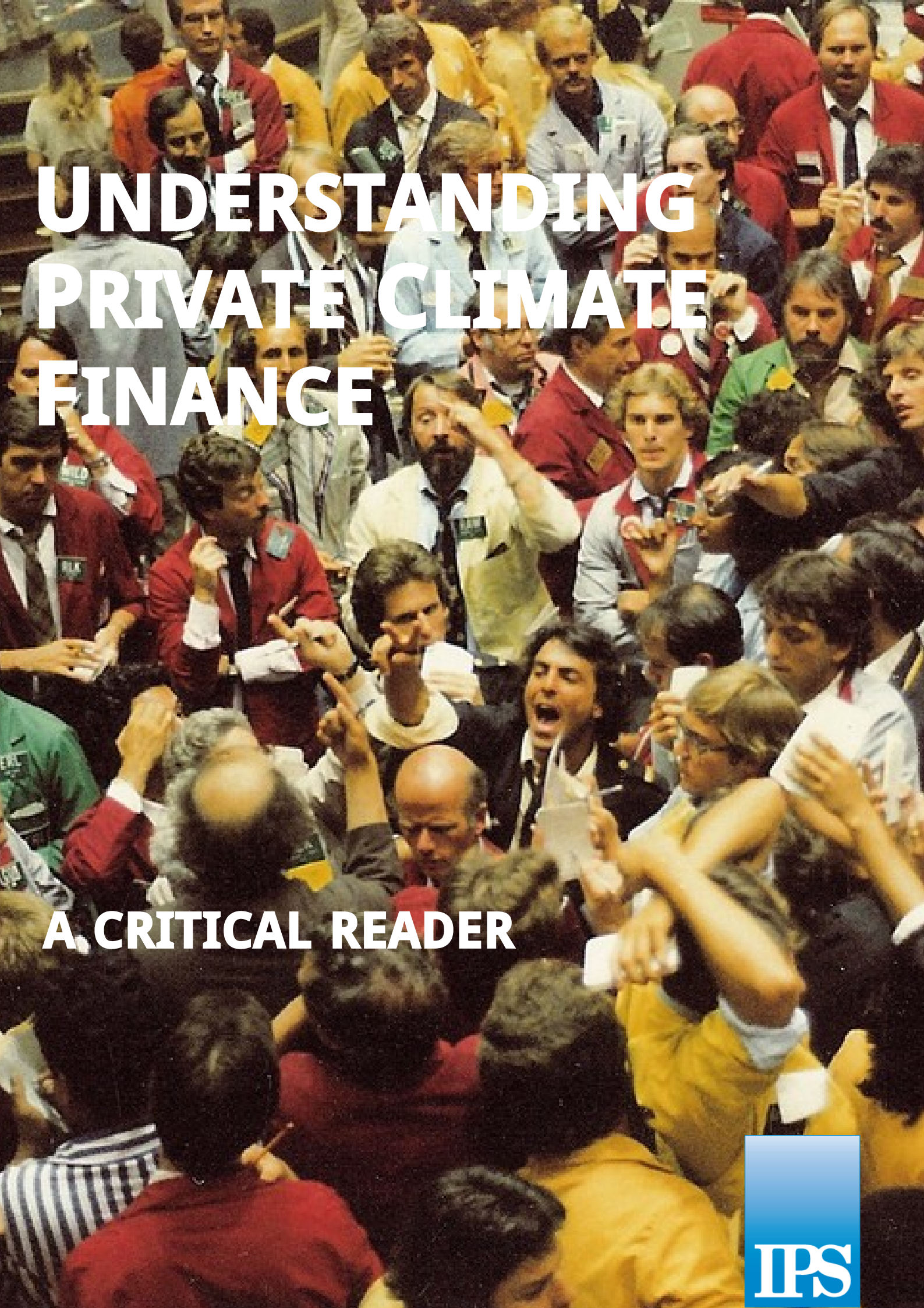

UNDERSTANDING PRIVATE CLIMATE FINANCE

A CRITICAL READER

IPS

Understanding Private Climate Finance: A Critical Reader

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Introduction

Oscar Reyes

Climate change plus finance. When you put together two of the most hotly contested political issues of the day, there's unlikely to be much agreement over what the terms even mean, let alone what action should be taken. The Reader you have before you sets out to understand what climate change means for the financial sector, and what financial opportunities financial markets, private banks and investors see in relation to climate change. Those issues are at the center of debates on climate finance right now, but are a long way removed from what has conventionally been placed under the rubric of "climate finance."

Let's rewind a little, then, to consider climate finance as it is usually discussed: a series of national, regional and international sources of funding directed towards climate change. Climate finance in this sense refers to the transfer of public funds from Northern industrialized to Southern developing countries to cover the costs of dealing with the long-term impacts of climate change.

The basic idea is that it should help Southern countries to pursue low-emissions paths without repeating the unsustainable reliance on fossil-fuels that was central to the industrialization of Northern countries. That's called "mitigation." In addition, money is allocated towards "adaptation," which aims to address the problems that are caused by the concentration of greenhouse gases already emitted: increased droughts, flooding and other extreme weather patterns.

The obligations and flows of finance are not equally spread across the globe. Southern countries will suffer three-quarters of the damage caused by climate change, but have done and are still doing the least to cause it. Sometimes these global imbalances are referred to as "climate debt," a term that clarifies where the responsibility for climate change lies, and makes clear that it is a responsibility of Northern industrialized countries. Approaching climate finance as reparations for climate debt distinguishes it from aid ("official development assistance"), private charity or the creation of new trade and investment opportunities for transnational companies.

The UN Framework Convention on Climate Change (UNFCCC) sets out the basis for climate finance in similar, if slightly more technical terms. Article 4.3 of that agreement commits Annex II countries (a list that includes all members of the European Union, the USA, Canada, Japan, Australia, Switzerland and New Zealand) to provide "new and additional financial resources" for the "full incremental costs" of addressing climate change. But if we look at how finance has actually flowed, we find that there has only been a trickle of funding, mostly directed towards mitigation in middle-income

countries, and that the public financing is now drying up.

At the same time, the waters are being muddied by redefinitions of climate finance to encompass all financial flows relating to climate mitigation and adaptation. Many of the activities reported as "climate finance" are barely related to, or even worsen, climate change. The $30 billion pledged for "fast-start" finance at the Copenhagen climate conference in 2009 includes everything from multi-million dollar loans to coal-fired power stations in Indonesia, oil refineries in Brazil, subsidies for maritime border security in Yemen and Tunisia, and Coca-Cola bottling plants in Nigeria.

In part, this reflects attempts to broaden the definition of climate finance to encompass all forms of "climate-related" finance. Rather than focusing only on public financial flows, the climate finance investment landscape is being mapped as one that includes any grants, loans or loan guarantees, private as well as public money, that go towards renewable energy, energy efficiency and fuel switching, forestry and land use, urban transport and carbon sequestration projects, as well as technical assistance and capacity building to address climate change. Adaptation includes projects are those which are partly or wholly dedicated to addressing the impacts of climate change, such as water scarcity, agricultural resilience, infrastructure to withstand floods and other extreme weather, and capacity building.

The key difference between these broader and narrower definitions of climate finance are that the latter includes one or more of the following: sources that are not "additional" (such as aid money), private finance, and "capital investment" (rather than just "incremental costs"). Counting capital investment means including market-rate loans (which will need to be paid back) as well as equity investments (ownership of a stake in projects, or companies running these projects) in the figures.

The implications stretch beyond issues of accounting, and even those of industrialized countries' disproportionate historic and current responsibility for climate change. Broader definitions of the climate finance landscape are increasingly re-framing the climate change debate in terms of the norms of the financial sector, rather than the needs and perspectives of communities at the frontlines of climate change. This, in turn, is limiting the role and understanding of what "public" finance can do, and how its priorities are set. Public finance is not simply money based on taxation, but has broader implications around local control, accountable decision-making and economic sovereignty – concerns that activists and NGOs continue to bring to the "climate finance" table.

What is underlying the private sector turn in climate finance? The causes are undoubtedly complex, but one of main elements is that, after the 2008 financial crisis, budget-strapped industrialized countries started to claim more and more loudly that they could ill-afford public financial transfers. At the same time, inaction on emissions and a clearer understanding of the impacts of climate change have led to ever growing

estimates as to how much mitigation and adaptation will cost. The starting point for UN climate negotiations is a figure of $100 billion a year by 2020, although a 2011 estimate by the UN's Department of Economic and Social Affairs (UN-DESA) suggested that $1.1 trillion would be required for the transformation of energy and agricultural systems in Southern countries.

"Scaling up" public financial flows is insufficient to meet the challenge posed by climate change, and with public budgets in industrialized countries constrained by the financial crisis and cross-government austerity, those countries argue that it is unrealistic to expect them to do so.

This lack, or perceived lack, of conventional "climate financing" spurred a search for "innovative" sources of finance. These include a number of proposals that hold the potential to unlock significant finance while going some way to challenging the dominance of the financial sector – such as financial transaction taxes, measures to crack down on tax-havens, Special Drawing Rights and global shipping and aviation levies.

In general, however, the ambition for publicly-provided finance has been narrowed to simply "leveraging" private sector investment. Leveraging has a precise meaning in relation to the financial sector, where it refers to the ratio between equity (shareholders' capital) and the debt that is taken on in relation to that. But in climate change discussions, its use is far more vague, and it is taken to describe any measure whose intention is to catalyze (encourage) private sector investment in renewable energy, energy efficiency and low-carbon infrastructure projects and programmes in Southern countries.

The proponents of more leveraging argue that it is vital for policy-makers to learn to think like investors, evaluating risks and returns. "Investment-grade policy" means that "investment opportunities must be commercially attractive compared to alternative uses of capital, with different capital providers having different appetite for risk and expectation of the return for that risk," according to the UK-government sponsored Capital Markets Climate Initiative. In particular, proposals to scale-up private finance focus on encouraging more low-carbon investment by institutional investors (pension funds, insurance funds and mutual funds), which have the largest pools of capital to deploy as well as a longer-term investment outlook that could be suited to low-carbon infrastructure financing.

This is consistent with a broader private sector turn in development and infrastructure financing, where public institutions seek "more bang for their buck" by taking on the role of reducing risk for or guaranteeing private sector investments, rather than emphasizing direct project financing.

The nature of financial sector involvement in climate-related investment is also

changing in two major ways. First, it has become clear that carbon markets, once the favored solution for engaging capital markets in climate change, face considerable challenges, most immediately from an oversupply of tradable allowances (as a result of corporate lobbying for lax rules, weak climate targets, and economic slowdown in the European market) that has collapsed prices. The accompanying loss of confidence has seen many actors withdraw from the market, with carbon investors diversifying into broader climate-related financial products (bonds and private equity). Institutional investors (eg. pension funds), which have generally steered clear of carbon markets, are being eyed as important players in the future of climate, energy and infrastructure finance.

Second, climate-related financing is affected by broader trends in the financial sector, where lending is continuing to move onto capital markets, and off the balance sheets of banks and other financial institutions. The new Basel III regulations for international banking could exacerbate these trends, with 'project financing' increasingly displaced by investment via capital market instruments.

These trends are reflected in the emerging structure of "public" lending itself, be it through the World Bank, bilateral financing or the design of the Green Climate Fund. They bring with them several new concerns, and reinforce some long-standing considerations held by social movements and civil society groups.

The aim of this Reader is to help understand these issues, and the emerging institutional and financial architecture for private climate finance. It is based on a series of readings that were at the heart of a "crash course" on this topic, hosted by the Institute for Policy Studies in the spring of 2012. Its emphasis, reflected in the readings selected here, was on understanding the financial trends, mechanisms and institutions underlying the turn to private sector finance. Often, the clearest and most salient explanations emanate not from the field of climate finance itself, but from studies on development economics, public services or focused squarely on the financial sector itself – so that's what we've included. We have emphasized understanding the financial sector in general over understanding "climate finance," about which numerous texts abound (see "Further Reading" for more details).

The Reader is divided into five sections.

The first section, on **Financial Trends**, sets out the economic backdrop for the changes that we are currently seeing in climate change financing. These relate to the era of financial liberalization, dating from the 1970s, that led to the 2008 financial crisis – the consequences of which are still unfolding.

In the second section, on **Private Sector Actors**, we look at how some of the major financial investors make their decisions. In particular, our aim here has been on explaining how some of the main market actors function.

The third section looks at how **International Financial Institutions** are adapting their focus towards "leveraging" private sector finance, and what this means for climate change investment.

The fourth section on **Carbon Markets and other Financial Instruments** looks at carbon trading, which has to date been the major instrument for private sector climate finance. It also examines how these markets are being expanded into other "ecosystem services," while at the same time other instruments (notably "public-private partnerships") are emerging to broaden the scope of the private climate finance.

The coverage here is partial, at times because the texts we really wanted to include have not yet been written. But a lot of useful information and analysis is already out there, and we've included that in the final **Further Reading** section, an annotated bibliography of books, chapters and websites that we've found useful in our work, or that have proved influential on the current debate.

We hope this Reader proves to be a useful resource for anyone seeking to understand the private sector turn in climate finance. For our part, we'd welcome your feedback, and encourage you to check out the other resources, including a glossary of financial sector terms, available on: www.climatemarkets.org

Section 1. Financial Trends

Fixing Global Finance : Recent Trends in International Finance and Developmental Implications

Kavaljit Singh

The starting point in any discussion on global financial reforms should be an assessment of key developments that has shaped the global financial system (or rather "non system") over the past few decades. These developments will help in understanding the nature and dynamics of rapidly changing landscape of global finance.

Since the 1980s, the global financial system has undergone tremendous changes. Financial liberalization in both developed and developing countries is one of most important factors behind increased capital mobility on a global scale.

Financial liberalization has two interrelated components – domestic and international. Domestic financial liberalization encourages market forces by reducing the role of the state in the financial sector. This is achieved by removing controls on interest rates and credit allocation as well as by diluting demarcation lines between banks, insurance and finance companies. International financial liberalization, on the other hand, demands removal of capital controls on inflows and outflows of capital. By allowing cross border movement of capital, it deepens global financial integration and free flow of capital across borders.

Other key developments such as the stagnation in the real economy due to overcapacity and over production, lower interest rates in the developed economies, and rapid technological changes in communications and IT have also enabled massive expansion of footloose finance capital across borders. In addition, new financial instruments and financial intermediaries have drastically changed the basic function of the financial sector.

It is a well acknowledged fact that financial sector exists to serve the real economy. But in the last two decades, the global financial sector has become so big that has led to a tail (financial sector) wagging the dog (real economy) kind of situation.

Financial Innovation, Deregulation and Globalization

Financial innovation played an important role in changing the dynamics between finance and real economy. It facilitated the introduction of new financial instruments

(such as derivatives) and increased distance between financial instruments and productive assets. Certain kinds of innovation added to the complexity of the financial system.

The removal of regulatory measures led to the emergence of market-based financial system. In the US, the Banking Act of 1933 (popularly known as the Glass-Steagall Act) came into existence in the wake of Great Depression. The Glass-Steagall Act separated commercial banking from investment banking and also led to the establishment of the Federal Deposit Insurance Corporation (FDIC), a government agency which provides deposit insurance. Under the influence of free-market doctrine, the Glass- Steagall Act was repealed by the Gramm-Leach-Bliley Act in 1999. The repeal allowed investment banks, depository banks and insurance firms to consolidate and created the legal framework for the emergence of universal mega banks such as Citigroup.

Following a similar approach, the UK allowed banks to enter the securities business in 1986. In Europe, the introduction of single banking license in 1989 gave a boost to cross-border banking.

Since the mid-1980s, many developing countries also undertook steps to deregulate and open up domestic financial sector to international competition. The structural adjustment programs and trade agreements played a vital role in the removal of restrictions in banking and financial services. These developments led to the emergence of internationally active banks which fueled the large-scale mergers and acquisitions in the banking and financial services globally.

To a large extent, the implicit taxpayer guarantee drove banks to expand nationally or internationally rather than achieving any economies of scale. Empirical studies have shown that that there are no significant economies of scale in banking. On the contrary, diseconomies of scale prevail when large banks undertake mergers and acquisitions.

Since the mid-1990s, financial conglomerates with significantly large balance sheets (and off-balance-sheet positions) have become an important part of the global financial landscape. In the US, for instance, the top ten financial conglomerates were holding more than 60 percent of financial assets in 2008, as compared to merely 10 percent in 1990. The financial conglomerates rapidly expanded their activities in wholesale markets, equity markets and derivatives. Simultaneously, shadow banking institutions emerged outside the traditional banking system. These institutions include hedge funds, Structured Investment Vehicles (SIVs), finance companies, asset-backed commercial paper (ABCP) conduits, money market mutual funds, monolines and investment banks. The shadow banking institutions grew in importance as they acted as intermediaries between investors and borrowers. Bear Stearns, Lehman Brothers, Fannie Mae and Freddie Mac are some of the prominent examples of shadow banking institutions.

In its heyday, the shadow banking system was considered as an integral part of the free-market economy. Since shadow institutions do not accept deposits like a depository bank, they are not subject to similar capital requirements and regulatory oversight. Usually, such institutions tend to use a very high level of leverage. Driven by excessive liquidity and light- touch regulation, shadow banking system expanded dramatically in the years leading up to the crisis. In 2008, shadow banking system had as much as $20 trillion worth of liabilities, significantly larger than the liabilities of the traditional banking system at about $13 trillion.

The shadow banking institutions played an important role in the sub-prime mortgage meltdown in 2008. Post-crisis, the activities of the shadow banking system have come under closer scrutiny and regulations.

Financialization of Economy

One of the recent developments is the excessive financialization of economy with greater importance to financial activity over non-financial economic activity.

In the US, for instance, the financial sector has grown by leaps and bounds in the last three decades. As illustrated by Simon Johnson, former chief economist of the IMF, financial industry's share in the total US corporate profit was 16 percent between 1973 and 1985.[1] In the 1990s, it ranged between 21 and 30 percent.[2] However, just before the crisis broke out, 41 percent of the profits of the entire US corporate sector went to the financial industry.[3] In the same vein, wages in the US financial sector reached 181 percent of average compensation in domestic private industries in 2007.[4]

In the case of UK, the share of financial services in GDP rose to 8.3 percent in 2007, from 5.3 percent in 2001. Such developments have led to a situation where the financial sector increasingly serves itself, exhibiting high growth and profits, while doing relatively little for the non financial sectors of the economy, which the financial sector exists to serve in principle. In the words of Robert Reich, the former US Labor Secretary, "Before 1980, Wall Street had been the handmaiden of industry, helping large oligopolies raise capital when necessary. After 1980, industry became the handmaiden of Wall Street."

The Growing Domination of Speculative Finance Capital

The global financial markets have moved beyond their original function of facilitating cross border trade and investment. The financial markets are no longer a mechanism for making savings available for productive investments. Nowadays, global financial flows are less associated with the flows of real resources and financing long-term productive investments.

1 Johnson, S. (2009) "The Quiet Coup," *The Atlantic*, May 2009.
2 Ibid.
3 Ibid.
4 Ibid.

As the value of global foreign exchange trade is many times more than the value of annual world trade and output, much of global finance capital is moving in search of quick profits from speculative activities rather than contributing to the real economy.

Every day, trillions of dollars move in the world's financial markets in search of profit making opportunities from speculative investments. These flows are largely liquid and are attracted by short-term speculative gains, and can leave the country as quickly as they come.

That is why, many analysts have described this phenomenon as "casino capitalism."[5] In fact, it is "casino capitalism" that very often perpetuates economic disasters thereby adversely affecting the lives of millions of ordi- nary people. As Susan Strange puts it succinctly:

> For the great difference between an ordinary casino which you can go into or stay away from, and the global casino of high finance, is that in the latter we are all involuntarily engaged in the day's play. A currency change can halve the value of a farmer's crop before he harvests it, or drive an exporter out of business. A rise in interest rates can fatally inflate the costs of holding stocks for the shopkeeper. A takeover dictated by financial considerations can rob the factory worker of his job. From school-leavers to pensioners, what goes on in the casino in the office blocks of the big financial centers is apt to have sudden, unpredictable and unavoidable consequences for individual lives. The financial casino has everyone playing the game of Snakes and Ladders.[6]

The growing presence of financial players (non-end users) in commodity and agricultural markets should be a matter of serious concern for global policymakers. Financial speculation is now well recognized as one of the major contributors in extreme price volatility in commodity and agricultural markets. A study by SOMO found the growing influence of "non-traditional" institutional investors (such as hedge funds) in agricultural markets.[7]

The sharp rise in global food prices during 2006-08 and subsequent food riots in many countries have alarmed the policymakers about the increasing interconnectedness of global finance and agricultural markets. The convergence of financial and food crises reveals that financial reforms are necessary to curb excessive speculation.

Excessive speculation by large players is a significant factor in market manipulation and unreasonable price movements and therefore has the potential to distort the normal

5 See, for instance, Strange, S. (1986) *Casino Capitalism*, Blackwell.

6 Ibid., p. 2.

7 Kerckhoffs, T., R. van Os and M. Vander Stichele (2010), *Financing Food: Financialisation and Financial Actors in Agriculture Commodity Markets*, SOMO, April, http://somo.nl/publications-en/Publication_3471/ at_download/fullfile.

functioning of a market.

There are numerous ways in which the domination of speculative finance capital negatively affects the real economy. Firstly, by providing economic incentives to gamble and speculate on financial instruments, the global finance capital diverts funds from long-term productive investments.

Secondly, it encourages banks and financial institutions in developing countries to maintain a regime of higher real interest rates which significantly reduces the ability of productive industries and enterprises in terms of access to credit. Lastly, finance capital (because of its speculative nature) brings uncertainty and volatility in interest and exchange rates, thereby affecting trade and other components of real economy.

The financial enclosure of the commons

Antonio Tricarico

We live in an age of finance capitalism, when trading money, risk and associated products is more profitable than trading goods and services. That, in short, is what people often refer to as the 'financialisation' of the economy. This has huge implications for where capital is invested and the everyday exposure of people to capital markets, as more and more aspects of everyday life – from home ownership to pensions and schooling – are mediated through finance.

Financialisation is now penetrating all commodity markets and expanding from areas such as social reproduction (pensions, health, education, housing) into natural resources management. Just as the privatisation of public assets and services served as a building block for the financialisation of the economy, so the commodification of the natural commons is the basis for the financialisation of nature.

Financialisation, however, should be regarded as more than just a further stage in the commodification or privatisation of the commons. It represents a systemic transformation in the very structure of capitalism.

System change and crisis

The crisis of 2007-09 resulted from a financial bubble marked by weak production, expanding bank assets and growing household indebtedness. For these reasons it casts light on the financialisation of capitalist economies.

The literature on financialisation generally links weak production with booming finance. According to some, causation runs from weak production to booming finance, while for others it runs in the opposite direction. This dichotomy is becoming more and more misleading. Rather, as pointed out by Costas Lapavitsas and others, financialisation represents a systemic transformation of both capitalist production and finance, which ultimately accounts for the crisis of 2007-09.

This transformation represents a response to the ongoing crisis of accumulation that began during the 1960s. By that time the overproduction of the US economy in relation to existing markets, coupled with diminishing returns on new investments, triggered the globalisation process. This involved the creation of much larger global markets through extensive liberalisation and privatisation as well as deflationary policies against labour to reduce costs of production – in short, neoliberalism.

This generated new problems at the end of the 1980s (such as the 1987 financial crisis), when aggregated demand was still low, following the reduction of labour income, and financial elites turned instead towards the new global capital market in pursuit of the

biggest profits. This was in fact the first global market to be built after the break-up of the Bretton Woods monetary system and the related removal of controls on movements of capital in the 1970s. Still today the global capital market is much deeper and larger than any other global market of goods and services.

When the same crisis of accumulation manifested itself again, given the still-dominant neoliberal ideology banning direct state intervention in the economy to support global demand, a new solution was developed. This involved an unprecedented 'private Keynesian' response aimed at boosting aggregate demand through the indebtedness of corporations, banks and households, all made dependent on the functioning of capital markets for their financing. This triggered financialisation in the form we know it today, affecting all major actors in the spheres of production and finance.

Financialisation's new frontier

Since the beginning of the past decade, after the 'dotcom bubble', financial capital has been seeking new asset classes in which to invest huge and growing private wealth. New key areas have thus emerged in which financialisation has started unfolding. These include natural resources (soft commodities such as coffee, corn, soya and fruit, and new commodities such as 'carbon') and public finance.

Concerning the latter, the financialisation approach is leading to a third wave of privatisation, with the first being the privatisation of public assets at a discounted value and the second the creation of public-private partnership (PPP) vehicles to help privatised companies finance new investments in infrastructure development. After the blatant failure of the PPP approach in many sectors, the third wave of privatisation is being conceived as the creation of a new financial system suited to capital markets.

Since the financialisation of the global oil market in the 1980s and 1990s through the establishment of oil future markets, financial speculation on other hard and soft commodities has significantly increased. This has been mainly driven by deregulation of derivative markets, the increasing involvement of investment banks, hedge funds and other institutional investors in commodity speculation, and the emergence of new instruments such as index funds and exchange-traded funds and products. While new financial actors such as hedge funds have attracted wealthy individuals and institutional investors, new financial products, such as exchange-traded funds, have opened the commodities world to retail investors as well.

Financial deregulation in particular has transformed soft commodities into financial assets. Holding (for example) a tonne of corn had never, until as recently as the beginning of the past decade, been able to produce a revenue stream or rent. This is now possible through financial engineering. This is not just paper money or speculation on virtual markets. Financial markets are penetrating deeper and deeper into the real economy as a response to the financial crisis, so that speculative capital is being structurally intertwined with productive capital, in this case commodities and natural

resources.

The 2007-09 crash of the financial markets and global economy, coupled with the need to diversify investments beyond traditional financial markets – including equity, bonds and real estate – has made it necessary to further develop and even create new financial market risk. This is to enable the absorption of the massive liquidity that exists globally and is in search of high returns, including to cover heavy losses some institutional investors experienced during the crisis.

While turbulent markets have usually driven investors towards government bonds, the 2010 sovereign debt crisis, during which the bonds of southern European governments first took a dive, pushed investors towards alternative assets. The current figures on exchange-traded funds and hedge funds highlight the huge amount of money flooding into commodities trading, which has exacerbated food and fuel prices across the globe and created conditions for the kind of social unrest the world experienced two years ago.

Trading nature

New financial assets are today being created from existing commodities, and where markets do not yet exist natural resources will have to be traded so that new commodities and markets can emerge. Such is the case with carbon markets, where the new commodity 'carbon' is a derivative in itself – a prediction of emissions being avoided in a certain period against a baseline.

This is also why financial engineers are devoting much more attention to ecosystem services, including natural habitat, biodiversity and species trading. As recently discussed at the Rio+20 summit on sustainable development, new initiatives have been launched to give a monetary value to services provided by the earth's different ecosystems. In this way, payments for these services will be possible all over the world. Experts say that we are talking of a £20 trillion market every year.

Private actors, and not just state agencies, will also be charged with managing some protected areas. As a next step, financial assets built on ecosystem services could be traded in global markets to be constructed through mechanisms for biodiversity conservation, permit trading and offsetting, such as those established in carbon markets.

Financialisation is just one of several possible answers to the crisis of accumulation affecting the current capitalist cycle. It still has a long way to go with the natural commons, as well as many difficulties to overcome. Fabricating new commodities, financialised from scratch, building global markets for these and inducing scarcity so that financial engineering can perform an extra extraction of value is not easy, as the experience of carbon markets over the past ten years demonstrates. Many of these attempts will lead to new financial bubbles and crashes, even though in the meantime key financial actors will make huge profits at the expense of affected communities and

the environment.

Accelerated expropriation

The commodification of nature is nothing new, and the resistance of the commoners against this privatisation, or accumulation by dispossession, as David Harvey would put it, has been a leitmotif of human history. The financialisation of nature will, however, bring an acceleration in the expropriation of land for offset projects and new extractive schemes.

New financial assets require more natural resources to be extracted and traded, so that the financialisation of nature will inevitably lead to a renewed emphasis on mining and other extractive industries, as well as the implementation of massive and unnecessary infrastructure projects. This could be part of the proposed way out from the economic crisis, particularly in Europe, with severe implications for local populations and their territories and environment.

So the financialisation of nature risks locking us into an extractivist and privatising pattern despite the limits imposed on us by the ecological and social crises. And as in the case of carbon markets, financialisation is instrumental in pushing us towards the continued extraction of fossil fuels instead of keeping them in the ground to tackle the climate change challenge.

The role of government in the financialisation of natural commons will be key. This includes fabricating new commodities by law through schemes for monetising and trading natural resources, creating the financial infrastructure of their global markets and exchanges, and inducing scarcity in these markets to make them work.

Contrary to what is sometimes suggested, neoliberalism and financialisation do not aim to destroy the state. Actually they require a strong state to create markets, including financial markets, and new asset classes. This is something that the private sector can't do alone. At a time of crisis a strong state is also needed to control dissent. So challenging and reversing the financialisation of nature inevitably means questioning the role of both markets and states and putting forward a comprehensive alternative political project centred on reclaiming the commons.

Section 2. Private Sector Actors

What banks must do to combat climate change

Banktrack

Through their lending, investment, and other financial services, commercial banks[8] play an indispensable role in mobilizing and allocating financial resources for the private sector. As such, they are in a unique position to either help further entrench patterns of energy production and intensive energy use that are based on the burning of fossil fuels, or to catalyze the necessary transition to an economy that minimizes GHG pollution and relies on energy efficiency and low/no carbon energy sources. BankTrack believes that with this influential position comes a special responsibility for banks to play a leadership role in addressing the challenges of climate change.

To some degree, banks may place climate change within the logic of the "business case" for sustainability. After all, there are substantial opportunities to profit from investments in renewable energy, energy efficiency and the adaptation to a changing climate.[9] Most banks will also add the business opportunities provided by carbon trading to this list. Focusing on climate change is thus presented as a winning business strategy.

But relying on market mechanisms and traditional business models alone will not deliver to the task at hand. The climate crisis has been described as the "greatest and widest-ranging market failure ever seen".[10] As a result, there remain enormous opportunities for banks - and business in general - to maximize short-term profits and shareholder value by supporting greenhouse gas-intensive investments - such as fossil fuel extraction - even where this leads to staggering social and environmental costs.

A bank wishing to disentangle itself from clients and activities with a negative impact on climate change must be willing to forego such short term business opportunities, in favour of long term gains.[11] BankTrack also believes that banks' current emphasis on carbon trading as a solution to the climate crisis is fundamentally misdirected. There is

8 While action is required from all financial institutions, this paper is focused primarily on commercial banks operating at national or international level offering banking services to retail, corporate and government clients.

9 Government of the United Kingdom (2005), *Investing in the Future - Background Paper for European Conference on Corporate Social Responsibility and the Financial Sector*, London, December.

10 Stern, N. et al., (2007) *Stern Review: The Economics of Climate Change*.

11 Bill Gates famously referred to this as "creative capitalism": a new business model in which the public good is linked to the profit motive in ways that help advance both. Gates, B. (2008) "A New Approach to Capitalism, Remarks delivered at the World Economic Forum, Davos, Switzerland, 24 January.

growing evidence that carbon markets do little to contribute to real emission reduction, while delaying the necessary structural shift from carbon to no/low carbon energy economy. In addition, they often finance projects with adverse impacts on marginalized communities in the Global South.[12]

Governments responded to the financial crisis at the end of 2008 by providing enormous sums of public money to a great number of private banks. Many of these banks are now owned in part by the taxpayers. The public stake in these banks creates an added responsibility, and in some cases, possibly even a legal duty, to ensure that they are operating in the public interest, or at least as 'best practice' institutions in the sector.[13]

BankTrack calls upon all international commercial banks to develop, in consultation with civil society stakeholders, a sufficiently ambitious, publicly-available climate policy that addresses how the bank will reduce the climate impacts of its lending and investments and determines how it will help finance the transition to a low-carbon economy.

First, banks should take steps to disengage from all activities and projects that substantially contribute to climate change. They should:
• End support for all new coal, oil and gas extraction and delivery;
• End support for all new coal-fired power plants; and
• End support for the most harmful and least efficient practices in other GHG- intensive sectors, such as agriculture, forestry and transportation;

Second, banks should minimize the extent to which their remaining activities and investments contribute to climate change. Towards this end, they should:
• Assess and report on GHG pollution associated with all their loans, investments, and other financial services;
• Establish sufficiently ambitious portfolio and business-unit emissions reduction targets in line with current science on climate stabilization; and
• Develop a set of tools to address climate issues and reduce GHG pollution across the full range of their operations and services.

Third, banks should increase their support for the development and use of climate-friendly technologies and production processes. Accordingly, they should:
• Increase support for GHG pollution reduction technology, renewable energy production and energy efficiency in all business lines; and
• Develop products and services to help retail customers address climate change.

Fourth, banks should not engage in so called 'false solutions' to climate change, such as

12 See, for example, Gilbertson T. and O. Reyes (2009), *Carbon Trading: How it works and why it fails* Dag Hammarsjkold Foundation, Upsalla. November, http://www.dhf.uu.se/pdffiler/cc7/cc7_web.pdf

13 See for an example of how this would work for RBS in the United Kingdom PLATFORM (2009) *Towards a Royal Bank of Sustainability; protecting taxpayers' interest; cutting carbon risk,* http://www.banktrack.org/download/royal_bank_of_sustainability

carbon trading and the financing of nuclear energy, large scale hydro power, biofuel production with a negative socio-environmental impact, natural gas exploration and carbon capture and storage.

What is a Pension Fund?

A pension fund is established by a company, governmental institution or labor union to pay for the (future) pension benefits of retired workers. Pension funds collect retirement savings from workers and their employers, and invest this money in a wide range of assets. Because pension funds manage the money of up to millions of individuals, they are major players in financial markets.

Organization of pension plans

Most pension plans are organized as "defined benefit" schemes, by which a fund promises future retirees a certain amount of money per period. Pension fund managers have to make detailed calculations on how much they will be required to pay out to pensioners. There are several things they need to take into account:

- In most industrialized countries, current employees pay for the benefits of current pensioners. These pension systems are called "pay-as-you go". Pension fund managers thus have to estimate how long people will continue to work, how long they will probably live, and how many people will be working in next decades.
- A worker's benefits are normally related to his/her salary, either at the point of retirement or as an average over his/her work history.
- Often, pension benefits also need to be "indexed", i.e. rise along with the general price level or with the income levels in the respective sector. Fund managers thus also have to take future income level developments into account.

On the basis of these data, pension fund managers try to ensure that the rate of return on their portfolio investments equals or exceeds the anticipated payout need. If investments fail to provide the money needed to pay pensioners, the pension contributions will have to increase, or the benefits cannot be fully paid.

The level at which a pension fund can cover future liabilities is called the "asset liability" or "funding ratio". A higher ratio signals that the fund is in a healthier position.

The second way that pension funds can be organized is through a "defined contribution" scheme. In this arrangement, the worker is primarily responsible for saving for his/her own retirement. The employer usually offers a range of mutual funds (also known as "unit trusts") that the worker can use as a retirement savings vehicle. Typically in this scheme, the government allows workers to put money into their chosen mutual fund(s) before their salary is taxed, and the employer also contributes to the fund(s). Defined

contribution schemes rely on the direction and discipline of individual workers, and are becoming increasingly popular in the industrialized world.

Pension fund investments

Pension funds invest their money in a wide range of assets. Pension fund staff sometimes manage the investment portfolio directly, but often they delegate their investments to a professional asset manager or investment firm. In most countries, the government regulates pension investments. For example, pension funds may not be allowed to invest more than a certain percentage of their portfolio in equity investments. Representatives of employees and employers also often have influence on the fund's investment portfolio.

Pension funds differ in terms of what assets they invest their money in, and how speculatively they operate. In general, pension investments fall into two categories:

1. *"Fixed income" investments.*

Fixed income assets promise a fixed return at a certain point in time. They are thus the most reliable, but their returns are limited compared to the possible returns on equity investments. The most common fixed income investments are government bonds and corporate bonds (from creditworthy governments and companies).

2. *Equity investments.*

These investments involve the purchase of assets that makes the holder a partial proprietor of the asset. Real estate, i.e. buildings and pieces of land, can be a form of equity investing that is normally quite reliable, since building and land prices on average are stable over the long term. However, the returns are limited compared with other forms of equity investments like share in companies, mutual funds and hedge funds. Company shares give holders a share in the company and its profits. Mutual fund s and hedge funds enable the investor to invest in a broad portfolio of different assets.

Trends and Critical Issues

- *Dominant players on the market.* Because of their immense size pension funds' investment decisions have major influence in financial markets. For example their role has helped create high share price bubbles. Once stock markets start to fall pension funds will often try to reorganize their portfolios which can contribute to the rapid decline in share values.
- *Huge losses.* In many countries including the UK or the Netherlands, regulators do not restrict pension funds from investing heavily in the equity market (unlike in Germany) . This means that large portions of Dutch and British pensions have been invested in company stocks. With the fall of stock markets at the end of 2001, pension funds lost billions. As a result some funds have had to tell their beneficiaries they will raise required pension contributions and/or lower the pension benefits (or not index them). Supervisory authorities have had to

intervene to force pension funds to come up with strategies to ensure all future payment obligations.

- *Scandals at investment banks.* During the stock market crisis pension funds lost significant amounts of money. Some of the funds claimed that theses losses were due to mismanagement of investment firms. Some firms for example, were accused of misleading pension funds. As a result , there have been lawsuits, and some pension funds have managed to get some of their lost money back.
- *Little attention to sustainability issues.* Because pension funds are heavily regulated to ensure proper care over worker assets, pension funds have traditionally only been concerned about their portfolio´s rate of return, and less concerned about investing in companies that are considered socially or environmentally sustainable. In the Netherlands, for example, only 1% of pension funds' money is directed to sustainable investments portfolio. However in recent years some pension funds in Europe and the US have become increasingly concerned about climate change.

Corporate Social Responsibility Issues

Pension funds are beginning to pay some attention to sustainability issues, often due to pressure from the public and/or their beneficiaries. Given the huge amount of money pension funds invest on financial markets, pension funds could play an important role in capitalizing sustainable investments.

However, pension funds are unlikely to invest exclusively in socially and environmentally sustainable companies.

First, their commitment to a guaranteed rate of return makes them less flexible than other funds. Second, given their size (some are large enough to be considered "universal investors" which invest in the entire economy), there may not be a sufficient number of sustainable companies available to invest in. Finally, given the large amount of money pension funds may have invested in a company, it is probably not desirable for pension funds to suddenly withdraw these monies out of companies that are perceived as less sustainable, as this could provoke massive problems for those companies and their employees. Using their shareholder power to advocate for more sustainable corporate behavior is likely a more feasible approach for pension funds.

In addition, important regulatory steps can be taken to facilitate more sustainable pension investing. For example, changes in prudential regulation of pension funds may allow pension funds to have more options in sustainable investing. In additions, pension fund beneficiaries could be given more choice or voice in advocating for different types of investments. Indeed, in many countries there is hardly any transparency as to what companies pension funds own. In recent years some progress has been made in this respect. For example, some industrialized countries like the UK (2000), France and Germany (2001) and Belgium (2004) introduced transparency regulations that require pension funds to report on whether they have ethical investing policies.

Biggest Pension Funds worldwide

Rank	Fund	Market	Region	Total assets (US $ Million)
1	Government Pension Investment	Japan	Asia-Pacific	1,394,873.00
2	Government Pension Fund	Norway	Europe	575,527.00
3	ABP	Netherlands	Europe	320,356.00
4	National Pension	Korea	Asia-Pacific	313,981.00
5	Federal Retirement Thrift	U.S.	North America	281,359.00

2012 figures. Source: Pensions & Investments/Towers Watson Global 300 survey

What is a Mutual Fund?

SOMO

Mutual funds (or "unit trusts") are funds operated by a bank or an investment company that invest their money in a portfolio of assets, including company shares, corporate and governmental bonds, options, futures, currencies, or money market securities. They then sell parts of this portfolio to investors by issuing shares much like any other company sells shares to the public. For individual investors, mutual funds can be more attractive than building ones' own portfolio because mutual funds are managed by professional asset managers, and they allow individuals to reduce risks through owning a very diversified portfolio. Most mutual funds are open to all kinds of investors, including households.

How it works

Banks and investment firms offer a variety of mutual funds to the public. They can be distinguished on the following grounds:

- *Investment objective or style.* Funds vary in their objective (e.g. to provide steady income now, to grow over time, to grow aggressively, etc.). For example, "fixed income funds" are designed to deliver a fixed return at a certain point of time. They are thus the most reliable, but their returns are limited compared to the possible returns on equity investments. The most common "fixed-income" investments are government and corporate bonds. "Equity investments" involve the purchase of assets which makes the holder a partial proprietor of the asset. Mutual funds' equity investments are mostly comprised of shares of public companies. "Balanced funds" offer a mix of bonds and equity.
- *Geographical coverage.* Investors can choose also funds that differ in geographical scope; they may invest in assets all over the world, in specific regions or countries, in industrialized countries or in emerging markets only.
- *Sector.* Some funds specialize in specific sectors, such as high technology.

Investors pay the fund manager a fixed fee for managing the portfolio. In addition, a portion of the returns may be paid as a fee to the fund manager. Each share of a mutual fund shares equally in the profits and losses generated by the fund, and investors are allowed to cash in profits or reinvest them into the fund.

Expansion of mutual funds

Mutual funds have dramatically expanded over the past decades. From holding assets worth just under $500 billion in 1985, their value reached almost $12 trillion in 2007, but fell back to just over $9.5 trillion in 2008 as a result of the financial crisis. They have been growing again since then, and held assets worth $11.6 trillion by the end of 2011, according to the Securities Industry and Financial Markets Association.

Trends & Critical Issues

- *Industry has grown enormously.* The mutual fund industry has grown enormously in the last decades. In the 1990s and for much of the 2000s, increasing stock prices attracted a lot of individual and institutional investors to buy mutual fund shares, providing banks and mutual funds with income from the management fees.
- *Losses in the financial crisis.* Lower stock prices in 2002-2003, and again in 2007-2008, decreased the value of mutual funds substantially. In each cases, some investors lost up to 50% of the value of their portfolios, and in 2007-8 average losses were over 40&. Some mutual funds and banks providing those services subsequently lost a significant source of income, which resulted in some mutual funds closing down completely. Since 2008, the mutual fund industry has grown again and its value now close to its 2007 peak.
- *Enormous impact on local economies.* Because of their size, mutual funds' investment decisions have an enormous impact on local economies. In the mid 1990s, mutual funds bought heavily into securities of emerging markets. This dramatically affected the upturns and downfalls of those economies. In the quest for short-term gain, funds quickly bought and sold securities, regardless of the impact on the economies in which they invested, and/or of the lost potential for "patient" capital to deliver long-term economic benefits to these countries. For example, the appetite for investments in emerging market countries (EMCs), was dramatically curtailed by the Asian Crisis of 1997, the Russian default and subsequent near financial meltdown of 1998, the resulting problems in Brazil and other countries, and the collapse of the Argentine economy (2001-2003). When mutual funds and traders quickly wanted to sell securities from countries in financial crisis, their actions further decreased the value of all securities. This was the case in South East Asia, and it exacerbated the overall financial crisis.
- *Malpractices at funds.* The lack of transparency regarding the difference between the actual cost of managing a mutual fund and the management fee charged to clients has led to various pricing scandals. Fund managers are also increasingly under investigation for not abiding by trading rules, including executing trades after the cut-off time (late trading). These scandals have led to lawsuits and indictments, and have made some mutual funds more accountable to investors.

CSR Issues

Civil society groups and individual investors are increasingly paying attention to the environmental and social impacts of investments. As a result, 'Socially Responsible Investment' (SRI) funds (green funds/ 'ethical funds') have been popping up all around the world. These funds promise to pay more attention to the social and environmental performance of the companies they invest in. In the Netherlands, investors are exempt from interest and dividend income tax on green funds that fulfill environmental criteria laid down by the government. The success of this program indicates that citizens are

interested in green funds if they have the choice, and that tax incentives can create a strong demand for such funds.

Civil society groups continue to be critical of some so called 'ethical investment' funds. There is often also no social or environmental regulation of these funds, and thus no guarantee that they are truly sustainable. In the absence of clear, standardized guidelines for SRI, fund managers, and sometimes governments, are setting their own terms of reference. Investor organizations and civil society groups have made proposals on how to improve the accountability of funds towards investors. For example, EuroSIF, the European Social Investment Forum, has stressed the need for more transparency on the exact definition of SRI used by these funds.

Yet the SRI funds are still a niche in the total mutual fund industry. Most mutual fund managers continue to focus only on the portfolio's or their companies' financial performance, rather than their contribution to environmental sustainability or commitment to human rights.

What is a Hedge Fund?

SOMO

Hedge funds are funds operated by an investment company, which use very speculative strategies to obtain the highest possible return on their investments. They invest in all kinds of very sophisticated financial assets, and then sell parts of this portfolio to investors by issuing shares, much like any other company sells shares to the public. In practice, hedge funds are only accessible for wealthy individuals and institutional investors, in contrast to mutual funds which are accessible to regular households as well.

How they operate

There is no formal definition of hedge funds, and among the thousands of hedge funds that exist today, there are important differences. However, some general characteristics of hedge funds can be identified:

- Hedge funds get their name from the first hedge funds' strategy to *combine long-term and short- term positions*; i.e. they hold some securities for a long-term period, and sell other securities after a very short time. This combination is supposed to "hedge" the fund from risks associated with changes in market prices. However, today many hedge funds are designed to generate absolute returns, rather than actually hedge risks. The "portfolio turnover" or "churn" rate of a fund indicates how long it keeps securities. A high turnover means that hedge funds regularly change the composition of their portfolio. A 100% turnover rate means that the fund on average substitutes all of its assets with new ones in one year. The 10-year average turnover rate, as of November 2012, was 140% according to data from Goldman Sachs.
- Hedge funds use *sophisticated strategies* to increase the returns on their investments. They invest in all kinds of financial assets like bonds, shares and foreign currencies. In addition, they make extensive use of derivatives, financial instruments (such as futures and options) whose value is based on the performance of other financial assets. With these instruments, they speculate on financial markets with the aim of getting instant returns. Many hedge funds make these investments with borrowed money, which makes them highly "leveraged". This means that they finance their operations more by debt than by money they actually own.
- They apply *high minimum investment requirements*. Hedge funds often require minimum investment amounts of over $1 million.
- *Little regulation.* Hedge funds are exempt from many of the rules and regulations governing regular investment funds. They are often managed out of an industrialized country like the U.S. or European countries, but many are domiciled in 'offshore' centers and secrecy jurisdictions, i.e. small countries and islands where there are few regulations and taxes to be paid. The Cayman Islands, Luxembourg and Ireland and Luxembourg are important centers for

hedge funds. Thus, hedge funds, unlike other financial institutions, are not required to publish data on their trading activities and their creditworthiness.

- Customers of hedge funds pay a management fee based on the assets they have put into the fund (around 1-2%), and the performance of the fund (around 20%). Fund managers themselves also normally make significant investments in the fund. Often, hedge funds also invest in other hedge funds to increase potential returns ("fund of funds").

Speculation and market manipulation

Hedge funds are important speculators on financial markets. Speculation means that an investor tries to make profits by gambling on changes in the price of a security or an underlying asset. When buying an asset, a speculator doesn't intent to keep it, but rather buys it in order to sell it at a higher price in the near future. Examples include currency speculation: an investor (or fund) expects the value of a certain currency (e.g. the euro) to increase in a month time, and therefore buys huge amounts of euros. When indeed that price has risen, he can sell the euros at a higher price. They can also pursue an opposite strategy: by entering into certain derivatives contracts or by "short selling," investors can also make money by betting on the decline of certain assets.

Because of the enormous amount of funds they manage, hedge funds often also aim to influence prices by using their market power. Hedge funds can coordinate their actions, and persuade other market actors to follow them.

Market manipulation is an illegal activity of which some hedge funds have been found guilty. It means that they try to influence prices by spreading misleading information that will probably affect other investors' demand for a security. This change in price can lead to enormous profits for the funds.

Trends & Critical Issues

- *Industry has grown enormously.* Hedge funds have grown enormously since their rise in the 1950s. Increasingly, more traditional institutional investors like pension funds have invested in hedge funds or (less speculative) hedge instruments offered by financial firms in search of better returns than those from traditional mutual funds.
- *Adverse impact on local economies.* The impact of hedge funds on local economies can be enormous. For example, if hedge fund managers expect a currency to depreciate, they start to sell their holdings of that currency. Often, other market participants follow funds with high reputations, and this further drives down the currency's price. Central banks may not be able to counteract these speculative forces. Because their gigantic size, and their influence on other market actors, hedge funds can make or break currencies. A notorious example of this was the attack of hedge fund manager George Soros on the English pound in 1992. By speculating on a depreciation of the currency, the fund forced

the British currency out of the European system of fixed exchange rates. Other examples include the speculative attack on the Thai Baht and other South Asian currencies 1997, which led to a dramatic aggravation of the Asian crisis.

- *Fraud at hedge funds.* Hedge funds have sometimes been blamed for manipulating market prices, which puts smaller investors at a disadvantage . For example, they may make other investors believe a company is doing very well, causing the share price to rise. After this, hedge funds sell their holdings of these securities and make a huge profit. Retail investors are duped by this, when they see the value of their holdings plunge. There also have been cases of funds misleading their own investors.
- *Risky strategies.* Hedge often take large risks with speculative strategies, and operate in markets with sharply declining prices. Because they move billions of dollars in and out of markets quickly, they can win enormous amounts, but they might also lose them. If they lose money, they often also lose the money of banks and investors which have placed funds with them. The most notorious example of this was the 1998 failure of the US based 'Long Term Capital Management' (LTCM) fund. To avoid a systemic financial crisis, the US central bank intervened, injected $3.5 billion in the fund, and took over its management.
- *Little regulation.* As noted, in contrast to other investment funds, hedge funds are hardly regulated. After the notorious LTCM collapse, international bodies like the International Monetary Fund, the Basel Committee and the Financial Stability Forum discussed possible regulations. More recently, the SEC (the U.S. Securities and Exchange Commission) has been discussing regulation proposals. The U.S. hedge fund market represents 80% of the total volume managed by hedge funds, so the SEC's policy can be of major importance globally.
- *No sustainability indicators.* Most hedge funds do not pay any attention whatsoever in the social and environmental impacts of their investments. However, there are a few hedge funds that rely on "sustainability analysis" and enter into derivatives contracts with a strategy of betting against irresponsible corporations, and betting on ethical ones.

What is... a derivative?

A derivative is a contract between to parties whose values is based ("derived from") the performance of an underlying asset, for example gold or a bond. A common derivative is an option, i.e. the right to sell or buy an (financial) asset. It can also concern a combination of derivatives, i.e. an option on a future; then the buyer pays for the right to use a contract that enables him to sell or buy another asset at a certain time. Derivatives create leverage, i.e. they enable a firm to operate with more money than they actually own.

The Global Hedge Fund Market

Year	Number	$bn assets
2001	5400	564
2006	9500	1673
2007	10070	2225
2008	9600	1569
2009	9400	1843
2010	9550	1955
2011	9860	1903

Source: TheCityUk estimates, 2012, thecityuk.com

Private Equity Funds

Kavaljit Singh

Private equity is a broad term denoting any investment in assets or companies that are not listed on public stock exchanges. Private equity funds are pools of capital managed and invested by private equity firms.

In the last two decades, private equity has become an important component of global finance capital, developing its own distinct characteristics and practices. Until the onset of financial crisis, newspapers and TV news channels were full of stories about multi-billion private equity buyout deals. Supporters crowned private equity funds the "new kings of capitalism,"[14] while critics labeled them "locusts."[15]

Private equity has a significant and distinctive influence on taxation policy, corporate governance, labor rights and public services, deeply affecting society, human rights and environment alike. Were they to be assessed in terms of annual revenues, several private equity firms would rank among the world's top 25 corporations. The biggest five private equity deals have involved more money than the annual public budgets of Russia and India.[16] Some executives of private equity firms earn billions of dollars in fees and profits, often at the expense of the companies they buy and sell.

Private equity firms do not take long-term stakes in the companies in which they invest and show little interest in improving the productive capacity of companies or in launching new products and services. For private equity firms, every investment is simply one element in a portfolio of financial assets that move in and out of companies as the market demands (rather than as the long-term health of the companies requires).

Private equity firms tend to buy companies not to own and run them with a long-term perspective (as foreign direct investors such as Siemens or Vodafone might do by investing in a manufacturing plant or telecommunications network), but in order to sell them on at a profit as soon as they can.

The involvement of pension funds, university endowments and sovereign wealth funds in private equity businesses means that in fact a significant amount of money flowing into private equity funds globally is "public" in nature, not private. Some development finance institutions such as the World Bank's International Finance Corporation (IFC), the Asian Development Bank and Germany's Investment and Development Company

14 (2004) "The New Kings of Capitalism," *The Economist,* 25 November

15 In April 2005, during the national election campaign in Germany, Franz Muntefering, then Chair of the Social Democratic Party (SPD), described private equity firms as "locusts." He subsequently published a "locust list" of companies that he circulated within the SPD.

16 Service Employees International Union (2007) *Behind the Buyouts: Inside the World of Private Equity*, April, p. 10, http://www.behindthebuyouts.org/buyout- industry

have also invested in private equity funds. Yet these outside investors do not participate in the funds' investment decisions.

The five largest private equity firms are The Blackstone Group, The Carlyle Group, Bain Capital, TPG Capital (formerly Texas Pacific Group) and Kohlberg Kravis Roberts & Co. (KKR). Together, these companies manage assets worth hundreds of billions of dollars. Their influence over the "real economy" can be gauged from the fact that these five firms alone control companies that employ more than two million workers.

In 2006, their most recent peak year, PE firms carried out more than $664 billion worth of buyouts, according to data firm Thomson Financial.

The Buyout Business

Once private equity firms buy out companies, they invariably downsize the workforce, slash workers' benefits and abrogate collective agreements between workers and management. Even the proponents of private equity admit that buyout deals lead to significant job losses, particularly in the initial years. Unlike publicly listed companies, private equity firms are not legally bound to disclose information about their operations or those of the companies in which they invest or buy. As a result, they (and the companies they own) are shielded from the glare of public attention and from public accountability.

Private equity firms have made extensive use of "leveraged" or borrowed finance to buy out companies – they borrow money to acquire a company's shares in hopes that the interest they will pay on the resulting debt will be lower than the returns they will make from their investment. In many cases, the levels of borrowing are unsustainable.

Private equity investments can also threaten hospitals, water supplies and other public services when they buy firms involved in these services because they place short-term financial objectives over the public interest. The way that the private equity business model exploits regulatory loopholes, tax arbitrage and offshore entities and transactions can further endanger the public good. Furthermore, when several big private equity firms join hands to buy a target company, the significant flow of price sensitive information creates considerable potential for market abuse.

The Boom and Bust Cycle

Pre-crisis, the period from 2000 to mid-2007 witnessed low interest rates, a worldwide glut of capital, buoyant credit markets, rising corporate profits and a massive growth in structured credit products such as collateralized debt obligations. The resulting easy liquidity in the global financial markets nourished a boom in the private equity business. Wealthy investors were encouraged by low interest rates to look for more remunerative investment options. Big institutional investors, such as pension funds, found it

preferable to invest in a big private equity fund rather than holding direct stakes in several companies. Big investment banks, too, entered the private equity business to serve their own commercial interests. Attracted by the advisory fees they would get for arranging deals, particularly leveraged buyouts, they eagerly lent money to private equity funds.

In 2006, global investment banks such as Goldman Sachs and JP Morgan Chase picked up $12.8 billion in fees from private equity firms, and in the first half of 2007 alone, another $8.4 billion. Some investment banks (such as Goldman Sachs) launched new private equity funds to benefit from the boom, while others (such as Citigroup) simply continued to use their own capital to underwrite buyout deals.

Post-crisis, the turbulence in the credit markets and the resultant credit squeeze has negatively affected the global private equity industry, which has largely relied on leveraged finance to acquire companies. The lifeblood of private equity – cheap debt – quickly vanished. The crisis has made it more difficult and more expensive for private equity firms to borrow money for their buyouts. Besides, it has also negatively affected the portfolio companies of private equity firms.

In many ways, the financial crisis crunch has broken the popular myth that the boom in private equity is the result of an efficient business model based on superior management skills and "patient capital" that does not expect immediate returns. A report by UK-based Centre for the Study of Financial Innovation noted that buyout firms do not always run companies better and called for greater transparency around private equity performance.[17]

To a large extent, the private equity business was all about debt assembled in a DIY (Do-It-Yourself) fashion by financiers. Governments, central banks and public monetary authorities chipped in with a supply of easy money, lax credit controls and tax concessions.

But the eruption of global crisis does not necessarily imply the end of the private equity business. It could well bounce back from the slump just as it did previously in the late 1980s and early 1990s. The fact that private equity firms have more financial muscle than they used to, and closer linkages with other global financial actors, such as hedge funds, sovereign wealth funds and banks, increases the chances of a comeback.

17 Morris, P. (2010), *Private Equity, Public Loss?*, Center for the Study of Financial Innovation, 2010

Section 3.
International Financial Institutions

'Leveraging' private sector finance: How does it work and what are the risks?

Jesse Griffiths

The notion that public investments should be used to 'leverage' additional investments from private actors is increasingly used in a variety of development finance forums, including aid, development finance, agriculture and, in particular, climate finance.

What is leverage?

In development finance debates, the term is rarely used consistently by the World Bank or others, but the WBG defines the basic concept as:

> "the ability of a public financial commitment to mobilise some larger multiple of private capital for investment in a specific project or undertaking."[18]

This financial leverage of private capital is the focus of this paper, and is how the term ought to be generally understood. However, the Bank often uses the term in a general sense to mean any large overall impact of a smaller amount of Bank investment or advisory input.

The International Finance Corporation (IFC), the Bank's private sector arm, also uses the term in both a loose and tight definition, and often calls it 'mobilisation'. In fact, the IFC has a more strict definition:

> Core mobilisation: "financing from entities other than IFC that becomes available to clients due to IFC's direct involvement in raising resources."[19]

18 World Bank Group et al, (2011) 'Mobilising Climate Finance: a Paper Prepared at the Request of G20 Finance Ministers', p.35.

19 IFC (2011) 'IFC Annual Report 2011', volume 2, p.9, http://www1.ifc.org/wps/wcm/connect/CORP_EXT_Content/IFC_ External_Corporate_Site/Annual+Report.

It sometimes refers to other activities that may encourage or support private sector investment, such as advisory services, as 'catalytic mobilisation'. This distinction is important – this chapter only focuses on the first part, which the IFC calls core mobilisation, but which is more commonly thought of as financial leverage. To be crystal clear, we will not use the term in the following three ways, and encourage others to also not use it in these contexts:

(a) Catalytic investments are not financial leverage – for example the World Bank-coordinated paper for the G20 on climate finance unhelpfully bundled all public investments "that encourage much more widespread climate-friendly changes in behaviour by private firms across the whole economy" as leverage. This makes the term essentially meaningless, as (a) most public investments are intended to induce changes in behaviour of private actors, and (b) it is very difficult to quantify the direct impacts on private sector actors of such public investments. For example, the Bank suggests that "carefully designed and scaled public investments in demonstration projects to pilot and debug new technologies and institutions can have a major impact in promoting learning and the diffusion of new ideas." In each individual case this may be true – or may fail – but the aim is to change markets and behaviours on a more fundamental scale, not to directly leverage additional resources.

(b) Pooled financing is not financial leverage – the World Bank, through its trust funds, has promoted the pooling of donor, multilateral development bank (MDB) or other public financing to tackle certain issues. However, it has also caused confusion by sometimes calling this leverage. For example, the most recent Clean Technology Fund (CTF) semi-annual report claims its investments are "expected to leverage $9.874 billion in co-financing from governments, MDBs, private sector, and other sources."[20] The donor and other public funding in this example is only leverage from the CTF's perspective – the other public bodies might just as well have claimed to have leveraged the CTF money!

(c) Inducing policy reform is not financial leverage – the use of international financial institution (IFI) or donor influence to push, cajole or advise developing countries to change their policy positions is sometimes described as leverage. It would be better thought of as political influence, and is highly problematic. It normally undermines domestic democratic space, may promote the wrong approaches, can degrade government capacity, and rarely works as intended – as previous campaigns against policy conditionality have shown.[21] The use of technical assistance (TA) is a grey area – many argue that this is often attached to a particular policy agenda that is being promoted, and in general terms, TA has a very poor track record, particularly when it is donor driven.[22]

20 World Bank CTF secretariat (2011), 'Semi Annual Report on CTF Operations', CTF Trust Fund committee, 2011, 4.

21 See, for example http://www.brettonwoodsproject.org/art-563637 for a summary of a report that lists many critiques of conditionality at the WBG.

22 Greenhill, R. (2006) 'Real Aid 2: Making Technical Assistance Work' ActionAid International

Methods of Leverage

The different types of financial leverage are largely already in use at the World Bank Group. They can be divided into three types: loans, equity investments, and risk management products.

1. Loans

There are four main types of loans at the IFC: investment loans; syndicated loans; financial intermediary loans; and concessional loans.

(a) Investment loans – the IFC lends to a company to undertake a specific project. The IFC obtains its money to make the loan by selling bonds on international bond markets. The IFC is able to do this because its shareholders, governments, have provided it with capital.

(b) Syndicated loans – the IFC coordinates (and is the largest participant of) a loan for a project made by a group of investors (which may include banks, investment funds and so on). The IFC's portion is still borrowed from capital markets, as with investment loans.

(c) Financial intermediary (FI) loan – The IFC lends money to a financial intermediary – normally a bank – which then lends to its clients.

(d) Concessional loans – IFC grant funding has traditionally been very small, and focussed on technical assistance, called advisory services by the IFC.[23]

II. Equity

(a) Direct equity investments – the IFC buys ownership of a portion of a company, which is funded by the IFC's net worth, not the bond market. The IFC normally buys between 5 and 20 per cent of a company's equity20 and never more than 35 per cent of the total company value. It tries not to be the biggest shareholder.

(b) Investing in private equity (PE) funds – the IFC has been investing in private equity funds since the 1980s, and has ramped up its activities over the past ten years.[24] It now claims to have backed 10 per cent of all funds that operate in emerging markets. The IFC invests as a 'limited partner', meaning that it contributes a limited stake to, but does not run, the PE fund.

(c) Setting up its own PE funds through the IFC Asset Management Company (AMC) – this is a relatively new venture for the Bank. The AMC is an IFC subsidiary company, domiciled in Delaware[25] which pools funds from the IFC and other investors to invest in IFC clients.

(d) Quasi-equity investments – the IFC may also "invest through profit– participating loans, convertible loans, and preferred shares." The amount of financial leverage will depend on which of these options are used, and the exact terms of each deal, but in

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www.actionaid.org.uk/ doc_lib/real_aid2.pdf

23 As these are often tied to IFC loans, it could be argued that this is one method of subsidising that lending.

24 http://www.ifc.org/funds

25 http://www.brettonwoodsproject.org/art- 568573

essence they are more like equity investments than loans.[26]

III. Risk management products / securitised finance

There are a number of risk management products that the World Bank Group sells to companies. These are a bit like insurance: in each case the company pays the Bank a fee and the Bank only pays the company should the risk materialise.

(a) Risk sharing products[27] – the borrower sells part of the risk of a new investment to the IFC.
(b) Partial credit guarantees[28] – sometimes called 'first loss', the IFC promises to pay a creditor up to a certain amount should the borrower default.[29] These include cross-border guarantees to allow companies to access international finance that they otherwise would not be able to access.[30]
(c) Political risk insurance –MIGA provides this for foreign companies, who are worried about losses due to five risks: currency inconvertibility and transfer restriction (a hedge against capital controls); expropriation of assets by the government; war, terrorism or civil disturbance; breach of contract; and non-honouring of sovereign financial contributions.
(d) Catastrophe insurance – the World Bank has, in recent years, piloted weather-related insurance to farmers.[31]
(e) Hedging products – like other banks, the IFC offers clients a variety of products to hedge against exchange rate volatility

Ten problems with leverage

1 Assessing financial additionality is difficult and headline figures are not reliable
Additionality – and hence leverage – cannot be assumed just because public institutions are co-investors with private funds. The following issues often arise:

(a) Replicating existing investment – while the IFC says it aims to invest in 'frontier' areas, where private investment is not currently flowing, there are serious concerns about whether this is the case:

i. Leverage implies that private investors will put forward a majority of the capital, implying they have a very strong interest in investing.
ii. Very little IFC investment flows to low-income countries, and the vast

26 Preferred stock are essentially like equity, but with a higher claim on assets and dividends, though without the same voting rights as normal shareholders. Convertible loans can be converted into equity at a specified time.
27 http://www.ifc.org/ifcext/treasury.nsf/ Content/RiskSharing
28 http://www.ifc.org/ifcext/treasury.nsf/ Content/PartialCreditGuarantee
29 The IFC also says it works to reduce probability of default and increase amount recovered if default happens.
30 Including the Guaranteed Offshore Liquidity Facility (GOLF): http://www.ifc.org/ifcext/treasury.nsf/Content/GOLF
31 Bretton Woods Project (2009) 'Helping Farmers Weather Risks? Assessing the World Bank's Work on Index Insurance', http:// www.brettonwoodsproject.org/art-565398

majority goes to middle- income countries that already have much better developed financial sectors.

iii. The sectors favoured have tended to be ones where investors – particularly foreign investors – are already investing in developing countries. For example, over half of the IFC's current portfolio is invested in the financial sector, infrastructure and extractives

(b) Failure to achieve additionality – their own internal evaluations suggest that, even adopting a broad definition, the IFC fails to achieve any financial additionality in 15 per cent of investments. Any headline claims that $x of public money leveraged $y of private investment should be treated with scepticism.

2. The higher the leverage ratio, the stronger the private sector influence and the lower the likely financial additionality

In all forms of leverage where private investors put forward most of the capital, they will have the predominant influence in the design and implementation of the investment. Their goal is to make money, not to promote development, and there will be trade- offs between their objectives and those of the public institution. The greater the leverage ratio, the smaller the overall contribution of the public body, and hence the lower its power and influence in the design and implementation of the investment .

Also, as noted above, higher leverage ratios imply that the project is more likely to have been funded without any public sector involvement.

3. National strategies and policies should be paramount – but may be ignored or overridden in the quest to achieve leverage

The overwhelming experience of successful developing countries is that private sector investment needs to be directed and influenced by a national strategy – to ensure sufficient investment in areas which will increase productivity, employment and sustainable poverty- reducing growth.

Therefore attempts to leverage private sector finance should be directed by national strategies and institutions and take place at the national level. However, most existing models and institutions operate through global funds or international financial institutions that are not always well linked to national plans.[32]

4. Many existing World Bank methods promote foreign investment as if it were an end in itself: it is not and entails risks as well as rewards

Foreign direct investment (FDI) can help developing economies by providing jobs, creating demand for domestic products and upgrading skills and technologies. However,

32 See for example Chang, H.J (2002) *Kicking Away the Ladder: Development Strategy in Historical Perspective,* Anthem

there are a number of problems that can be caused by foreign private investment that need to be carefully considered and managed by developing countries, including:
(a) Sectors invested in – many developing countries, particularly low-income countries, have only been successful at attracting foreign investment into resource extraction. This can have huge social, environmental and human rights impacts, and is associated with significant governance problems such as corruption and resource capture by elites
(b) Macroeconomic impacts – money flowing into countries, particularly if the amounts are large, can have important impacts, particularly on exchange rates. To invest in a country, foreign companies use hard currencies to buy local currency, thus pushing up the value of the local currency. This affects exporters in particular. Conversely, foreign investors have often pulled their money out during economic crises, which can cause currency collapses.
(c) Diversion of domestic investment – many foreign companies actually borrow the money that they invest from local capital markets, which may mean diverting it from investment in other local businesses that may be higher priorities for development plans.
(d) Investment flows out, as well as in – research by the South Centre, an intergovernmental think-tank, shows that in recent years inward FDI flows have often been matched by outward profit repatriation, and inward portfolio investment by outward withdrawal of equity capital.[33]
(e) Capital flight and tax evasion – Global Financial Integrity, and NGO, estimates that developing countries lost between $725 billion and $810 billion per year, on average, between 2000 and 2008, through illicit outflows.[34] Most of these were due to trade mispricing and other tactics used by multinationals to help them avoid tax.
(f) Political influence – multinationals have been adept at using the threat of moving elsewhere to not only negotiate favourable terms for their investments, such as tax concessions not available to domestic companies, but also to push for lighter regulation of their activities.

5. Leverage means increasing debt and often involves linking poor countries more closely to volatile global financial markets

Leveraged finance is not aid; it is lending to companies, usually at market rates, which must be repaid. Often developing countries or particular sectors do suffer from lack of access to credit, but this cannot be assumed.[35] Though the links to global financial markets through traditional lending models described above are weak, they are becoming far stronger in the new models promoted by the AMC and others. This may make greater credit available, but also means borrowers are more directly connected to global financial markets, which can be highly volatile.

33 Akyuz, Y. (2011) 'Capital Flows to Developing Countries in a Historical Perspective: Will the Current Boom End With a Bust?' South Centre, http://www.southcentre.org/ index.php? option=com_content&view=artic le&id=1529%3Acapital-flows-to-developing- countries-in-a-historical-perspective-will- the-current-boom-end-with-a-bust&lang=en

34 Kar, D. and K. Curcio (2011) 'Illicit Financial Flows fromDeveloping Countries: 2000-2009. Update with a Focus on Asia' Global Financial Integrity, http://iff- update.gfintegrity.org

35 See for example, Rodrik, D. and A. Subramanian (2009) 'Why Did Financial Globalisation Disappoint?' IMF, www.iie.com/publications/papers/ subramanian0308.pdf

6. There are opportunity costs when using limited public investment to leverage private investment

Using public resources to try to leverage private sector investment means those resources cannot be used elsewhere. These opportunity costs may be particularly important in certain countries or sectors where the need for straightforward public investment – for example in climate adaptation, healthcare, education, infrastructure or environmental protection – may be very high.

7. Many of the current methods used mean both actual and potential transfer of risk to public institutions – implying moral hazard

In addition to explicit guarantees, private investors may assume that the IFC is unlikely to allow the investment to fail and may end up bailing it out – or persuading the government to do so. Sometimes, private investors may assume an IFC-backed investment will receive special privileges, for example, being less likely to fall foul of governmental interference, or benefiting from special treatment from the government. This means moral hazard is a significant issue – investors taking greater risks because they assume they will not have to bear the full costs should investments turn sour.

8 Transparency and accountability are currently very low for publicly-backed private investment in developing countries

The new IFC access to information policy, for example, is far weaker than its counterpart at the public lending arms of the World Bank Group (the International Bank for Reconstruction and Development, which is the World Bank's middle-income country arm, and the International Development Association, the Bank's low-income country arm).[36] The use of financial intermediaries entails further loss of transparency and accountability,[37] including the potential for weakened application of environmental and social standards.

9. Leverage may open the door to undue political influence in developing countries by IFIs and donors

It is important to remember that the World Bank and other international institutions are major influencers of policy in many developing countries through norm and standard setting, research, and influence over how they frame the overall discourse. This emphasis on the importance of private investors and capital markets can be seen as the culmination of a longstanding position, pushed vigorously over the past 30 years, that developing countries should orient their economies and policies to attract foreign investment

10. Positive developmental impacts may be absent

Developmental impacts are not the objective of most of the private actors involved in

36 http://www.brettonwoodsproject.org/art- 568902

37 Bretton Woods Project and 'Ulu Foundation, ibid.

the above mechanisms, and it is dangerous to assume – as the IFC often does[38] – that any private investment is good for growth and poverty reduction, for the reasons set out above.

38 Bretton Woods Project (2010) 'Bottom Lines, Better Lives. Rethinking Multilateral Financing to the Private Sector in Developing Countries' BWP, http:// www.brettonwoodsproject.org/art-566197

The complex network of financial intermediaries

Javier Pereira

The prominence of financial intermediaries in climate finance is due to their perceived capacity to use public money to lower investment barriers for the private sector and facilitate access to finance. Before moving into a more detailed analysis of the different instruments that can be used to achieve this, it is important to examine why this is possible.

There are two key factors that determine investment decisions: profit potential and the level of risk. Risk is a complex concept that encompasses all those elements that are difficult to control and could prevent the success of the investment by incurring losses or lower revenues. Some of the main types of risks include: political risks (e.g. unstable governments, policy and regulatory changes), currency risks (e.g. fluctuations in currency values) and technology risks (e.g. untried technologies and solutions).

For an investment to happen, the profit potential usually has to compensate the risk. An informed investor is only likely to engage in a high-risk investment (e.g. a green start-up company) if the profit potential is also high. Another investor, however, may prefer to invest in lower risk assets (e.g. equity in a large company) even though the profits are likely to be slim. Risk also plays a crucial role in the availability of credit for private actors in developing countries.

Private sector investments are especially sensitive to these two factors in the sense that for a given risk level, private investors will usually require greater profit potential than a public one or, in other words, at a given profit potential the risk tolerance of private investors is lower. For instance, an insurance company is unlikely to roll-out a micro-insurance scheme for small farmers in a developing country as a consequence of the high upfront costs of creating the necessary infrastructure and the fact that profits can only be expected in the medium/long-term. This behaviour is motivated not only by different risk and profit appetite, but also by the ability of public investors to take into account positive social and environmental outcomes (externalities) that are difficult to measure in economic terms.

In order to leverage private climate finance, developed countries use development finance institutions (DFIs) and,[39] to a lesser extent, other institutions that are backed and/ or funded by governments such as export credit agencies (ECAs). DFI's are

39 Development finance institutions (DFIs) are financial institutions backed by states, which are mandated to provide long-term financing to the private sector, with specific value-added development objectives, but on a sustainable commercial basis. They focus on developing countries and countries with transition economies. DFIs include both multilateral and bilateral institutions such as the IFC, EIB, Norfund, CDC, etc.

extremely powerful investors. DFIs that are members of the European Development Finance Institutions (EDFI) group have an aggregated portfolio of €21.7 billion.[40] According to the datasets used in this research (see Methodology section), the International Finance Corporation (IFC) has a portfolio of over €9.4 billion in low income and lower-middle income countries and the European Investment Bank has investments of €36.8 billion outside the European Union.

2011 figures show that climate finance only represents a small part of these investments, €461 million in the case of the IFC and €3.3bn in the case of the European Investment Bank (EIB). Nonetheless, climate finance is growing at a fast pace: 70% of the combined climate related projects of the IFC and the EIB we looked at have been approved since 2009.

This section starts by looking at the main investment instrument donors use to engage with FIs. The term 'public investor' is used here to refer to any institution providing finance for the private sector that is supported by a government (mainly DFIs, but also ECAs). For greater clarity the different instruments have been divided into three main groups: equity, debt and risk-related finance.

Equity

Equity investments are all those investments that involve the ownership of shares in a company. There are two main types of equity investment instruments available to DFIs-direct equity investments and investment funds. The first option entails making a direct equity investment in the financial intermediary, for instance a local bank. Sometimes this investment is made by two or more DFIs at the same time and it may be open to private capital. In its most simple form, a direct equity investment provides additional capital that the financial intermediary can use to expand operations. In some instances, the direct equity investment grants the public investor access to the intermediary's management, where it can work to make the company grow usually with a view to selling its stake at a profit at a later stage.

Private finance can be leveraged at two different stages. When the investment is open to other investors, private capital may flow in as a result of lower risks, greater profitability and the confidence induced by the DFI's investments. When the public investor engages in the management of the company, private capital may also be leveraged at a later stage as a result of the company's greater value.

Direct equity investments are not very common in the portfolios of large DFIs in developing countries. For instance, they represent less than 1% of the EIB's portfolio assessed by Eurodad. No examples have been found of direct equity investments with a clear climate remit being channelled through financial intermediaries.

The second instrument DFIs can use is the investment fund, a collective investment

40 http://www.edfi.be/

instrument which acts as a financial intermediary and makes direct equity investments in other companies or banks. Investment funds make investment choices according to specific criteria or following a strategy and are a very common investment instrument because they diversify risk and share it among a larger number of shareholders. When DFIs use investment funds to channel climate finance, they can either set up their own funds or participate in existing ones.

Investment funds represent approximately 20% of the IFC's portfolio in low and lower-middle income countries. In the case of Norfund, Norway's DFI, the figure reaches 26% of the total portfolio. In contrast, the EIB only uses investment funds for around 13% of its total investments outside Europe, but the EIB reporting is not very clear and the figure could be higher. Among investment funds, private equity funds seem to be the preferred type of instrument. Private equity funds usually purchase equity of the company and engage in its management with views to increasing its value. In the case of the IFC, private equity funds account for €1.3 billion of the examined portfolio (13%). The EIB channels through private equity funds approximately 6% of its portfolio outside the EU (€2.1 billion).

In general, funds leverage money in the same way as direct equity investments: by attracting private capital when the fund is created and, in the case of private equity funds, by increasing the value of the companies that the funds invest in. In addition, when the fund is open to private investors, the public investor can take a subordinated equity stake in order to incentivise private investment. In practice, this means that private investors will be repaid first. This model is generally used for riskier projects.

DFIs also have other equity instruments such as mezzanine loans and quasi-equity investments. These are complex instruments between equity and debt, which require advanced financial markets and are best suited to large companies and financial intermediaries. This report does not examine these instruments because of their complexity and because many of their key features are shared by some of the instruments examined in these pages.

Debt

The debt instrument DFIs use to provide finance through financial intermediaries is the credit line. It is basically a loan extended to financial intermediaries with the purpose of providing finance to sub-projects, thereby facilitating access to capital. DFIs use credit lines because they do not usually have a strong presence in developing countries and without branches it is difficult to reach SMEs and companies in specific regions. In addition, there are important language, currency and economic barriers that make direct loans from DFIs only suitable for financing large companies. For instance, the average size of a loan operation for the IFC is USD 21.7 million (€15.6 million) Out of a total of 189 loans analysed in their portfolio, only 2 were for an amount under USD 1 million (€0.72 million).

Credits lines represent 25% of the EIB's portfolio (€9.2 billion). Of these credit lines only twelve projects with an aggregated value of €560 million are related to climate. Figures for other DFIs are difficult to estimate because information is not adequately disaggregated. Despite this, examples such as the Global Climate Partnership Fund (GCPF), set up in December 2009 and managed by KFW (grant component €22.5 million) indicate that it is likely to see growth in this area.[41]

Risk-related finance

Risk is a decisive factor when it comes to investment decisions. Using tools that address the risk exposure of investors can therefore be an effective way of triggering additional investments and leveraging money. It is possible to identify three main types of risk-related instruments.

When the intermediary is a financial institution that acts as a lender, for instance a bank, we generally talk of loan guarantees. A loan guarantee is a commitment by a public institution to repay the loan provided by the financial intermediary -the lender- to a third party –the borrower- if the latter cannot meet the payments. Effectively, this instrument transfers risks from the private lender to the loan guarantor. It is commonly used to encourage loans that a private lender would not usually provide due to their risk profile. DFIs do not use loan guarantees to support financial intermediaries very often. This instrument only represents 2% of the joint portfolio of EDFI (€380 million). The figure is 1% in the case of the IFC (€70 million) and under 1% for the EIB (€80 million).[42]

A second option is export credit guarantees. They are intended to support foreign investment by underwriting loans for projects, mainly large ones, conducted in foreign countries by providing insurance against non-payment (default). Guarantees are mainly provided by export credit agencies in donor countries whose remit is to help donor economies by promoting the investments of domestic companies in other countries. Financial intermediaries can be targeted directly or be used to target SMEs that are not large enough to directly apply to the export credit agency. According to the Berne Union, USD 1.36 trillion (€0.98 trillion) in export credit guarantees were issued in 2010.[43] The amount going through financial intermediaries is not very clear and only some ECAs disclose a breakdown of their operations by sector, but the information available suggest that the figure could be somewhere in the range of 10%-20%. For instance, the financial sector represents 43% of the portfolio the World Bank's Multilateral Investment Guarantee Agency (MIGA) and 89% of the guarantees approved in 2011.[44] Figures are lower in the case of bilateral ECAs. The financial sector accounted for 13% of Korea's Eximbank total invested amount in 2010 and 18% of

41 IEG (2006) World Bank lending for lines of credit: an IEG evaluation. World Bank, Washington DC

42 The EIB's figure could be slightly higher as information is lacking on the exact nature of some projects.

43 Data obtained from the Berne Union. See: http://www.berneunion.org.uk/bu-total-data. html

44 IEG (2011) MIGA's Financial Sector. Guarantees in a Strategic Context. Independent Evaluation group, Washington DC

CDC's portfolio exposure in 2010.[45]

A third option public investors can use to reduce risk are public insurance schemes that work as financial intermediaries. Most relevant initiatives focus on sectors that are particularly vulnerable to climate change such as agriculture and are based on the parametric insurance model. Parametric insurance offers a payout, which is determined upfront and is conditional on an exogenous variable reaching a pre-set threshold, for instance rain not reaching the yearly average. In some cases, such as the IFC's Global Index Insurance Facility (GIIF), the insurance can be linked to loans, for instance for high-yield seeds. In this case the insurance also reduces the risks for the lender and increases the farmer's access to loans. Parametric insurance simplifies risk evaluation and administrative costs, making it easier to deploy in developing countries and, in cases such as the GIIF, can also help to leverage additional finance.

Parametric insurance is relatively new. Pilot projects only started in the early 2000s. In the last few years they have expanded, but total funding remains low. The GIIF, for instance, has a total funding of just under €27 million.[46] In total, there are about 20 parametric insurance programmes of this type in developing countries.[47]

45 See Korea Eximbank's online database availabe at: http://www.koreaexim.go.kr/en/ fdi/stat_01.jsp; and CDC (2011) CDC Group plc Annual Report and Accounts 2010. CDC group

46 IFC Factsheet. Global Index Insurance Facility (GIIF). Protecting livelihoods in Africa. Available online at: http://www.ifc.org/ifcext/ gfm.nsf/AttachmentsByTitle/Insurance- GIIF-Factsheet2011/$FILE/Insurance-GIIF- Factsheet2011.pdf

47 Cummins, J.D. & Mahul, O. (2009) *Catastrophe Risk Financing in Developing Countries. Principles for Public Intervention*. World Bank, Washington DC

Section 4.
Carbon Markets and other Financial Instruments

Public Private Partnerships and the Global Auction of Public Assets

Dexter Whitfield

What are Public Private Partnerships?

Public Private Partnership (PPP) is a generic term used to describe privately financed projects and partnerships to design, build, finance and operate facilities.

It is important to understand the key structural elements of PPPs and not be taken in by the 'partnership' hype. These include:

Special Purpose Companies: A new company is established for each project by the consortia, usually the construction company, bank or major investor and the facilities management company. PPPs were usually 90 per cent debt (with a 10 per cent equity ratio) although the economic crisis led to equity accounting for a higher proportion of the company's financial structure.

Secondary market: PPPs can be refinanced once construction is completed and the project is operational. At this stage the major risks associated with construction have been eliminated and loans can be often be refinanced at lower interest rates. A secondary market has developed in Britain, and is emerging in other countries such as Canada and Australia, with new investment companies/funds acquiring equity stakes in a large number of PPP project companies.

Securitisation: A form of financial engineering in which financial institutions seek to spread the risk of investments by transferring them to other financial institutions, and/or spread share ownership across a number of different investment funds.

Complexity: PPPs create financial, organisation and legal complexity, which leads to specialisation and wider use of management consultants and lawyers. Client and bidders in every PPP project have their own consultants and legal teams, thus creating a new market, a vested interest in expansion of the PPP model, and little interest in knowledge transfer to the public sector.

Off-balance sheet financing: About half of Private Finance Initiative (PFI) investment in Britain to date has been off-balance sheet, which means that the debt arising from what is in effect capital expenditure does not appear as public debt despite it being entirely financed by the public sector. PFI is financed from public sector revenue accounts through a monthly charge consisting of the lease or use of the facilities (reflecting the construction and finance costs over 25-40 years) and the facilities management services such as cleaning, catering and so on. PPP strategic partnerships, such as ICT and back office projects in local government, are also financed from revenue budgets.

Commercial confidentiality and lack of accountability: Both the procurement process and the operation of PPP projects is dominated by secrecy. 'Commercial confidentiality' is used extensively by the public and private sectors to prevent the disclosure of options appraisals, business cases, contracts and project performance. This is compounded by the secondary market because it imposes another corporate layer with minimal accountability and transparency. Construction and financial companies may issue a press release or statement when they sell equity in a PPP project company, but most are not required to do so.

Outsourcing: The full range of facilities management services are rarely delivered by one contractor. Instead, waste disposal, catering, transport, grounds maintenance are usually outsourced to subcontractors. The wider the range of services included in the scope of the contract the larger the scale of outsourcing. PPP strategic partnerships often have a secondary contractor and may also subcontract specific transformation processes or services.

Marketisation with deregulation and minimal oversight: The deregulation of financial, labour and other regulatory frameworks has been accompanied by minimal oversight with lax inspection and monitoring regimes. Contractors have been encouraged to 'self-monitor' using less than rigorous 'key performance indicators'.

Why PPPs?

PPPs are a product of neoliberal economic policy and public sector reform. Financialisation, commodification and marketisation are creating a global wealth machine to further exploit public needs and resources. Transnational construction, energy and service companies, banks, management consultants and law firms, aided and abetted by governments, are turning schools, hospitals, prisons and roads into commodities which are bought and sold globally.

As PPPs and privatisation proliferate, more new infrastructure investment funds are set up, increasingly with the collusion of pension funds, to trade in this new 'asset class'. This is not an economic or social crusade to get 'additional investment', but has the objective of full privatisation of the public infrastructure and services, and consolidating

the corporate empires to facilitate this process. PPPs are not just about buildings, they are increasingly focused on the 'whole service' concept.

PPPs, or variations of the design, build, finance and operate model, initially allow governments to improve and expand the public infrastructure to a greater extent than the resources available from a low tax/balanced budget regime permits. However, this is short-lived and is flawed as a long-term strategy.

Firstly, a low taxation/low public spending regime does not provide sufficient resources to properly maintain the existing infrastructure and to build new facilities and networks required by economic growth and population increases. This results in governments switching to increase financial resources through indirect taxation by imposing charges, tolls and market tariffs on service users. But this has fundamental economic, equity, social justice and public interest problems. In other words, PPPs mask the fact that it is impossible to have a low taxation/low public spending model of government and provide comprehensive good quality public infrastructure to meet the economic and social needs of modern society.

Secondly, PPPs manipulate public sector financial and accountancy rules to conceal public debt and the ownership of public assets. Off-balance sheet projects are structured on a 'build now, pay later' basis, and are in practice no different from the credit card consumerism boom that contributed to the global financial crisis. Project debt is securitised similar to mortgages. Furthermore, PPPs create the illusion of infrastructure being privately financed when, in fact, it is ultimately entirely financed by taxpayers and/or service users. Public debt is transferred to contract obligations under long-term leases, which require government to repay the private sector via a stream of revenue payments and/or future generations of service users are saddled with ever-increasing tolls and charges. Narrowly defined public sector comparators and value-for-money appraisal ensure that democratic accountability, economic development, sustainability, social justice and other public interest matters are marginal to the financial assessment of risk and 'whole life' costs.

Thirdly, the construction industry, financial institutions and consultants gain by having a larger workload than would otherwise be the case under a low taxation/low public expenditure regime. Having diversified into facilities management, construction subsidiaries frequently gain long-term operating and maintenance contracts. PPPs, in effect, commodify and privatise future efficiency gains so that they primarily benefit the private sector consortia rather than the public sector. There is nothing innovative about this, it is simply identifying the potential long-term gains in a 25-30 year contract and capturing them for private value.

Banks, private equity and infrastructure funds gain new opportunities for investment and accumulation, supported by government-backed security, designed to maximise their profits and minimise risk. The full extent of government guarantees, subsidies and

tax concessions are rarely disclosed. Private architects, lawyers, engineers and management consultants gain new commissions, and advisers benefit in direct proportion to the increasing financial and legal complexity of PPPs.

Fourthly, PPPs transfer some risks to the private sector but at a price. Contractors and financial institutions charge a premium for taking on risks, which, in other circumstances, they would be responsible for, but would have other methods of avoiding, mitigating or eliminating. PPPs place certain responsibility for construction and operational risks on contractors, who, on payment of the risk premium, can now build on time and within budget!

Fifthly, work and jobs are reorganised to maximise productivity. Public sector workers are made redundant, transferred or seconded to a private contractor with more extensive use of cheaper migrant labour on construction sites, with poor work conditions.

Finally, the refinancing of projects and sale of equity has resulted in the growth of a secondary market, in which schools and hospitals are sold like commodities to infrastructure and private equity funds and companies. They manage ever larger bundles of assets to extract further profit.

In 2001, I concluded in *Public Services or Corporate Welfare* that the PPP model is '… a new development paradigm and raises key questions of who will own and control cities/regions in the future. It is rooted in capital accumulation, marketisation of the state, private land and property ownership and corporate governance in the developmental, regeneration and urbanisation processes' . This prediction, unfortunately, remains relevant today as PPPs emerge beyond the global financial crisis.

The World Bank, global management consultancies and lawyers glowingly report the 'successful' implementation of PPPs and privatisation. There are project finance handbooks and journals for both PPPs and the project finance industry. The PPP and privatisation 'industry' has a strong propensity to focus on individual projects, the PPP process, deal flow, procurement, legislation and project finance. This effectively limits, either by design or default, debate and analysis of broader public policy issues and the longer-term implications.

The provision of public infrastructure and the role of public investment, PPPs and privatisation raise many profound financial, technical and legal issues, but public policy cannot be limited to technical debates within the PPP industry. Decisions on infrastructure investment must be part of a wider democratic and participatory decision-making process.

The implications of the continued growth and spread of PPPs and privatisation are far-reaching for democratic governance, social justice, jobs and the quality of public services. Despite the introspection and gloss of the PPP lobby, it is evident that the PPP

model is fundamentally flawed, as evidenced by the abandoned and terminated projects and the contrived assessment of 'value for money'.

Alternatives to PPPs

The alternative to PPPs is publicly provided and operated infrastructure. Progressive public management for the 21st century requires in-house delivery, capacity building, the democratisation and consolidation of public bodies and agencies; a genuine holistic and integrative approach to economic, social, health, environmental and sustainable development policies.

A new public infrastructure contract is urgently needed which maintains a separation of the design, finance and construction responsibilities. A new model, Construction Management At-Risk (CMR), has been successfully tested in the US in which the client selects the construction manager, based on qualifications, before the design stage is completed. The architect and construction manager work together in the final stage of the design process following which the contractor gives the client a guaranteed maximum price and coordinates all the subcontracted work. This approach strengthens coordination, enhances transparency, delivers efficiencies and minimises delays. This approach should create a new evidence base of public sector contract performance and help to nullify the use of old data that has been peddled globally by the PPP lobby, World Bank, IMF and development banks.

Demands for increased investment and fiscal stimulus measures must include demands for public investment in publicly owned and operated projects – policies which duck the public-private policy divide only provide more scope for the asset monetization/PPP industry. A publicly controlled infrastructure bank to invest public money will be beneficial but not one modelled on the European Investment Bank, which has financed and expanded the PPP model. Rapid deficit reduction policies should be opposed because they are primarily motivated by vested interests to create the conditions that promote more PPP/asset monetisation projects.

At a global level, reforms should include a Financial Transaction Tax, firewalls between investment and commercial banking, a ban on the use of tax havens, controls on private equity and hedge funds and the prohibition of off-balance sheet financing. This new regulatory framework must be accompanied by policy changes such as stopping the financialisation of pensions and other services and both EU and WTO public sector marketisation policies.

A new evaluation framework is also needed, with every project assessed against a governance and accountability template. The planning and procurement process must be democratised with community and trade union participation and full transparency.

Finally, these policy changes would have to be accompanied by strategies to reduce or eliminate the deal flow of new PFI/PPP and privatisation/asset monetisation projects.

New controls would have to be imposed on existing PFI/PPP projects to radically improve democratic accountability and transparency. I set out a 10-point plan in *Global Auction of Public Assets*.[48]

48 Whitfield, D. (2010) *Global Auction of Public Assets*, Spokesman Books, http://www.spokesmanbooks.com/acatalog/Dexter_Whitfield.html

Designed to fail? The concepts, practices and controversies behind carbon trading

FERN

Carbon trading has become the central pillar of international efforts to halt climate change. It is a term that most people will recognise, but far fewer will have a good understanding of what it means and how it is supposed to work. Fewer still will feel confident to judge whether it is a success or not.

Carbon trading – the model

Put simply, carbon trading is the process of buying and selling permissions to pollute. In current schemes, these permissions take two forms: permits and credits. We will address each of these in turn.

The model used in all current carbon trading schemes is called 'cap and trade'. In a 'cap and trade' scheme, a government or intergovernmental body sets an overall legal limit on emissions (the cap) over a specific period of time, and grants a fixed number of permits to those releasing the emissions. A polluter must hold enough permits to cover the emissions it releases.

Each permit in the existing carbon trading schemes is considered equivalent to one tonne of carbon dioxide equivalent (CO_2e). In the theoretical model, (but rarely in practice) permits are to be sold – usually by auction – so that from the outset, polluters are forced to put a price on their emissions, and are incentivised to reduce to a bare minimum the permits they seek.

If one polluter does not use all its permits, it can trade them with another that has already used up all its permits and needs more to continue emitting beyond its legal limit. The theory holds that polluters are punished because they have to pay for more permits, and those who invest in more efficient energy consumption are rewarded financially, because they can sell their spare permits. The economy at large benefits because the energy savings are not made industry-by-industry, but where they cost least. The environment benefits because the overall level of emissions is reduced.

In any discussion of carbon trading, it is important to remember that it is only the cap that leads to emission reductions. The trading and associated offsetting only exist to make compliance with the cap less costly (often only in the short-term) for those participating.

The two key carbon trading schemes in operation to date are the Kyoto Protocol and the European Union Emission Trading Scheme (EU ETS). The Kyoto Protocol sets

emission caps for each of the industrialised countries, covering six greenhouse gases, but did not set limits for developing countries with the argument that the main responsibility for initial reductions lies with the historically large polluters – the industrialised countries. Under the EU ETS, each EU Member State passes on a portion of the permits granted under the Kyoto Protocol to its major polluting industries. Other, smaller regional trading schemes are in existence, or proposed.

Setting the Cap
Under the Kyoto Protocol, a cap was set at 95 per cent of industrialised countries' 1990 carbon emission levels. There was intense lobbying by countries to maximise their allowances and some countries received allowances greater than their actual use, because historically their emissions had been higher, or because they argued they were less industrialised than others or that capping their industries at current levels gave them an unfair disadvantage.

Pricing the permits
'Cap and trade' theory usually assumes that permits will be auctioned: that industries will bid for the permission to pollute, and that the price of each tonne of CO2e will therefore be set by demand. However, in practice, all existing 'cap and trade' schemes have initially distributed permits free of charge, on a company-by-company (or, in the case of the Kyoto Protocol, country-by-country) basis, based on what they claim to be their existing levels of pollution. This policy is known as grandfathering.

Monitoring and enforcement
Once a cap is set and permits have been allocated, emissions must be measured to ensure the cap is being complied with. Financial and other penalties exist for enterprises or countries that exceed their limits.

Emissions can be measured directly (as they are released), or measured by proxy (using conversion factors rather than direct measurement). While technology exists for direct measurement of some greenhouse gases, it is considered too expensive for widespread application, and so all current carbon trading schemes rely on measuring CO2 emissions by proxy. In the case of calculation by proxy, only approximations are produced, with errors far greater than with direct measurement.

What are offset credits?

Every current and planned carbon 'cap and trade' scheme involves offset credits in one form or another. Credits are a supplementary source of permissions to pollute that can be bought in from countries or industries outside the cap, usually in the developing world. Their purchase allows the emitter to exceed the emissions cap by paying someone else somewhere else to reduce their emissions instead. It is important to remember: offsets do not reduce emissions, they merely replace them.

Offsetting is based on the assumption that it does not matter how or where emissions are

reduced. Emissions can be reduced where costs are cheapest – generally the global South – while allowing emissions to continue in the capped country – generally the industrialised North – with least disruption to existing methods of production and at the lowest costs to those covered by the cap.

In short, companies and governments pay someone else to try to make reductions, somewhere else, because it's cheaper (financially and / or politically) in the short-term than doing it themselves.

Advocates of the offset system point to the many world- wide carbon-reduction projects that are funded by the system; the savings to industry (and thus consumers and society at large); the flow of money from North to South; the export of new technologies to developing economies; and how innovation in low carbon technologies has been incentivised. FERN believes that these claimed benefits very rarely exist in reality, and are heavily outweighed by the significant, systemic failure of offsetting to reduce emissions at all, which we discuss in the last section of this paper.

The size of the offset credit markets

The offset credit market is split between the compliance market – serving end-users who have to comply with 'cap and trade' regulations, and the voluntary market, serving end users who have voluntarily chosen, for ethical or public relations reasons, to seek to offset their carbon footprint. The compliance market is subdivided into the Clean Development Mechanism (CDM), where projects take place in the developing world (in countries that don't have a cap under the Kyoto Protocol), and the Joint Implementation (JI) market, which covers projects in the developed world (in countries that do have a cap under the Kyoto Protocol).

The offset credit approval process

Before a carbon offset project can sell its credits, it has to pass through a series of stages to establish how many offset credits it has earned. In the CDM market (the largest offset credit market) the process works like this:

• The owner of the project produces a Project Design Document (PDD) to show how emissions will be reduced, and by how much. PDDs are highly technical documents and are usually sub-contracted to specialist project design consultants. The PDD includes a hypothetical baseline (how many emissions would have occurred if this project didn't go ahead) and calculates the supposed carbon savings by comparing the hypothetical baseline emissions with the predicted emissions from the completed project;
• Once the PDD is submitted, it goes through a complex and lengthy process of consultation, validation, approval, registration and verification involving several consultan- cies and auditing firms, before the credits are awarded;
• The project sells these offset credits into the carbon market. In practice, the credits are often sold at a reduced price long in advance of project approval. The reduction in price reflects the risk that some or all of the project's credits may not be awarded.

Similar processes are in place for projects in the JI and voluntary offset markets, though the voluntary market has less extensive processes and is widely regarded as less than transparent and has acquired the reputation of being the playground for 'carbon cowboys'.

Many people still think of carbon trading as a simple process whereby offset providers with credits to sell, or companies with too many/few permits, trade with each other directly. However, the carbon market has deepened or matured (to use the language of traders) significantly over the years, adding a wide variety of buyers and sellers to the original market participants and introducing a broad range of increasingly complex financial products. The size of the carbon market is, to a large extent, now determined by the amount of trading (both for hedging and specula- tion) in these complex financial products, rather than by the simple transactions described above. Financial speculation – rather than the need to comply with emissions targets – has become the underlying driving force of the carbon market.

Why carbon trading does not work and cannot be made to work

Carbon trading has not had a smooth ride in its first decade. It has suffered from volatile carbon prices; systematic fraud; unreliable and unverifiable reporting and monitoring; profiteering; and most importantly, global greenhouse gas emissions have continued to rise.

Many carbon trading proponents argue that initial problems should be expected as the systems are complex and take in different greenhouse gases emitted from countless sources across a large number of different sectors of the economy. However, an increasing number of climate scientists and economists believe these are not hiccups that will be overcome in time, but fundamental flaws that make carbon trading not fit for purpose. It is FERN's contention that carbon trading will not and cannot provide the systemic changes required to avert runaway climate change. The mechanism by which the cap was set is fatally flawed, the cap has been punctured by the introduction of carbon offsets, while the trading element is at best an irrelevance to climate change, at worst an impediment to restructuring energy infrastructure, and even an excuse for increased emissions. The only clear benefits have been to polluting industries and profiteering carbon traders .

The cap is the wrong size

The cap is the only part of 'cap and trade' that actually reduces carbon emissions, so if it is not ambitious enough, runaway global climate change will not be averted. The logical starting point for setting the cap would therefore be to establish the rise in global temperature that can be tolerated without catastrophic results and the CO2e in the atmosphere that would limit temperature rises to that level. Annual permissible emission levels would then be set at a level that would achieve that target and inter-

national negotiations would haggle over the distribution of these remaining permissible emissions permits. For political reasons however, the cap was set by identifying what was already being emitted in the countries that had contributed most to the problem, then allocating permits to these historically highest emitters for 95 per cent of that total. In other words, the setting of the cap was not connected to the primary objective, and was therefore too high.

The cap is leaky 1
As the cap does not cover all countries or industries, it is very simple to move rather than reduce emissions. Countries from the global North can give the false impres- sion that they have reduced emissions by continuing to consume as much or more than before but moving produc- tion to a country outside of the cap area, or importing additional offset credits from countries outside the cap.

The cap is leaky 2
In the vast majority of cases, emission monitoring is inadequate and untrustworthy. Real-time monitoring of emissions is costly and for many sources of greenhouse gases, no such technology yet exists. Almost all carbon emissions are calculated by proxy – meaning that margins of error dwarf the modest changes sought by the current cap. It is estimated that error rates are between 10 to 30 per cent and the high proportion of self-reporting, and low levels of independent verification, exacerbate this risk.

The cap is leaky 3
In addition to the systemic flaw that offsetting is not designed to reduce emissions, offset credits are based on the inherently unreliable notion of additionality. Additionality is the supposed net reduction/prevention of emissions delivered by the project, but additionality is never reliably calculated and can never be verified as it involves calculations based on a hypothetical volume of emissions. Carbon trading has rewarded polluters and penalised non-polluters. Polluters have benefited ever since carbon trading theory was first put into practice, beginning with the initial distribution of permits. If a country or industry was a heavy emitter before 1990, it was rewarded with free tradable carbon permits. Industries measured their own emissions and lobbied hard for the highest possible level of allow- ances. Over-allocation and business-as-usual practices were the inevitable result.

The market cannot find the right price for carbon
The primary goal of carbon trading theory was to attach a cost to pollution and so use market forces to discourage industry from polluting. In reality, the market has consist-ently failed to find the ‘right’ price for carbon.

To date the price of carbon has never been high enough to force the necessary carbon reduction measures,10 but even if it did, in the third phase of the EU ETS for example, ‘price triggers’ are in place to curb such market forces. If demand for permits were ever high enough to make prices spike, EU Member States have agreed to meet to find ways

of bringing the price of carbon down again. So, there are structural checks in place to ensure supply and demand will not be allowed to price polluters out of the market.

Offset credits do little to help development in poor nations

One defence of the offset credit market is that through the CDM it channels funds and new technologies to the global South, allowing them to leap-frog into low-carbon industries. The reality is that a large percentage of energy projects that sell CDM offset credits would have existed regardless of the CDM, in particular wind and hydro projects. CDM projects tend to supplement, not supplant, old energy technologies. Indeed, in some cases such as a different type of coal power generation, known as super- critical coal technology, they even finance them. What is more, the projects that can make the maximum credits are most likely to get funded so that, for example, clean coal is promoted above solar power.

Offsetting does not recognise that not all carbon is equal

There is increasing interest in using forestry projects to offset the carbon dioxide produced by fossil fuels. At first glance, this seems logical: if trees absorb carbon dioxide, then we might plant (or protect) trees to absorb the emissions of industry. This does not however take into account that, for the climate, there is a huge difference between a tonne of CO2 remaining in the ground as oil or coal, or being trapped in growing trees. The release of each tonne of fossil CO2 permanently increases the overall burden of CO2 circulating among oceans, air, soil, rock and vegetation. Once it is released it will not move back into the fossil carbon pool for millennia. Carbon trapped in trees will remain there for, in climate terms, only a few short years – at most a few centuries. A CO2 molecule from a coal-fired power plant may be chemically the same as a CO2 molecule from a burning forest, but it is not climatically the same.

Trading carbon

Oscar Reyes

Once carbon permits are allocated and credits are issued, how are they actually traded? And what impact does this trading have? This chapter examines the increasingly complex carbon trading infrastructure, identifying this as a key 'governance' challenge. By concentrating power in the hands of a small number of financial sector actors and financialised utilities, the carbon market subordinates investment decisions on clean development to strategies that remain based on fossil fuel extraction and trading.

The carbon market has both a 'primary' and a 'secondary' market. Primary refers to the first time that a permit or credit is sold. Most primary credits (pCERs), for example, are sold in advance of actually being issued. This is called 'forward selling,' and typically involves the project developer signing an Emissions Reduction Purchase Agreement with a company, government or development bank. The first sale of the CERs can typically involve a contract that agrees a fixed price for a specified number of credits, which are expected to be delivered by a certain date. For the seller, the advantage is that up-front capital is made available, rather than the seller having to wait until after the project is up and running to gain the carbon revenues.

This type of arrangement has increasingly become a losing proposition for buyers, however. As carbon prices have declined, buyers are finding themselves locked into purchasing offsets at a rate way above their value in the current market. In response, many buyers are now seeking to renegotiate or dump these contracts by whatever means possible. This practice has been enabled by the fact that, outside of HFC or N2O projects, most CDM projects have delivered fewer credits than initially specified, or have found that credit issuance is slower than initially expected – providing legal means for buyers to break contracts and find credits at a cheaper rate elsewhere, or renegotiate fixed-price into floating-price contracts.[49]

Where this is not possible, the buyers have resorted to other means. The World Bank reports that

> Some large buyers also reportedly used their size and contractual position to impose ERPA renegotiations. Having hired the Designated Operational Entity (DOE) themselves, these buyers threatened to delay verification or cancel the DOE contract. Alternatively, by being the sole CDM focal point in certain projects, they renegotiated contracts based on the fact that the project's CERs would only be transferred upon their sole request, thus leaving sellers with no

49 Kossoy, A. and P. Guigon (2012), *State and Trends of the Carbon Market 2012,* World Bank, Washington DC. http://go.worldbank.org/FVAX4G7AQ0, p.51

> choice other than to accept new contractual terms.[50]

New contracts are being negotiated with increasingly flexible terms, meanwhile. The majority of pCERs are now sold as 'options,' meaning that the buyer purchases the option to buy the credit at an agreed price at a later date. This transfers risk from the buyer to the seller, making it even less likely that any investor would take a chance on a CDM project if it were not merely subsidising existing activities.[51]

At the same time, there have been significant changes in who is trading carbon since the start of the scheme. The CDM market was pioneered by the World Bank and government purchasers, with few private investors taking an interest until after Russia ratified the Kyoto Protocol in 2004, which brought that agreement into force.[52] The first private sector involvement came from boutique carbon specialists, such as EcoSecurities, which had advised governments on how to set up Designated National Authorities (DNAs) in the first place. Their main interest was in developing projects, in order to then resell the resulting credits to other financial speculators and to EU-based companies.

After the primary carbon market peaked in 2007, however, many of the initial speculators were over-exposed to projects that had not delivered credits, or holdings of credits whose value had declined as the financial crisis kicked in. This led to a wave of mergers and restructuring, which included investment banks taking a greater stake. For example, EcoSecurities (the largest project developer and one of the world's largest buyers of CERs) was taken over by JP Morgan in 2009: while the project developer OneCarbon was acquired by Orbeo, a joint venture between Société Générale and the chemical giant, Rhodia, in the same year.[53]

With these new investors came new carbon credit purchasing strategies, as Alberola and Stephan point out:

> Since 2008, some investors have preferred to purchase carbon credit portfolios, containing a complete range of already purchased credits, rather than finance new CDM/JI projects, a process that can take up to three years until delivery.[54]

These portfolios are arranged in a growing number of carbon funds – private, public and a mix of the two.[55] The private sector share of the carbon market continues to grow, however, alongside a shift in investment patterns. Governments seeking offsets to meet their Kyoto targets and companies looking for compliance with the ETS have mostly

50 Ibid. p.54
51 Ibid. p.49
52 Alberola, E. and N. Stephan (2012), *Carbon Funds in 2010: Investment in Kyoto Credits and Emissions Reductions,* CDC Climat, Paris, p.9
53 Ibid. p.9
54 Ibid. p.9
55 Ibid. p.14

contracted sufficient credits for these purposes, while the majority of trades now relate to hedging or the pursuit of speculative gain.[56] A broader range of investment strategies has developed too, with a growth in direct equity stakes taken in the companies ('special purpose vehicles') that are often set up as the legal entity managing projects.

CER/EUA swaps are also becoming increasingly common. Under such deals, companies agree to a future exchange of EUAs (the ETS permits) and lower-priced secondary CERs (CDM credits). The assumption such deals is that since these products are functionally the same for compliance with ETS targets, there is profit to be made from speculating on the difference between the traded prices of the two commodities.[57]

In the EU market, trading has also become more concentrated in the hands of a small number of large financial firms and energy companies, which 'rapidly expanded their market positions and influence' in 2011, amidst a fire-sale of carbon assets as prices collapsed.[58]

The larger energy companies have developed their own trading divisions to hedge and speculate on EUAs and CERs. This reflects the broader financialisation of the energy sector, in which the leading companies derive an increasing proportion of their profits from financial speculation on the relative price of fossil fuel commodities.[59] The introduction of carbon into this mix helps energy companies to hedge the risks these companies take when purchasing energy futures, although it does nothing to stimulate a shift towards renewables.

Such strategies are part of a broader trend towards more complex carbon market trading strategies. Whereas the theory of carbon trading presents a system of exchanges between two polluters to optimise the costs of meeting emissions reduction targets, in practice the majority of the market in operates in the following way. Speculators seek to profit from 'arbitrage' opportunities (analysing and betting on price differentials), as well as on the basis of statistical algorithms and models forecasting how carbon relates to the relative cost of coal and gas; oil, gas, coal, power and weather derivatives; currency trading; and meta-analyses of analysts' own expectations.[60] Most of what is traded is permits and credits, or the option to buy these at a specified point in the future, which does not yet exist.[61]

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56 Alberola and Stephan, Op. Cit. p.15

57 Eurex (2008), *Trading Strategies in CO2 Products,* Eurex, Frankfurt. http://www.eurexchange.com/download/documents/publications/Trading_Strategies_in_CO2_Products.pdf, p.4

58 Kossoy and Guigon, Op. Cit., p.34

59 Kossoy and Guigon, Op. Cit., p.38

60 Kossoy and Guigon, Op. Cit. p.34; Karmali, A. (2008), 'Will Carbon Allowance Auctions Crowd Out Free Allocations?', International Carbon Action Partnership, 2nd Global Carbon Market Forum, Washington DC. http://icapcarbonaction.com/index.php?option=com_phocadownload&view=category&id=8&download=51&Itemid=26, p.4

61 Kossoy and Guigon, Op. Cit. p.34

The development of ever more complex trading and speculative strategies is the true 'governance' challenge posed by the carbon market, which concentrates power in the hands of a few large financial and energy corporations. It is consistent with the broader 'giant bow-tie structure' of interwoven financialised interests, where most capital flows through a tightly-knit core of institutions that straddle the financial sector as well as companies operating in the 'real economy,' such as power producers, which also make investment decisions based on complex hedging strategies and speculative gaming.[62]

The carbon market produces knowledge (and ignorance) that reinforces this financialised power structure.[63] By abstracting 'carbon' as a tradable commodity, it frames climate change as a problem of cost adjustments that can be managed by a market that is assumed to allocate goods efficiently, rather than as a historically embedded problem of the dominant fossil fuel-based development model. As this market has grown, it has established a whole new infrastructure and market for financial derivatives products based on validating, verifying, accounting, risk-assessment, future-modelling and commodity hedging that shifts the frame of decision-making about whether and where emissions reductions take place into the hands of analysts whose interests are profit maximisation, not environmental protection or social well-being.

62 Vitali, S., J.B. Glattfelder, and S. Battiston (2011), The Network of Global Corporate Control, ETH, Zurich. http://arxiv.org/PS_cache/arxiv/pdf/1107/1107.5728v2.pdf

63 Lohmann, L. (2008), 'Carbon Trading, Climate Justice and the Production of Ignorance: Ten Examples.' *Development* 51 (3): 359–365. doi:10.1057/dev.2008.27.

Five Hidden Challenges to Ecosystem Markets

Morgan Robertson

The move to market-led environmental policy is obviously not occurring without opposition. Old-guard environmentalists long for the security of command-and-control state policies, while old-guard anti-environmentalists long for the abolishment of the environmental bureaucracy and, to be blunt, the freedom to pillage.

But there are other important sources of dissent. As a member of the team developing the federal wetlands compensation rule that governs the US market for wetlands credits, I came to have a great deal of appreciation for the way that such a market-led policy can advance state resource management goals. As a botanist working for an environmental consulting firm developing wetland banks, I came to have a deep appreciation for the higher ecological quality that can result from such arrangements.

But I have become extremely wary of attempts to gloss over the vast difference in logic that drives economic reasoning and scientific reasoning. And these attempts also ignore or silence a coherent set of related criticisms of market environmentalism emerging from the anti-globalization movement, the domestic environmental justice movement, and other important forces in environmental politics and policy.

In short, ecosystem service market enthusiasts make five assumptions that are likely to cause unwanted conflict with potential allies in science and civil society. Below I outline these oppositional arguments, collected across a range of viewpoints. But before I do so, let me be clear that all parties seem united on a basic goal: improved environmental quality and social distributional equity. This is the common ethical soul of philosophies as disparate as eco-Marxism, the environmental justice movement, and the "triple bottom line" of environmental economics.

Neoliberalism and “TINA”

The turn toward market-led solutions in all sectors of life, from health care to education to international relations to environmental policy, has been termed "neoliberalism" in most academic circles (from the "new" political application, beginning with the Reagan Administration in the 1980s, of the ideas of the classical "liberal" economists such as Jean-Baptiste Say and Adam Smith). In the realm of international development and conservation, neoliberal arguments tend to promote privatization and characterize state management as inefficient and ineffective.

In 1984, Margaret Thatcher famously announced that "there is no alternative" to moving from state-directed towards free-market policies. This phrase has been shortened to the acronym "TINA" and is used to refer to any rhetorical strategy which closes off

criticism of market-led policy proposals.

The debate over ecosystem service markets has had its share of "TINA" moments, most notably in the 1997 declaration by Robert Costanza that "although ecosystem valuation is certainly difficult and fraught with uncertainties, one choice we do not have is whether or not to do it." And so, for better or for worse, ecosystem service market advocates have ended up on the opposite side of the fence from the wide and diverse anti-globalization movement, from international labor solidarity, from Southern nations suffering from World Bank-imposed structural adjustment, and a host of allied interests.

However, close observation of the reality of ecosystem service market policy initiatives reveal a clear distrust for wholesale privatization and a widespread understanding of the need for state regulation in the construction of markets. It remains a field of policy in which the ideology of free markets is generally at the service of state-defined goals, a situation which would surely trouble both Thatcher and the academic proponents of neoliberalism such as Milton Friedman.

Talking Past Each Other

It can be said that "we don't determine the speed of light in the Supreme Court." Likewise, one doesn't find the market-clearing price in the laboratory. In environmental policy, we have the intersection of three distinct logics: economics, law, and science. Each of them has a different standard of truth: science seeks to minimize error within the hypothetico-deductive method; economics seeks to maximize individual or aggregate a utility; and in law, as Justice Robert Jackson famously said in 1953, "(The Supreme Court is) not final because we are infallible, we are infallible because we are final."

Creating commodities out of ecosystem services, however, tends to subordinate law and science to the axioms of economic logic, and requires that ecosystem dynamics described by scientists be rendered in terms amenable to economics: price and utility. Economists are famously inflexible on this point, and frequently assert that all the world's manifold phenomena can be rendered in a form legible to economic logic. To non-economists, this is an intolerable form of reductionism (but, again, "there is no alternative").

One enjoyable (but failed) attempt to resist this reductionism can be found in a running debate between Eugene Odum and Leonard Shabman in the late 1970s. Odum proposed that the value of ecosystems could be more accurately measured in the amount of solar energy captured in them, and that price was a less accurate measure of value than joules. Shabman responded with economic axiom, insisting that value is measured in utility and expressed in price. Rather comically, neither could engage the other beyond insisting upon the other's fundamental wrongheadedness. Of course, both were correct.

As a consulting botanist, I do not object to economic logic; I object to its imperialist tendencies toward other logics. Ecologists should be wary of helping to develop cross-walks between ecological features and economic values unless they have a sufficiently deep understanding of the limits of economic logic.

There Is No Tragedy

The existence of Garrett Hardin's "Tragedy of the Commons" has been axiomatic in market environmentalism. Its wide acceptance in this policy realm poses a serious problem for academic anthropologists and geographers, for whom the "Tragedy" has been, if not disproven, at least severely qualified, for some time now (see the lifetime of respected work by Elinor Ostrom and Ester Boserup).

Hardin's thesis works only where there is an "open access" regime, meaning that there is *no* restriction on access to the resources in question. However, researchers studying the transition from subsistence to capitalist economies throughout history and in the modern developing world have found that "open access" regimes are only found where traditional economic patterns are in the process of being severely disrupted.

Hardin, therefore, is generally thought to have erected a strawman argument. In stable non-industrial societies, dense and complicated networks of rights to various aspects of commonly-held resources serve to limit their use to sustainable rates. Observers from societies where individual property rights are the norm are liable to mistake such "common property regimes" for "open access regimes". More cynical observers of neoliberalism note that the policies of global economic development serve to disrupt common property regimes, artificially creating the very situation predicted by Hardin, and providing an excuse – the *casus mercati*, so to speak – to intervene with market-led policies.

If Hardin's argument is so fragile, this removes one of the principal justifications for turning to markets in ecosystem commodities: that private ownership is the most secure path to good stewardship. Indeed, defining the environment as a set of alienable and individually-ownable goods and services has been shown to disrupt sustainable communal management strategies. Privatization strategies are therefore not encouraged in the 2005 Millennium Ecosystem Assessment report. But the operation of actually-existing policies does not always result in the private ownership of ecosystem services, and are often compatible with strategies of communal management and usufruct rights that predate industrial capitalism by centuries.

"Natural Capital"

Few rhetorical moves confound communication as much as the metaphorical use of "capital" in phrases such as "natural capital" and "social capital".

"Capital", when applied this way, threatens to mean nothing in attempting to signify everything: the great economist Robert Solow urged in 1992 that "It is absolutely vital

that ‘capital’ be interpreted in the broadest sense to include everything, tangible and intangible, in which the economy can invest or disinvest, including knowledge."

But it is capital’s *specificity* as "money or resources deployed in producing commodities for a market" that provides its analytic power. Suggesting that cultural beliefs or ecosystems can be analyzed in the same way amounts to a rhetorical dismissal of everything about culture and nature that cannot be reduced to an input to the production of a commodity fulfilling the utility function of the mythical *homo economicus*. And such rhetorical dismissals can be immensely powerful on the world stage, encouraging us all to assume that any value worth expressing can be expressed in price. This – it cannot be said enough – is a culturally-specific and axiomatic conceit of orthodox western economics.

Do not be surprised when enforcing this conceit engenders resentment: when nature or culture is defined as capital, this justifies attempts to exchange and circulate it through a global economy, away from the communities which may depend on its non-monetizable qualities.

What the users of these phrases are really trying to say is that culture and the environment are sources of value. Fair enough, but value should never be confused with either price or capital. To conflate these is sloppy thinking, whichever economic tradition one comes from. Costanza’s seminal paper employing the idea of natural capital states outright that the concept is a fiction whose total sum is incalculable. To be constructive, I would suggest that we use more meaningful and specific language: certain elements of nature, when properly quantified and described, may enter the economy as commercial goods/services, fixed capital or sources of rent – but this is only ever a subset of the entirety of nature. Trust an academic to sacrifice sexiness for precision.

How Much? How Many?

It is precisely this quantification and description that causes so many problems in the field. Every commodity must be subjected to standardized measures before sale: we buy gallons of gasoline, we buy pounds of bread, and we are assured by government standards that the gasoline has a certain octane rating and the bread is made of reasonably pure ingredients. Ecosystem service commodities, however, are described, at best, by proxy structural indicators of very complex ecological functions. While most people agree on the definition of "a pound," it is rare to find agreement on how best to measure "turtle habitat" or "water quality".

To become commodities, ecological functions must have standard and noncontroversial measures. They simply do not. It is both flattering and frustrating to ecologists when economists assume that ecologists can serve up whatever measurements are required. Ecological knowledge is vast but mutable and lacks consensus. As ecologist Paul Goldstein has said: "Only the imaginations of ecologists and the shortcomings of

language place a ceiling on the alleged number of ecosystem properties."

To enthusiasts, measurement is a problem to be overcome through applied science. To skeptics, the inability of science to provide rapid and noncontroversial commodity measures is a fundamental feature of the relationship between economics and science. Economic logic is powerful and widely-accepted, but just as it requires external legal rules to define and defend property, it requires external scientific validation to define and measure commodities. This science will inevitably move slower than the changing economics of demand. Measuring "turtle habitat" poses challenges of an entirely different order than measuring the weight of a loaf of bread.

To the aggravation of skeptics, statements that the measurement problems can be overcome are nearly always bald and unsupported assertions. They will be overcome, market advocates often say, simply because they *must* be – it is often framed as a trivial problem of sound science. Others are more circumspect, notably the diversity of views expressed in Kerry ten Kate et al.'s 2004 survey of biodiversity offsets. However, all assume ecological science will "catch up".

Perhaps, but even where the science is possible it is unwieldy: in 2005 Doug Bruggeman and his colleagues provided a particularly convoluted example of an attempt to define, with scientific rigor, the natural capital value of genetic diversity. With unimpeachably sound genetic science, the measure they develop is still expressed in a very lengthy multivariate equation, with a verification procedure involving gel electrophoresis.

Moving Beyond Economics

Although academics are generally good at criticizing and bad at recommending positive solutions, the abundance of positive solutions, even through the above debates, is exactly what encourages me about market-led policy. Economic thinking, for all its apparent power, cannot put boundaries on the inventiveness and collaborations which are now occurring under the rubric of "ecosystem service markets". As a witness to developments in water quality trading, it is apparent to me that nothing approaching "a market" in the strict economic sense will develop in the foreseeable future. However, a number of encouraging, extremely inventive, and satisfyingly effective strategies *are* emerging.

In some cases (but not all), the move towards ecosystem service markets has opened up an entirely new field of action for people who had previously been kept outside the normal decision-making process in environmental management. That modest level of democratization – often in spite of, rather than because of, the power of orthodox economic principles – is to be enthusiastically welcomed. Skeptics can share the above concerns, and yet find hope in the unpredictability of actual policy; some publish work that finds both progressive political possibilities and positive environmental outcomes

in the playing-out of market-based policies. It is clear that markets are not going away, but neither is their future to be predicted by mere economics. Their potential for surprise is enormous.

Further reading

We have found the following texts and websites useful in our work on climate finance. Inclusion in the following bibliography does not necessarily mean we endorse their positions. We have listed these sources because they either provide vital data, advance the debate in some way, or have proven so influential (despite their flaws) as to require reading regardless.

IPS and Heinrich Böll Foundation on Climate Finance

Climate Finance and Markets, www.climatemarkets.org

The Sustainable Energy and Economy Network is a project of the Institute for Policy Studies, a community of public scholars and organizers linking peace, justice, and the environment in the U.S. and globally. It works in partnership with citizens groups in the USA and globally, with a particular focus on energy, climate change, environmental justice, gender equity, and economic issues, particularly as these play out in North-South relations.

Climate Finance Page, Heinrich Böll (North America), http://www.boell.org/web/140.html

The Heinrich Böll Foundation is an international policy network and think tank part of the Green political movement that has developed worldwide as a response to the traditional politics of socialism, liberalism, and conservatism. Its main tenets are ecology and sustainability, democracy and human rights, self-determination and justice.

Climate Funds Update, www.climatefundsupdate.org

A joint initiative of the Heinrich Böll Stiftung and the Overseas Development Institute (ODI). This website profiles the growing number of international climate finance initiatives designed to help developing countries address the challenges of climate change. It includes data on bilateral and multilateral funds, as well as a series of useful briefings and reports.

General introductions to the finance sector

Levinson, P. (2009), *Guide to financial markets,* 5th edition, Economist Books

A reference guide to understanding financial markets, written by the former financial editor of *The Economist.*

Singh, K (2010), *Fixing Global Finance : A Developing Country Perspective on Global Financial Reforms*, http://www.madhyam.org.in/admin/tender/FGF2510.pdf

A critical introduction to the recent developments and problems afflicting the global financial system. From a developing country perspective, it enunciates guiding principles and offers concrete policy measures to create a more stable, equitable and sustainable global financial system.

Valdez, S. and Molyneux (2010), *An Introduction to Global Financial Markets*, 6th Edition, Palgrave Macmillan

An accessible, mainstream student text covering banking, bonds, stock markets and derivatives, amongst other topics. You won't find any dazzling critiques here, but it is well-written and avoids jargon.

Vander Stichele, M. (2005), Critical Issues in the Finance Industry, SOMO, http://somo.nl/publications-en/Publication_415

A critical analysis of the functioning and regulation of banks, insurance companies and other firms in the financial industry. Written before the 2008 financial crisis, it nevertheless offers insights into why that happened. SOMO can justly claim to have played a pioneering role in civil society monitoring of the private financial sector.

Official websites

Green Climate Fund, http://gcfund.net

The Green Climate Fund was set up to "make a significant and ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change." Established under the auspices of the United Nations Framework Convention of Climate Change (UNFCCC), the fund is expected to become operational in 2014.

International Development Finance Club, http://www.idfc.org/

A group of nineteen national and regional development banks and agencies. Its members include the national development banks (or national development agencies) of Brazil, China, France, Germany and Japan. Their collaboration includes a "strategic focus" on climate finance.

UNFCCC, Fast-Start Finance, http://unfccc.int/cooperation_support/financial_mechanism/fast_start_finance/items/5646.php

Official site hosting reporting of "fast-start finance", the US$30 billion pledged by developed countries for mitigation and adaptation at COP15 in Copenhagen and mandated as part of the 2010 Cancun agreements.

UNFCCC, Long-Term Finance, http://unfccc.int/cooperation_support/financial_mechanism/long-term_finance/items/6814.php

A UNFCCC work program established to discuss climate financing after 2012, the end of the "fast-start" period.

World Bank, Climate Change, http://climatechange.worldbank.org/
Home page for the World Bank Group's funding and research on climate change and "clean energy" - although it is conspicuously free of mentions of the Bank's fossil fuel financing operations.

World Bank and UNDP, Climate Finance Options, www.climatefinanceoptions.org
An information platform on climate change financing hosted jointly by the World Bank and United Nations Development Program. Includes an extensive database of financing sources.

Background Reading by Topic

Carbon trading

Carbon Market Watch, http://carbonmarketwatch.org/
Carbon Market Watch (formerly CDM Watch) scrutinizes carbon markets and "advocates for fair and effective climate protection." It connects NGOs and academics from the global North and South to share information and concerns about carbon offset projects and policies. Carbon Market Watch can be critical of carbon trading, but does not advocate its abolition.

Carbon Trade Watch, http://carbontradewatch.org/
Carbon Trade Watch offers "a holistic and justice-based analysis of climate change and environmental policies is not forgotten or compromised." It focuses on solidarity work with community-led projects and campaigns, and sees no positive role for carbon markets.

FERN (2010) Designed to fail? The concepts, practices and controversies behind carbon trading, http://www.fern.org/sites/fern.org/files/FERN_designedtofail_internet_0.pdf
A monograph that explains the mechanisms behind carbon trading and why they cannot work to deliver, or even trigger, the structural changes needed to wean our economies off fossil fuels, in the necessary time frame.

Gilbertson, T. and Reyes, O. (2009) Carbon Trading: how it works and why it fails , http://www.dhf.uu.se/pdffiler/cc7/cc7_web.pdf
A short book that outlines the limitations of an approach to tackling climate change which redefines the problem to fit the assumptions of neoliberal economics. It claims

that the EU Emissions Trading Scheme has consistently failed to "cap" emissions, while the UN's Clean Development Mechanism (CDM) routinely favors environmentally ineffective and socially unjust projects. This is illustrated with case studies of CDM projects in Brazil, Indonesia, India and Thailand.

Lohmann, L. (2011) "Financialization, Commodification and Carbon: the contradictions of neoliberal climate policy," Socialist Register, http://www.thecornerhouse.org.uk/resource/financialization-commodification-and-carbon

Carbon markets constitute the default international approach to the climate crisis. They are aimed both at opening up new frontiers for profit-making and at securing the background conditions for accumulation based on continued fossil-fuel extraction. This article explains how carbon commodities "disembed" the climate issue from the historical question of how to organize for structural, long-term change aimed at keeping remaining fossil fuels in the ground.

Schapiro, M (2010) "Conning the Climate: Inside the Carbon-Trading Shell Game" *Harpers Magazine*, http://citizensclimatelobby.org/files/Conning-the-Climate.pdf

A wide-ranging journalistic expose of carbon trading, first published in *Harpers* magazine.

The Corner House, http://www.thecornerhouse.org.uk/resources/results/taxonomy:14

The main cause of human-induced climate change is rapidly increasing carbon dioxide emissions - primarily the result of burning fossil fuels. To date, the principal international response has been a neoliberal instrument: carbon trading. This page gathers articles on carbon trading and related topics by The Corner House, a UK-based non-profit organization, and its allies.

Climate and Equity

Niclas Hallstrom (ed.) (2012) What Next Volume III: Climate, Development and Equity http://www.whatnext.org/Publications/Volume_3/Volume_3_main.html

An edited volume that addresses the combined challenges of climate, development and equity. How will humanity fairly divide the rapidly diminishing global carbon budget, while allowing billions of people in the global South (and North) the means for economic, social and environmental well-being? How can United Nations negotiations move forward, and what are real and false solutions? It covers the scientific and equity context of climate change, the UN negotiations, real and false solutions and discussions on movement towards change and the role of civil society.

Climate finance – general

Araghi, F (2010) "The End of 'Cheap Ecology' and the Crisis of 'Long Keynesianism'", *Economic and Political Weekly*, http://www.indiaenvironmentportal.org.in/files/Cheap%20Ecology.pdf
This article argues that a crisis of "negative Keynesianism" is leaving the World Trade Organization, the International Monetary Fund and the World Bank with no solution other than transferring the costs to the South (and to the South within the North). It suggests that climate financing under the auspices of the UNFCCC is following the same path.

Buchner B. et al. (2012) The Landscape of Climate Finance 2012, Climate Policy Initiative, http://climatepolicyinitiative.org/wp-content/uploads/2012/12/The-Landscape-of-Climate-Finance-2012.pdf
An assessment of the current status of the climate change-related finance, mapping various flows including sources of finance, intermediaries involved in distribution, financial instruments, and final uses. It builds on a 2011 study of the same name, http://climatepolicyinitiative.org/wp-content/uploads/2011/10/The-Landscape-of-Climate-Finance-120120.pdf

Equity and Ambition Group, Climate Justice Briefs, http://whatnext.org/resources/Publications/Climate-justice-briefs_full-setA4.pdf
A series of 12 briefings on various topics spanning the scope of discussions at the UNFCCC, including papers on climate debt, international climate finance, the World Bank, REDD and carbon markets.

Heinrich Böll Stiftung and Overseas Development Institute, Climate Finance Fundamentals, http://www.boell.org/web/index-686.html
This series of 11 short introductory briefings looks at various aspects of climate change financing. It is meant to give readers unfamiliar with the global discourse about funding for climate action a better understanding of financial flows, the regions and countries they reach, and the climate interventions they target.

Climate finance - sources

Daly, J. (2012). The Daly-Correa Tax: Background and Explanation, http://steadystate.org/the-daly-correa-tax-background-and-explanation/
A proposal to use oil export levies for climate change financing.

Global Canopy Programme (2009). *The Little Climate Finance Book*,

http://www.globalcanopy.org/materials/little-climate-finance-book
The scale of financing needed to tackle climate change is far greater than the current level of commitment from developed countries. There is no more pressing issue at the UNFCCC, and The Little Climate Finance Book is a non-technical guide to the multitude of proposals for addressing it. The book has three sections on revenue generation, the options for delivery of finance and the proposals for institutional arrangements.

IPS, CRBM et al. (2010) *Climate Finance Sources: a discussion paper* , http://www.no-burn.org/downloads/global%20climate%20fund%20discussion%20paper.pdf
This short paper details the criteria that progressive civil society groups consider necessary to introduce a global finance regime that will help lead to climate justice. Governments of richer countries have accumulated a climate debt to the rest of the world that they must repay. The paper provides an initial assessment of the strong and weak points of some of the most promising proposals. None are perfect, but all have the potential to contribute useful new sources of funding.

ITUC-TUAC (2012) *What role for pension funds in financing climate change policies?*
http://www.ituc-csi.org/what-role-for-pension-funds-in,12358.html?lang=en
A report by the International Trade Union Confederation and Trade Union Advisory Committee, which argues that institutional investors can and should have a complementary role to that of governments and public financial institutions in ensuring proper financing of mitigation and adaptation policies. In particular it sees potential in the role of green bonds and clean energy investment funds, while at the same time arguing that these should steer clear of Public-Private Partnerships or outright privatization.

Lipschutz, R. & S. Romano (2012) The Cupboard is Full: Public Finance for Public Services in the Global South, http://www.municipalservicesproject.org/publication/cupboard-full-public-finance-public-services-global-south
A report on financing public services, noting that Public Pension Funds and Sovereign Wealth Funds are amongst the largest pools of untapped public capital. This report is not about climate change financing, but its analysis bears consideration by anyone following debates on climate finance.

UN Secretary-General's High-level Advisory Group on Climate Change Financing (AGF) (2010), Final Report, http://www.un.org/wcm/content/site/climatechange/pages/financeadvisorygroup
An Advisory Group set up in response to COP15 in Copenhagen to study potential

sources of revenue that will enable achievement of the level of climate change financing. Its final report offered proposals on how to significantly scale-up long-term financing for mitigation and adaptation strategies in developing countries from various public as well as private sources. It has so far had little discernible effect on new policy-making, but remains a point of reference for many debates. The background "work stream" papers on carbon markets, shipping and aviation levies and other topics are also informative.

World Bank (2011), Mobilizing Climate Finance: A Paper prepared at the request of G20 Finance Ministers, http://climatechange.worldbank.org/content/mobilizing-climate-finance

In April 2011, the G20 Finance Ministers tasked the World Bank working with several institutions to conduct an analysis on mobilizing sources of climate change financing. Their joint report is an extension of the the work carried out in 2010 by the U.N. Secretary General's High Level Advisory Group on Climate Change Financing (AGF), taking it in a direction that is far more sympathetic to the view that "leveraging" private flows should be central to climate finance. It is also critical of fossil-fuel subsidies.

Ecosystem services

Costanza, R., R. d'Arge, et al. (1997). "The value of the world's ecosystem services and natural capital." *Nature* 387(6630): 253-260, http://www.esd.ornl.gov/benefits_conference/nature_paper.pdf

An academic assessment by a number of leading environmental economists estimating the monetary value of the services of ecological systems and the natural capital stocks that produce them. For the entire biosphere, the value (most of which is outside the market) is estimated to be in the range of US$16–54 trillion per year. At the time of writing, the global gross national product total was around US$18 trillion per year.

Daily, G. C., T. Söderqvist, et al. (2000), "The Value of Nature and the Nature of Value" *Science* 289: 395-396, http://www.ci.uri.edu/ciip/FallClass/Docs_2008/Daily_etal2000.pdf

The world's ecosystems are capital assets that should be "properly valued" by estimating their economic worth, according to this paper. It suggests that such a task can help institutions to frame their decisions in ways that better take account of ecosystem services.

Gómez-Baggethun, E., R. De Groot, et al. (2010). "The history of ecosystem services in economic theory and practice: from early notions to markets and payment schemes" *Ecological Economics* 69: 1209-1218. http://www.eco.unrc.edu.ar/wp-content/uploads/2010/09/ecosystem-services-history.pdf

This academic paper reviews the conceptual history of "ecosystem services," in terms of both economic theory and their practical incorporation into markets and payment schemes. It relates the trend towards monetization and commodification of ecosystem services to a conceptual shift from a Classical to Neoclassical economics framework.

Mandel, J. T., C. J. Donlan, et al. (2010). "A derivative approach to endangered species conservation" *Frontiers in Ecology and the Environment* 8(1): 44-49, http://siansullivan.files.wordpress.com/2010/08/mandel_etal_2009-biodiv-derivatives.pdf

An academic paper that proposes the use of financial derivatives to protect endangered species. It highlights various mechanisms for achieving this, and raises many of the issues that have drawn criticisms concerning the "commodification of nature."

Jason Moore (2011), "Wall Street is a Way of Organizing Nature", http://www.jasonwmoore.com/uploads/Moore__Wall_Street_is_a_Way_of_Organizing_Nature__2011.pdf

A philosophically-grounded critique of the commodification of nature, placing it within a broader history of capitalism's appropriation of new "resource frontiers."

Munden, L. (2010) *REDD and Forest Carbon: Market-Based Critique and Recommendations,* http://www.mundenproject.com/forestcarbonreport2.pdf

An influential market-based critique of proposals to establish Reducing Emissions from Deforestation and Degradation (REDD) forest carbon markets.

Palmer, M. A. and S. Filoso (2009). "Restoration of Ecosystem Services for Environmental Markets," Science 325(31): 575-576, http://palmerlab.umd.edu/Palmer_and_Filoso_2009.pdf

Ecological restoration is an activity that ideally results in the return of an ecosystem to an undisturbed state. Ecosystem services are the benefits humans derive from ecosystems. The two have been joined to support growing environmental markets with the goal of creating restoration-based credits that can be bought and sold. However, the allure of these markets may be overshadowing shortcomings in the science and practice of ecological restoration. This paper argues that without new science and an oversight framework to protect the ecosystem service assets on which people depend, markets could actually accelerate environmental degradation.

Robertson, M. "No Net Loss: Wetland restoration and the incomplete capitalization of nature" http://dl.dropbox.com/u/21234345/Financialization/Robertson.pdf

A critical take on ecosystem services payments, focusing on wetlands restoration. It introduces debates on the concept of "no net loss" and "commodification."

Sullivan, S. (2010), Banking Nature? The Spectacular Financialisation of

Environmental Conservation, http://siansullivan.files.wordpress.com/2010/12/sullivan-banking-nature-submission-to-antipode.pdf

A critical response to "the financialization of environmental conservation," which it argues takes two key forms. First, banks and financiers are turning to environmental parameters as a locus for expansion and investment. Second, conservation practice and understandings of non-human natures are being remodeled in terms of banking and financial concepts. It shows that environmental crisis is being recast as "an accumulation frontier for capitalism, precisely through relationships with finance and capital investment."

Green Climate Fund

Friends of the Earth USA (2011), *Lessons learned from the financial crisis - A cautionary tale for the Green Climate Fund*, http://www.twnside.org.sg/title2/climate/briefings/durban01/twn_bp02_durban.pdf

As policymakers and civil society organizations debate the design, purpose and modalities of the Green Climate Fund (GCF), they should closely consider some key lessons of the financial crisis. This briefing provides a short recap of the beginnings of the crisis, and then applies key lessons to the GCF.

Sierra, K. (2011), *The Green Climate Fund: Options for Mobilizing the Private Sector,* http://cdkn.org/resource/new-cdkn-briefing-paper-the-green-climate-fund-options-for-mobilizing-the-private-sector-2/

This paper argues that the Green Climate Fund needs to leverage private sector investment, and suggests a number of strategies for it to do so.

Investment

DB Climate Change Advisors (2011) *Investing in Climate Change 2011*, https://www.dws-investments.com/EN/docs/products/Investing_in_Climate_Change_2011.pdf

A Deutsche Bank report examining the key investment drivers in climate change and "clean energy," and assessing the balance of risks and returns.

Leaton, J. (2011). *Unburnable Carbon – Are the world's financial markets carrying a carbon bubble?* Carbon Tracker Initiative, http://www.carbontracker.org/unburnable-carbon

"There are more fossil fuels listed on the world's capital markets than we can afford to burn if we are to prevent dangerous climate change," writes the Carbon Tracker Initiative. This report develops a company ranking according to "estimated carbon

reserves," and aims to persuade investors to count the carbon in their investments or risk holding onto stranded assets if they do not do so.

McNellis, P. (2009) "Foreign Investment in Developing Country Agriculture – the emerging role of private sector finance," FAO (extracts)
http://dl.dropbox.com/u/21234345/IPS/McNellis.pdf
A summary of how institutional investors are reshaping developing country agriculture. The extract here gives summaries of the role of Sovereign Wealth Funds, investment managers, pension funds, hedge funds and private equity - also key actors in the emerging debates on private sector climate finance.

World Economic Forum, Scaling Up Low-Carbon Infrastructure Investments in Developing Countries: The Critical Mass Initiative Working Report (extracts)
http://dl.dropbox.com/u/21234345/IPS/WEF-Extracts.pdf
The World Economic Forum gives its take on the role of capital market investment in low-carbon infrastructure in developing countries.

McKinsey, *The New Power Brokers: How Oil, Asia, Hedge Funds, and Private Equity Are Shaping Global Capital Markets*,
http://www.mckinsey.com/insights/mgi/research/financial_markets/how_the_new_power_brokers_are_shaping_global_capital_markets
An influential consultancy report on recent trends affecting global capital markets. For a more critical take on a similar topic, see also chapter 4 of *Fixing Global Finance*, http://www.madhyam.org.in/admin/tender/FGF2510.pdf

IFIs and "leveraging" private finance

Bretton Woods Project (2012) "Leveraging" private sector finance, How does it work and what are the risks,
http://www.brettonwoodsproject.org/doc/private/leveraging.pdf
This briefing helps explain the existing ways in which the World Bank Group attempts to use its investments to leverage additional investment from private actors, and briefly lays out some key risks associated with doing this. It explains what leverage is, how it works and which problems are related to it.

Bretton Woods Project and 'Ulu Foundation (2010) "Out of sight, out of mind? The International Finance Corporation's investment through banks, private equity firms and other financial intermediaries",
http://www.brettonwoodsproject.org/doc/private/outofsight.pdf
This paper analyses IFC lending through financial intermediaries, and finds a number of causes for concern, including a worrying lack of transparency, inadequate attention to social and environmental concerns, and a failure to link directly to proven

developmental impacts. It sets out recommendations for a complete reformulation of the IFC's approach.

Brown, J. and M. Jacobs (2011), "Leveraging private investment: the role of public sector climate finance ", Overseas Development Institute, http://www.odi.org.uk/resources/docs/7082.pdf

This briefing note focuses on "how public finance and risk mitigation instruments can remove the barriers to private sector investment and thereby leverage significant amounts of private capital for climate change mitigation."

Brown J. et al. (2011) "Improving the Effectiveness of Climate Finance: A Survey of Leveraging Methodologies ", Overseas Development Institute , http://climatepolicyinitiative.org/wp-content/uploads/2011/11/Effectiveness-of-Climate-Finance-Methodology.pdf

A study that considers how to define and measure the "leveraging" of private sector climate finance.

Pereira, J. (2012) Cashing in on climate change? Assessing whether private funds can be leveraged to help the poorest countries respond to climate challenges , Eurodad, http://eurodad.org/1345788/

This report looks at some of the main instruments that can be used to leverage private climate finance through financial intermediaries, and analyses data from some major development finance institutions (DFIs). It specifically assesses the role of financial intermediaries in low-income countries (LICs) and in supporting small and medium sized enterprises (SMEs) and looks into the main monitoring and accountability constraints when using financial intermediaries. It finds that financial intermediaries and existing investment instruments are very limited when it comes to targeting LICs and SMEs in sectors that are particularly vulnerable to climate change. It also finds a lack of transparency, making comprehensive monitoring difficult.

Stadelmann, M., Castro, P., & Michaelowa, A. (2011). *Mobilising Private Finance for Low-Carbon Development: Tackling Barriers to Investments in Developing Countries and Accounting of Private Climate Flows*, Climate Strategies, http://www.climatestrategies.org/research/our-reports/category/71/334.html

This report looks at different tools for leveraging private finance, as well as looking at how to measure their impact.

Venugopal, S. and A. Srivastava (2012) *Moving the Fulcrum: A Primer on Public Climate Financing Instruments Used to Leverage Private Capital*, http://www.wri.org/publication/moving-the-fulcrum

"Targeting public finance to leverage private sector capital can help meet the several hundred billion dollars of annual low-carbon investment required in developing

countries," according to this paper. It serves as a primer on how the public sector can employ different types of public financing instruments — whether loans, equity, or de-risking instruments — alongside policy and technical support to scale-up private sector investment in climate finance and clean energy.

Private equity

Bracking, S. "How do Investors Value Environmental Harm/Care? Private Equity Funds, Development Finance Institutions and the Partial Financialization of Nature-based Industries." *Development and Change* 43, no. 1(2012) : 271-293
Private equity funds, mostly domiciled in secrecy jurisdictions, are dominant investors in the resource-based economies of Africa. Some of their investments speculate on biodiversity and ecosystems, but they are also heavily invested in mining, energy and infrastructure. This article reviews how private equity funds, and their partners in development finance institutions, frame and value their impact. It finds that their use of pseudo-mathematical methods bears only a marginal relation to the material world it seeks to measure and protect, but that these calculative devices are used to legitimize pre-existing power structures which exploit natural resources in Africa for the benefit of money-holders.

Singh, K. (2008) "Taking It Private : The Global Consequences of Private Equity", http://www.thecornerhouse.org.uk/sites/thecornerhouse.org.uk/files/37privateequity.pdf
Private equity has become an integral component of the world's financial system at a time when financial markets have overshadowed the productive economy. Insofar as it constitutes a new form of corporate ownership and thus of power, private equity poses new challenges to labor unions, NGOs and community groups. This paper looks at the social, environmental and political impacts of private equity, using India as a case study of its growing importance in Southern countries.

Public Private Partnerships

Bankwatch, *Overpriced and underwritten – The hidden costs of Public-Private-Partnerships*, http://bankwatch.org/public-private-partnerships
Despite a multitude of problems, public-private partnerships (PPPs) are being promoted in various countries as a solution to finance infrastructure projects with limited public budgets. This website is aimed at providing critical information about public-private partnerships to those who might be curious to dig deeper: activists, NGOs, researchers, journalists, and anyone else.

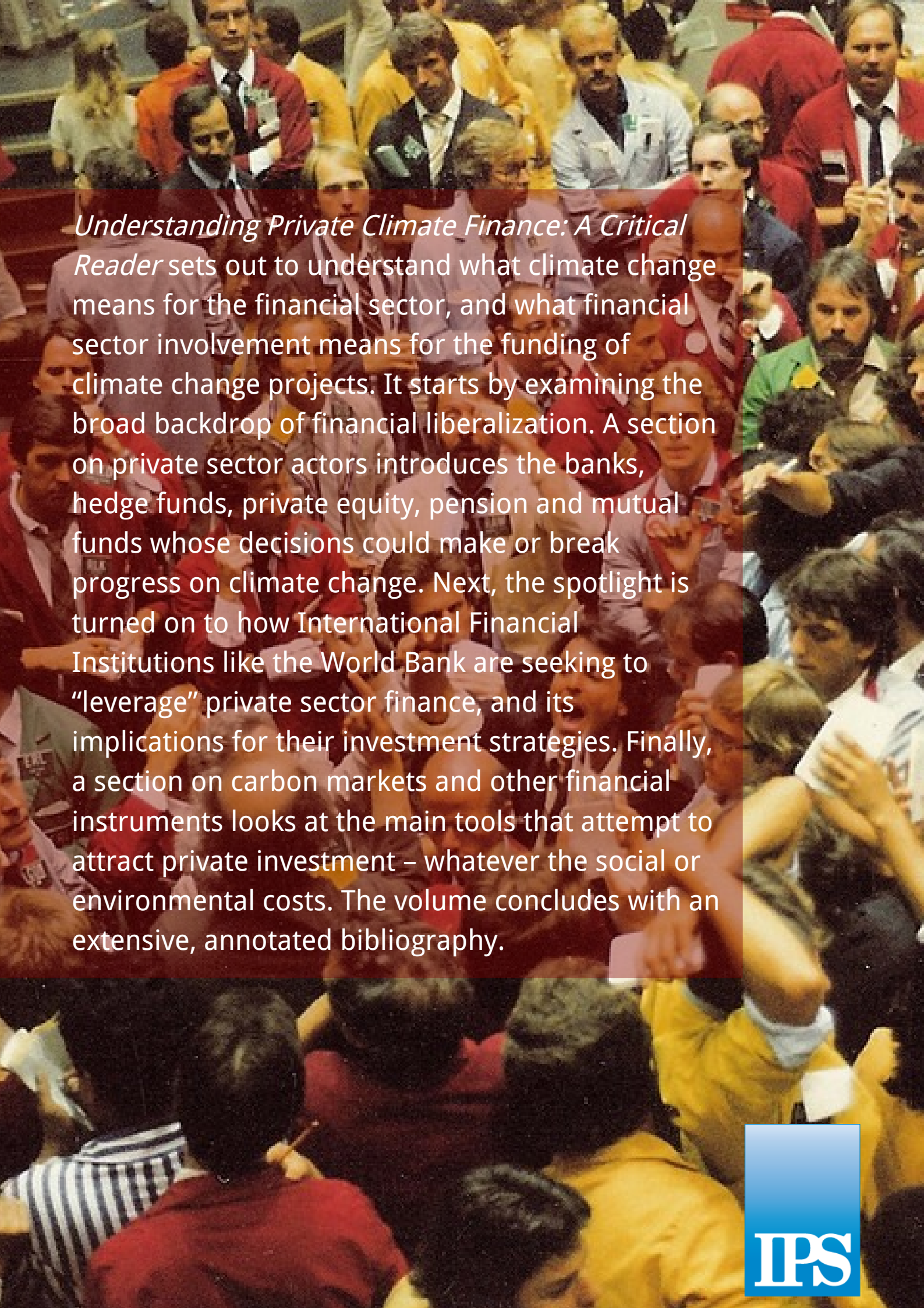
Whitfield, D. (2012) PPP Wealth Machine: UK and Global trends in trading project ownership http://www.european-services-strategy.org.uk/ppp-

database/ppp-equity-database/

Public-Private Partnerships have had a key role in accelerating and embedding financialization in the public sector and the economy. This report and database look at global trends in who owns these projects.

Whitfield, D. (2010) *Global Auction of Public Assets - Public Sector Alternatives to the Infrastructure Market & Public Private Partnerships* Spokesman Books http://www.spokesmanbooks.com/acatalog/Dexter_Whitfield.html

Public infrastructure provides basic human needs - from water to energy, transport systems, hospitals and schools. But the wider adoption of Public Private Partnerships (PPPs) and growth of the global infrastructure market, financed by investment funds and pension funds, could fuel a new era of public asset sales. This book looks at how PPPs are promoted by the World Bank, IMF, development banks and via bilateral agreements in developing countries and the industrialized north. It notes that over US$500bn of PPP projects have failed, have little democratic control or transparency, are costly, lack innovation and are approved on narrow value for money or fraudulent public sector comparators. PPPs are ultimately publicly financed, either directly by government or indirectly through user charges, fares and tolls.



Understanding Private Climate Finance: A Critical Reader sets out to understand what climate change means for the financial sector, and what financial sector involvement means for the funding of climate change projects. It starts by examining the broad backdrop of financial liberalization. A section on private sector actors introduces the banks, hedge funds, private equity, pension and mutual funds whose decisions could make or break progress on climate change. Next, the spotlight is turned on to how International Financial Institutions like the World Bank are seeking to "leverage" private sector finance, and its implications for their investment strategies. Finally, a section on carbon markets and other financial instruments looks at the main tools that attempt to attract private investment – whatever the social or environmental costs. The volume concludes with an extensive, annotated bibliography.

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