as the IMF.

This system wide watchdog should have access to all relevant financial information across the whole financial system and wide ranging capacity and powers to monitor and control systemic risk. It should be able to act against a build up of systemic risk for example through imposing counter cyclical capital or reserve requirements and an increased use of prudential tools such as variable loan to value ratios, liquidity buffers, bank levies and transaction taxes.

Establishing a system of powerful pan European supervisors

The single market financial system is characterized by the presence of several large cross border financial institutions. Large investors operate at a pan European level and financial markets such as stock exchanges are increasingly pan European in nature. That is why the national level supervisory approach seems increasingly outdated. The EU is in the process of setting up a set of three pan European level supervisors (the so called European System of Financial Supervisors) overseeing the banking, securities and insurance markets.

While these bodies are vested with statutory powers, the current level of authority granted to them is insufficient given the highly integrated nature of the financial markets they oversee. That is why the proposal by the parliament to for example make the proposed European banking authority the supervisor for large cross border banks is a step in the right direction that needs to be strengthened further. The other agencies also need to have their powers beefed up.

Reducing excessive size

As we saw in earlier sections, financial institutions have consolidated at an increasing pace. The market share (amongst the top 1000 banks) of the ten largest financial institutions has increased from 14% to 26% just in the past decade. Banks from countries such as Iceland, the UK and Switzerland have had balance sheets that were a multiple of the home country GDP. When a small or mid-sized institution gets into trouble, the effect is likely to be localized, not lead to contagion and the fiscal costs are likely to be affordable. However, when institutions that operate across all markets get into trouble, they are likely to pose significant systemic risks and the fiscal costs for the home country are likely to be tens of percent of GDP if not more.

While bankers like to make a strong case for efficiency gains that come from size, the evidence of any additional efficiency gains above a balance sheet size of about $100 billion is non-existent[ii]. The United States, for example, plans to introduce restrictions on the maximum size of any particular bank. While these do not quite go far enough, they provide a good model for the EU to replicate at a European level. The Bank of England, for example, has come out strongly in favour of reducing the size of the largest banks. Ideally, financial institutions would be given a period of say 3-5 years within which to reduce their size below an absolute or percentage of GDP cap.

Not only would this reduce systemic risk, but it would also have the beneficial side effect of stimulating competition in the financial sector so customers, investors and tax payers are all likely to get a better deal.

Reducing excessive interconnectedness

The level of interconnectedness in finance has grown exponentially in recent decades. This is mainly down to two main developments

- An exponential growth in the size of derivative security markets
- A growth in the scope of bank business models

Regulating derivatives

The over the counter (OTC) derivative market is bilateral in nature and the trillions of dollars of outstanding contracts contributes to a very high degree of interconnectedness through a series of interlocking assets, liabilities and margining requirements. This interconnectedness can be reduced significantly by bringing most of this OTC market on to exchanges and through the mandated use of centralized counterparty clearing. As a way of allowing the systemic risk regulator to monitor the build up of risk, information on all derivative transactions should be recorded at a central repository to which the regulators have access. While the EU is taking the right steps in this direction, the approach to the regulation needs to be strengthened further. Transparency is a paramount consideration since complex derivatives have been highly opaque.

Derivatives are often also used as tools for arbitraging tax and regulation and this needs to be forbidden. The big question of what social and economic use derivatives volumes several times larger than the GDP are needs to be satisfactorily answered before allowing large derivative exposures to continue. One way of shrinking the market would be to levy additional capital, margining and transaction tax requirements on derivative products.

Separating retail and investment banking

By using publicly insured (and cheap) deposits to fund highly risky investments, several European banks increased the interconnections between the relatively safe old fashioned world of retail banking and highly risky, opaque and volatile segments of financial markets. Not only did this increase systemic risk but it also came at the cost of increased tax payer exposure to potential financial industry bailouts while the financial sector employees took home excessive bonuses. The system crashed and tax payers across Europe were left to foot the bill.

That is why it would be prudent for the EU authorities to seriously consider the merits of separating at least the most risky and volatile parts of the financial business of banks from retail banking. The US discussion on separating hedge fund and proprietary trading offers a good starting point.

Just as non-financial conglomerates became unfashionable in the 1980s, perhaps it is time for the universal bank model to be relegated to history books.

Reducing contagion

Even when interconnections exist, shocks to one part of the system need not infect other parts to cause systemic risk. A greater amount of

- shock absorbing capital,
- more liquidity buffers,
- a more manageable speed of financial transactions, and
- greater counterparty transparency

can all help limit contagion in the system.

Reducing leverage

The level of debt in the financial system has increased substantially since the 1970s but especially in the past decade. The average leverage (ratio of debt to equity) for UK banks, for example, has increased from 20 to 30 in the past decade. This has inflated returns on equity for banks but at the same time significantly increased systemic risk. The banking industry in the UK has gone from returns on equity of 5%-10% before the 1970s (similar to those in the rest of the economy) to returns of around 25% in the last decade. This is possible because leverage can amplify profits (and losses).

If you buy a house for $100,000 with $20,000 of equity and an $80,000 mortgage at 5% interest and the price of the house climbs to $110,00 next year, you get a profit of $10,000 – 5%*$80,000 = $6,000. This is a return of 30% on your initial investment of $20,000 and your leverage ratio (debt/equity) is 4. Consider an alternative scenario where you put in only $5,000 of equity and took a loan of $95,000. Then your profit would be $10,000 – 5%*$95,000 = $5,250. Your new leverage ratio is 19 but your rate of return is 105%. This same process of profit amplification works in reverse with losses and is one of the main reasons why the scale of losses in the UK banking system has been so large in this crisis.

Bankers were rewarded on the basis of the rate of return they generate, so the inflation of earnings and the increase in leverage in the banking system can be explained by the desire to earn ever higher bonuses. But we know now that these were not economically justified but came at a very heavy cost to taxpayers. Profits were privatized and losses were socialized. This is neither efficient nor equitable or sustainable and increases systemic risk.

The current discussions on reforms to capital adequacy and limits to leverage are not going to go far enough. There is no social or investor or public use of having banks try and generate returns on equity far in excess of the rest of the economy by taking on more leverage and risk. So the 7%-11% range of new tier 1 capital requirements being factored in by the market needs to be extended at least to the range of 15%-20%. This has to be accompanied by strict compensation (incentive) controls for example in the form of relative and absolute bonus caps.

Tackling 'Just in Time' finance

Another development in recent years has been the growth of what the think tank Re-Define calls 'Just in Time' (JIT) finance. This borrows the idea of just in time supply chains from manufacturing and applies it to finance. It has meant that more and more of the warehoused risk that banks carried on their books as loans has been converted into marketable securities that banks assume they can sell to other financial market actors at a very short notice. It has also meant that rather than relying on stable forms of funding such as long term debt and retail deposits, banks increasingly relied on cheaper short term funding that they then had to roll over every week or so. Banks such as Northern Rock were using overnight borrowing to fund 30 year mortgage risks which worked fine as long as the overnight borrowing market – the liquidity supply chain – did not get interrupted. When it did, the bank collapsed.

UK banks used to hold as much as 30% of their assets in highly liquid form till the 1970s but the advent of just in time philosophy in finance meant that this had shrunk to less than 1% by the time the crisis hit. JIT finance leaves no margin for error and can result in a very speedy contagion of problems from one market segment or financial institution to others through interruptions to liquidity chains.

That is why the European Union needs to act to introduce liquidity buffers into the EU financial markets so as to increase the resilience of the system to liquidity shocks. Securitization too needs to be made less attractive vis a vis traditional loans since the crisis has highlighted that banks are unable to offload securitized risk exactly when they most need to.

The introduction of levies on bank balance sheets so they penalize excessive reliance on short term funding would also help increase the resilience of bank liquidity positions and has the potential to generate significant revenues of more than Euro 50bn in the European Union that can be put to good use.

Slowing down financial transactions[iii]

Financial markets are best thought of as markets for information which process huge amounts of information for example from macroeconomic data reports, company balance sheets etc and translate them into prices for securities such as shares. Market movements of share prices are thus supposed to provide guidance to firm managers as well as other economic actors as to the long term future prospects for the firm.

However, the number and speed of transactions as well as volatility of prices has increased way beyond what is justifiable on the basis of changes to economic fundamentals alone. This is because the market is increasingly dominated by 'technical traders' who chase trends buying when the market is going up and selling when the prices are falling. Through these actions, they amplify the amplitude of price movements in the market and can trigger systemic risk.

More recently, groups of investors called 'high frequency traders' have begun to dominate certain financial markets. These investors, who trade over time horizons of seconds (sometimes microseconds) using automated computer programs now account for more than 60% of all trading in US equity markets. While some attest to the increased financial market liquidity that this high frequency trading can bring, its dominance serves to distort market signals, thus posing significant systemic risk. The August 2007 breakdown of some of these automated traded models caused widespread dislocation of the financial markets and was the first sign of the financial crisis.

That is why there is a need to introduce taxes on financial transactions. These would slow down the speed of markets and shift the balance of power towards those who trade on the basis of economic fundamentals and have a longer term investment horizon. Financial transaction volumes are likely to fall somewhat but unlike what industry insiders say this will not result in a fall in liquidity. True liquidity in financial markets comes from a diversity of opinion. Much of the apparent liquidity in financial markets nowadays is illusionary and as we saw in the ongoing financial crisis disappears exactly when it is most needed. FTTs might help increase true liquidity by increasing diversity through reducing the dominance of short term oriented technical investors.

Moreover financial transaction taxes can be a very useful prudential tool if different rates are applied to more opaque and complex markets and can be varied to tackle overheating markets.

Introduction of such a financial transaction tax regime will not only make financial sector more amenable towards longer tem sustainable 'green' investments but also help substantially reduce systemic risk. Applied across the European Union, financial transaction taxes are expected to generate as much as Euro 100bn of revenue which can be put towards tackling fiscal challenges, for green investments and to help finance development.

Greater transparency through tackling off balance sheet vehicles and tax havens

One of the problems that made the crisis spread like wildfire was the very high degree of opacity in the financial markets. All major banks, such as Citibank, had an extensive network of hundreds and sometimes thousands of subsidiaries and legal structures in many jurisdictions – often in secretive tax havens. Lehman Brothers alone had more than 300 subsidiaries and almost 3000 legal entities. Citigroup had almost 2500 subsidiaries. This meant that no one bank was in a position to know exactly how risky its counterparties were, so given this high degree of uncertainty it made sense for each individual bank to hoard cash at the first sign of trouble and minimise trades with potentially risky counterparties. This made individual sense but was collectively disastrous and led to contagion and systemic breakdown.

In order to prevent this from recurring, it is essential that bank corporate structures, derivative exposures and overall riskiness be transparent and tractable. Only then can the idea of market discipline work. Abolishing the high degree of uncertainty that currently exists in the financial system would significantly reduce the risk of contagion in the event of a disturbance to the system.

A greater transparency and simplification of bank legal structures would also lead to lower levels of tax and regulatory arbitrage which would make the system safer and fairer.

Contingency planning

The lack of crisis handling mechanisms in the single market was exposed when cross border banks such as Kaupthing and Dexia got into trouble. No matter how much effort is put into monitoring or minimising systemic risk, banks will continue to fail. Sometimes this failure will pose a risk of systemic breakdown. That is why it is essential that EU authorities be prepared for a good crisis resolution mechanism.

The European System of Financial Supervisors, the European Banking Authority in particular, should be given resolution powers over cross border banks (and other financial institution) operating in the EU. This would allow them to get their wards to make realistic 'living wills' detailed plans for a quick neat failure to minimise the risk of contagion. The resolution framework would need to be supported by a pan EU resolution fund that can be financed through a charge on the cross border operations of large EU banks. Alternatively portions of revenues mobilized through bank levies and financial transaction taxes can be pooled into the EU fund. In order to make credible living wills, banks will need to drastically simplify their current complex legal structures, which will increase systemic transparency.

The proceeds of the ex ante fund could be invested in a portfolio of safe government bonds or could, for example, be used to fund pan EU green friendly investments. While these investments would lock in funds and make them unavailable at a short term, the 'green' securities could be used as collateral for short term access to finance from the ECB or a pool of EU states.

Summary thoughts

The financial system is the brain of the economy. That is why reforming incentive structures in the financial system is so critical to align private motivation with social outcomes. The world cannot afford another financial crisis of the kind we have just been through so tackling systemic risk is paramount. The ongoing crisis has not only triggered a serious fiscal retrenchment but has also set back global agreement on climate change and reduced funds available for green investments. Funds raised by taxing the financial sector can be partly used to address fiscal problems and finance green growth strategies. While reforming the financial system, the positive development effects of financial stability and the possible unintended consequences of financial reforms need to be kept in mind. Part of the funds mobilized through the taxation of the financial sector should be allocated to development.

Tackling Climate Change and Stimulating Green Investments

There is widespread agreement that climate change poses a significant and growing risk to the world. While the impacts of gradual global warming are already being manifested, it is the possibility of sudden large climate shifts that poses systemic risk.

In common with the problems posed by tax flight and excessive risk taking in the financial sector, continuing GHG emissions leading to climate change pose serious externalities and the insufficient emphasis being put on tackling climate change is economically inefficient, highly inequitable and clearly unsustainable. That is why urgent collective action is needed.

However, the significant difficulty posed by the collective action problem is clear from the failed Copenhagen negotiations. The next round scheduled for Mexico in 2010 may still reach a better outcome, but that is no justification for delaying action. There are several good reasons for the EU to take a continuing leading role internationally and to start tackling climate change domestically through a pan-European strategic approach.

A pan-EU approach is needed

First, by taking action through a coordinated climate policy, the EU can be brought back onto the playing field again, after being sidelined in the Copenhagen negotiations. Second, through leading by example, the EU can increase the chances of reaching an international climate deal in November 2010. And third, actions needed to tackle climate change such as reducing dependence on fossil fuels are not only environmentally beneficial, but also coincide with the EU's strategic interest of reducing its excessive dependence on energy imports and the resultant possibility of disruption of supplies.

Given that Member States share borders, have a cohesive landmass and highly integrated economically, it is imperative to have a unified approach within the EU to tackle climate change.

It was the large-scale investment and production programme associated with the outbreak of World War II that helped bring the United States out of depression. Today, the large-scale unemployment, and sluggish growth in Europe need to be confronted not through a war, but a through a large-scale investment program which would simultaneously tackle the urgent challenge of climate change. Much of the new investment would thus need to be 'green' in nature. While public investment would need to play an important role, the difficult fiscal circumstances faced by governments mean that sufficient funding would not be generated without successfully attracting private investments to green projects.

The difficulties associated with green investment, however, must be noted. Beyond the initial sea change in investor ethos, from cheap 'dirty investment' to economically and environmentally sustainable investment, this strategy will also need significant new sources of financing. Knowing what is green and what type of green investment to prioritize also poses significant though not insurmountable information challenges.

There is also a moral angle for the EU to take the lead in tackling GHG emissions, since Europe was the first continent to have contributed to the accumulation of GHGs at an industrial scale. Yet our commitment to cut emissions by a maximum of 30% by 2020, the flagship of our green friendly credentials, has already been matched by Mexico, a developing country with far less responsibility for global GHG stocks. The EU ETS has made some progress in reducing carbon emissions as a cap and trade scheme, but we clearly need to go much further.

Climate change is already underway so even if we act with utmost urgency, we will still not be able to prevent negative consequences for vulnerable parts of the world. In general, poorer developing countries face a higher risk of actual negative impacts from climate change at the same time as they have far lower capacity to deal with such negative consequences than rich developed countries.

Hence, it is essential to start building up an adaptation fund which would help poor developing countries tackle the worst impacts of global warming. Furthermore, funding should be raised to enable developing countries to switch to a low-carbon development path. A substantial part of the carbon emission reduction potential lies in developing countries (65–70 percent of emission reductions from business as usual in 2030). However, many developing countries are already struggling with financial constraints to meet their own development targets, so have few resources to spare for mitigation. They also lack technological capacity on renewable energy for example.

It is clear from the discussion above that there is a strong confluence of environmental, economic, strategic and moral drivers for the European Union to act in a co-ordinated way to take the global lead with imperative action on tackling climate change and stimulating green investments.

As a global leader in the battle against climate change, the EU is both politically and economically endowed with the capacity and influence to pursue an ambitious green growth agenda. The urgency of this action, however, cannot be over-emphasised, given the critical need for an investment stimulus to tackle unemployment and anaemic growth within the EU and the need to tackle climate change at the global level.

In order to do this, the EU needs an integrated plan encompassing the 1) development of renewable and low-carbon technologies 2) financing of green investment 3) redesign of the financial and fiscal landscape to incentivize green behaviour 4) mobilization of resources for a climate fund to finance adaptation in developing countries.

Although substantial steps have been taken towards a homogenised energy and climate policy, there is still a need to 1) further integrate the European energy market including through setting up a pan EU electricity grid 2) coordinate and improve mitigation policies encompassing carbon taxes and cap and trade schemes 3) stimulate pan EU Research and Development 4) mobilizing pan EU financing for green investments 5) co-ordinating green friendly fiscal and financial reform 6) set up a pan EU adaptation fund for poor countries.

The integrated climate and energy strategy adopted by the EU in 2007 to meet the twin challenges of climate change and energy security, while also strengthening EU competitiveness does not go nearly far enough down this road.

A short discussion on the big options

The most obvious place to start in a discussion on green stimulus is to look at

- Potential sources of funding
- Getting more bang for the buck
- Ensuring that the investments made are appropriate
- Encouraging innovation

The EU has in place a cap and trade emissions trading scheme which covers about half of the carbon emissions inside the European Union. The EC has announced plans that while only a small amount of the allocated emission permits are auctioned now, this percentage is set to rise significantly. This is likely to generate significant additional revenues for Member States of which at least half have to be allocated to green sectors.

While the cap and trade scheme covers some sectors, others are exempt. An EU wide minimum carbon tax should be applied for these sectors and this can generate significant revenues. Countries such as Sweden, Denmark, Finland and the Netherlands already levy a carbon tax of some kind and this raises as much as 3% of the total tax revenue in some countries. Applied broadly at a level consistent with making a real dent in tackling climate change such 'green taxes' can easily raise as much as 5% of the total tax revenue. Part of the proceeds of this can be used to reduce taxes that penalize employment and the rest of the proceeds can help finance green growth strategies and employment creation.

Other forms of financing such as those raised through financial transaction taxes and bank levies, tackling tax flight, green bonds and green loans, targeted investments by sovereign wealth funds and other long term investors, venture capital and publicly owned banks can also raise substantial amounts of funds. Options such as using the Special Drawing Rights of the International Monetary Fund are particularly suitable for financing mitigation and adaptation efforts in developing countries.

Taken together all of these sources of funds can provide a substantial amount of funds for the European Union to kick start a true green growth program. Taxes on the financial sector and green taxes are both 'Pigouvian' in nature since they are targeted towards reducing some form of socially harmful activity, so levying them delivers a double dividend and is economically efficiency.

Other ways getting the most 'bang for the buck' include ensuring that funds contribute to programs that support growth. It is important then that such a program should be accompanied by a cohesive pan European Union strategy and that the dual goals of employment and tackling climate change should be well integrated.

The EU can also get more bang for the buck by making sure that programs such as micro level home insulation on the one end and building a pan European green electricity grid at the other should be prioritized over spending where the benefits are more marginal. Infrastructure investment is known to be good for both job creation as well as long term growth.

At the same time the European Union needs to make sure that enough venture capital and research grants are available for substantive innovations to be stimulated and for the best amongst them to be made commercially viable. Awards and competitions are a particularly financially efficient way of producing innovation as most recently demonstrated by the development of private space flight that was triggered by the announcement of a prestigious though not very substantial prize.

In the next section we discuss some of the ideas in more detail. As a matter of general principle we recommend that between 2%-5% of the green stimulus funds be allocated to developing countries. This is line with the current 'adaptation levy' of 2% and is critically needed to meet the large and growing funding shortfall for mitigation and adaptation in developing countries.

Stimulating green investments

Green investments are clearly not happening on a sufficient scale. That means that the incentives for economic actors to make such investments are currently not powerful enough. Some of the incentive problems are:

1. Green investments entail private costs but the benefits will accrue globally so while they may be socially profitable this profitability may not extend to the private sphere. The exact inverse is true of 'dirty' investments where private benefits exceed social ones.

2. Many green investments, for example in renewable energy, entail significant upfront costs but the benefits only accrue in the long term.

3. While almost everyone agrees that carbon price will rise in the medium term, current price for example in the EU ETS scheme remains low so the cost benefit analysis of investment decisions is distorted away from green investments.

4. Even when investors may want to put money into green investments, there face serious hurdles in channelling their money not least 1) which financial mechanism to invest through 2) what kind of green investments to focus on 3) how to make sure that the money is effectively deployed and that the investments actually help tackle climate change. This means that green investments are effort intensive and beset with uncertainties.

Aligning private costs and benefits with social ones

In order to deal with the first problem we need mechanisms that help better align the private costs and benefits of investments with those faced by the society. This can be done through two broad types of measures.

- Penalizing polluting behaviour through taxation or quantitative restrictions. Carbon taxes of the kind that countries such as Sweden have is an example of the first and the EU Emissions Trading 'cap and trade' scheme is an example of the second. It is possible and in some cases prudent to combine the two wherein a tax can provide a floor to the effective penalty for GHG emissions.

- Rewarding green investments through the use of subsidies or minimum quantitative quotas. Minimum feed in tariffs for renewable energy such as those that apply in Spain and are funded by tax payers is an example of the first and the Renewable Obligations initiative in the UK whereby energy producers are required to produce or buy a set quota of renewable energy is the second. It is of course possible to combine the two by specifying a minimum feed in tariff and having minimum quota commitments.

The two most important categories in this section cap and trade and carbon taxes have received widespread coverage elsewhere and are covered in detail in a forthcoming Re-Define paper on climate finance so this paper focuses on other less widely discussed financing options.

Restricting the use of 'dirty' products and investments

The laudable EU initiative to outlaw non energy efficient incandescent lamps is another example of a quantitative restriction. In fact we believe the EC should conduct a comprehensive audit of all energy intensive products and apply prohibitions or stringent restrictions on the use of 'dirty' products' where green and reasonably priced alternatives exist. The ideal conditions for such a move would be 1) where the initial investment for green products is not substantial 2) there is a significant private economic gain in terms of energy savings that exceeds the additional cost of the green products 3) there is a significant impact in terms of reducing carbon emissions.

Quantitative restrictions can also be imposed on new dirty power plants and new efficiency standards can be brought in restricting emissions per device. The Chinese government, as part of its 'green credit' policy, places restrictions on how much financing banks can provide to 'dirty' projects.

Promoting 'clean' products and investments

This can be supplemented by, for example, providing a zero Value Added Tax rating. These moves would obviously need to be made at the EU level because 1) of the existence of the single market 2) the fact that a zero VAT rating would require a pan EU agreement since this would fall below the legal minimum VAT rate that applies across the common market. The UK has halved the tax payable on ultra low carbon cars. While none of the many tax breaks used in various EU countries is likely to have a significant impact by itself, a more strategic and EU wide approach might make a substantial contribution through providing a significant green stimulus.

The US recently announced an extension of tax breaks for clean energy investments. This would allow manufacturers of technology like solar panels and wind turbines a 30% tax credit, in an effort to stimulate investment in renewable and make them more competitive with conventional sources of energy. The European Union should also explore such tax breaks.

Addressing the paucity of upfront funding for economically viable projects

The second incentive issue poses a problem because of a lack of established funding mechanisms for green investments and the uncertainty associated with them. The other part of the problem is that individuals and financial institutions both work on the basis of historical data and favour investments with which they are familiar. Coal fired plants, for example, have been around for decades and clear data sets exist for their operating lifetime, costs of construction and maintenance etc. Most project financing mechanisms and investors find it easy to project past data into the future to calculate cash flows and the expected costs and benefits associated with such investments.

This means that new technologies and untried investments without sufficient historical records are penalized vis a via existing mechanisms. That is why they are almost always underfunded. In many of these cases, a long term dedicated sector specialized actor would better understand the project dynamics so may not need to charge the 'unfamiliarity premium' that more generalized non specialist investors may need to charge.

Leveraging public investment to attract private investments

That is why direct and indirect public intervention is likely to be needed to help bridge the funding gap. Its role will be critical in facilitating larger scale private investment. Using public banks such as the World Bank, the European Investment Bank internationally as well as national banks to such as the KfW in Germany and the newly proposed UK green investment bank to provide seed funding, as well as contingent support in the form of insurance, guarantees and credit enhancements will help attract private funding.

Setting up pilot projects with demonstration potential

Setting up publicly funded pilot projects or supporting private investors to help set up projects which have a demonstrative potential can help remove some of the uncertainty associated with new and untested technologies. This will enable innovations and technologies that have a successful pilot phase to show economic and technological viability that can attract private investors.

Making it mandatory to disclose exposure to carbon and climate change risks

At the same time as encouraging the private sector as well as public sector investors to recognize the long term economic viability of 'green' investments, they should also be made fully aware of the likely long term economic costs of 'dirty' investments. Making it mandatory for companies to disclose their exposure to carbon, their excessive dependence on fossil fuel technologies or vulnerability to the likely impacts of climate change can all help investors make sounder risk/reward decisions at the point of making investments.

A recent study by Risklab, part of the Allianz Global Investors group found that investors who target their portfolio of investments using ethical and environmental benchmarks significantly improve the risk/return profile of their portfolios.

The Chinese government, as part of its 'green securities' program requires stringent disclosure of a company's environmental performance record before it is allowed to raise money in the equity markets.

Providing micro level incentives for making economically efficient 'green' decisions

Even beyond this 'experience' issue, human beings suffer from an excessively short term focus. Most of us know, for example, that the case for a little bit of upfront investment in home insulation is likely to reduce our energy bills by a significantly greater amount over the medium term. Yet the record of individual home owners as well as businesses making such upfront investments is dismal. Even when households make such a decision, they are often discouraged by a lack of easy and affordable funding mechanisms to pay such upfront costs.

The example above is symptomatic of too little demand which is compounded by a problem of too little supply. Public initiatives such as information campaigns and a provision of new targeted sources of public and private mechanisms for funding economically viable upfront investments such as in home insulation are the right policy measures to address this.

The issuance of home insulation grants is particularly promising. Here, subsidies are given to homeowners who insulate their homes to improve energy efficiency. Such grants in Ireland, for example, can amount to Euro 4,000 – a considerable incentive for individuals to conserve energy through insulation. While these green grants and loans have been approved by the EC, their issuance has not been widespread throughout the EU, and so the EC should take a more active stance in advocating their use throughout Member States.

Incentive could come in the form of low or zero interest green loans to encourage individuals to invest in green technology and infrastructure. While many are convinced of the need to transition to environmentally sustainable goods or homes, they often lack the initial capital required to purchase them, despite lower energy costs in the future and green loans can help plug that gap.

The city of Berkley in California, for example, has undertaken a pilot programme in which it lends homeowners the money to put solar panels on their homes, financed through the issuance of Property Assessed Clean Energy (PACE) bonds. Similar bonds have also been successfully issued in other US municipalities.[iv] Essentially, these bonds speed up and expand the adoption of energy-saving practices by making them economically viable, particularly given the current constraints on credit access. The bonds can then be repaid through the savings in energy costs. Such micro level financing efforts deserve to be widely replicated throughout the EU.

Addressing short termism in the financial sector

Everyone agrees that the price of carbon (equivalently the penalty for GHG emissions) is likely to be sharply higher in the medium term. Yet financial and business actors continue to behave as though they did not believe that this would be the case. Even now, businesses are continuing to make long term 'dirty' investments ignoring the fact that were carbon price to rise to the expected level these would no longer be profitable.

More disturbingly, there is growing evidence that financial markets, which are supposed to send signals to the real economy that encourage long term productive and profitable investments are doing the exact opposite. Banks as well as capital markets continue to provide cheap finance, for example, for coal fired power plants. Financial markets continue to reward energy intensive companies that are currently profitable but exposed to serious downside risk from higher carbon prices in the long term. Short term profitability is being rewarded often at the cost of long term profits.

Surveys of chief financial officers and CEOs reveal that as many as 75% of them would sacrifice making long term profitable investments if it meant that share prices would fall in the short term. As discussed in the previous section financial markets often discount green investments so this means that excessive short termism in the financial markets is directly translating into lost green investments. Company executives are loath to disappoint analyst expectations of quarterly (or annual) profits and a study of the companies listed on the DJIA index showed that more than 60% of the time company earnings come in just above consensus forecast delivering the predictable share bounce. This level of forecast hugging is clearly impossible in the complex world we live in and is clear evidence of earnings manipulation. The short term focus of corporate executives, analysts and traders all work against green investment.

Introducing financial transaction taxes and differentiated voting rights

That is why it is essential that the short termism of financial markets, shareholders and CEOs be addressed upfront. Financial transaction taxes which penalize excessively short term oriented behaviour in the financial markets as well as differentiated voting rights for long term shareholders and new rules on CEO and senior employee compensation are useful measures that would help tackle the problems highlighted.

Encouraging public pension funds and sovereign wealth funds to make long term green investments

Public pension funds, sovereign wealth funds and government controlled investors and entities such as the European Investment Bank are less inflicted by financial market short termism and are in a good position to make long term profitable 'green' investments since they have a longer term horizon. They are in fact in a strong position to make good profits from such investments because the financial markets are likely to have underpriced them.

For example the Norwegian pension fund has already launched a $2.5bn green window that will invest in renewable/alternative energy, clean technology and climate change sectors, including water, energy and natural resources.

Given how exposed many of the world's top sovereign wealth funds are to oil and the energy sector, dedicated investments targeted towards the green sector would help them diversify their risks. The EU should pursue a strategy to help put together mechanisms that would encourage these funds to invest in 'green technology' and other green initiatives in the European Union.

Using pan EU institutions such as the European Investment Bank in particular to launch a pan EU green infrastructure program funded by green Eurobonds would be a particularly good idea that would serve the triple purpose of helping tackle climate change, generating jobs and growth and furthering EU integration.

Inducing long term investors to evaluate the risks and possible opportunities with climate change

While the average holding period of a typical hedge fund is very short at the other end the spectrum funds such as the Norwegian sovereign wealth fund have 'infinite' investment horizons. The Norwegian fund, for instance, plans to only disburse its expected annual return and will leave its principal untouched. So while hedge funds and other short term investors may care little if a high price for carbon would is likely to eliminate company profits in 15 years, this is exactly the sort of risk that longer term investors need to grapple with. This longer term also brings opportunities for example to identify green investments that are likely to generate excess return over the longer term.

In order to help evaluate these risks and opportunities, the Norwegian fund has teamed up with several other large funds and commissioned a study to evaluate climate risks and opportunities for long term investors. This sort of thinking should be encouraged and is likely to release more funds from 'green' investment from long term investors in the near future. In fact, the EU can legislate for all pension funds and other long term investors to study and account for these climate risks as part of their fiduciary responsibilities.

Addressing the high effort costs and uncertainty associated with green investments

When surveyed, many individuals indicate a strong desire to invest their money in green projects but have no idea of how to do this. Many pension fund and ethical fund managers also confess to be put off by the high threshold efforts needed to make green investments and verify their authenticity. It is party to allay these information and effort problems that several private sector entities have developed various ethical and socially responsible investment indices. Many of them include the environment as a factor and some are even pure green plays.

However the number of such indices is proliferating and liquidity in any of the indices is low. Also, the indices are of variable quality and many investors have expressed their frustration at the fragmented landscape they are confronted with.

The World Bank and the European Investment Bank have teamed up with S&P and FTSE respectively to launch dedicated green indices. While the indices purport to reward environmentally friendly behaviour neither is dedicated to green investments. The European Commission may serve a useful role by setting up such an index. Provided such an index is launched and has the stamp of approval of the European Union, it is likely to attract substantial funds and become liquid.

Setting up publically supported venture capital funds to invest in multiple technologies may also be prudent policy given the uncertainty still associated with many promising green technologies. The UK has just announced the setting up of a Green Investment Bank that might provide a useful model for channelling public and private money towards green investments.

Summary thoughts

While not recommending that the EU go to war we do recommend a war like mobilization targeted towards a dual goal of tackling climate change and generating jobs and growth. Large scale green investments are the best way of achieving this and the money for these can be raised from several sources both related and unrelated to carbon use. While green taxes and auctioning of permits to emit GHGs are the two most obvious candidates, substantial amounts of revenue for green growth can also be generated through taxation on the financial sector and by cracking down on tax flight. These public revenues can be supported by reforming the financial system to make it more green friendly and long term oriented which would help attract private investment towards the future. A judicious use of funding mechanisms and instruments as well as public policy guidance can help mobilize substantial additional funds from the private sector as discussed in the sections above. Finally, we strongly believe that 2%-5% of all the funds involved should be allocated towards mitigation and adaptation in developing countries.

Conclusion

To conclude, it is evident that our globe has become an increasingly interconnected arena of political, economic and environmentally degrading activity. The pace of interconnectedness is growing at an exponential level, as technological advances bring the local to the global via the internet, through commerce and through transport networks. Conversely, the global also increasingly affects the local. The burgeoning complexities and externalities that have arisen due this ever-growing global interdependence have resulted in a triple crisis of cross-border tax flight, systemic financial instability and climate change threats. The threat is all the much greater due to the complete absence of adequate global governance architecture.

However, while the solutions to these problems ultimately lie at the global level, in order tackle these threats holistically we must also start at home. The EU, as the most ambitious and successful example of supranational governance at the regional level, is well-equipped with the experience and capacity to tackle these emerging global issues.

Accordingly, this paper has outlined the ways in which the EU should take a united and resolved stance in adopting a pan European approach to enhancing governance of emerging global issues. It has emphasised the severity and extent of these global issues, and has outlined specific policy proposals to tackle the systemic threats induced by the triple crises, namely by taking coordinated yet inventive approaches to global governance, whilst maintaining principles of equity, efficiency and sustainability.

Thus, positioned at the forefront of global governance initiatives, it is critical that the EU remains a global leader in tackling these cross-border threats. Through this regional action, the path can be paved for heightened action at the global level.

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[i] See forthcoming Re-Define policy brief on Tax Havens
[ii] See "13 Bankers" and the Bank of England Speech entitled "The $100bn question"
[iii] See Sony Kapoor's testimony to the ECON committee at the European Parliament and go to www.re-define,org for several other publications on the subject
[iv] The Economist, (2010) "A lighter burden: a promising way to defray the cost of going green," January 28th 2010.