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GREENHOUSE GAS EMISSIONS: MARKET THEORIES, NEIGHBORHOOD EFFECTS, AND GLOBAL INEQUALITIES

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Greenhouse Gas Emissions:

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Editor's note: Title of paper was originally printed as an honors politics thesis in May of 2006. While not a conventional economics paper, it offers an interdisciplinary approach to its topic. The editors of this series agree that the author's discussion is a valuable example of an in-depth analysis of economic issues from a largely political standpoint.

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GREENHOUSE GAS EMISSIONS: MARKET THEORIES, NEIGHBORHOOD EFFECTS, AND GLOBAL INEQUALITIES

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Table of Contents

The Trading Game: Market Theories, Neighborhood Effects, and Global Inequalities

I. Introduction

For decades, debates have raged worldwide—in academic circles, policymaking institutions, and everyday conversations—about what economic models best serve public interests and welfare. A common trend in these discussions has been the resurgence of neoclassical economics, based on the principles of limited government and free markets, championed by Milton Friedman and the Chicago School of Economics. In his seminal work, *Capitalism and Freedom*, Friedman lays out the essential tenets of liberalism, arguing that only such a position can ensure freedom of choice and economic growth, both of which he identifies as necessary to achieve improvements in global standards of living. But as the neoclassical model has undergone increased implementation in the global economic system—particularly in the form of neoliberalism as advanced by the United States, the International Monetary Fund, and the World Bank—it has also faced a chorus of opposition. One of the central indictments of the neoclassical ideology is its ignorance of market imperfections that lead to "market failures." In particular, many critics of neoclassical economics have stressed the free market's inability to provide equitable outcomes and its failure to deal with negative externalities—what Friedman

calls “neighborhood effects”—which are negative consequences of market interactions on third parties.

Recently, however, the debates over markets and neighborhood effects have taken on a scope and character not anticipated by Friedman’s small-scale examples, such as industrial pollution in a local stream. Instead, many have come to accept that, beyond just the “neighborhood,” excessive consumption of fossil fuels has created a planetary effect—global warming—that threatens to incite social disruption, cause economic collapse, and potentially make the Earth uninhabitable. Though the science of climate change remains contested, a substantial number of nations and organizations have called for action to limit emissions of greenhouse gases (GHGs) caused by the burning of fossil fuels. In many cases, this call to action has included a call for command regulation by government, such as the well-known Kyoto Protocol, to prompt a shift away from a heavy economic reliance on hydrocarbons. Because market activities of both production and consumption rely on energy, especially fossil fuel intensive energy in most industrialized nations, government regulations of emissions have been steadfastly opposed by many business leaders and conservative economists. These critics argue that attempting to regulate emissions will necessarily interfere with markets, slowing overall growth. Instead, the anti-regulation camp has argued for voluntary measures and *laissez faire* solutions to GHG emissions. As a result, regulations to mitigate GHG emissions have tended to spark anew the bitter polarization between market advocates and critics.

Simultaneously, the issue of GHG emissions and their abatement has stirred controversy regarding the international relations between developed and developing countries. Because global warming is a transnational problem—emissions from the US

do not just stay in "our" part of the atmosphere—it requires transnational solutions. This is the mantra of the Kyoto Protocol, which attempted to create legally binding emissions caps for developed countries to meet by 2012. But energy's prominent role in economic growth and development sowed the seeds for diverging international views of the solution to climate change. Within the Kyoto negotiations, for example, there existed considerable acrimony between developed countries, many of which claimed that caps must also apply to developing countries to account for future industrialization and population growth, and developing countries, which saw the climate problem originating in the overconsumption of the developed world (which accounts for more than 70% of global GHG emissions).[i] Fundamentally, then, Kyoto was not just about whether GHG emissions should be regulated, but whose markets should be regulated and how.

Within these protracted debates, "market-based" solutions have become common mechanisms for consensus building. The most commonly advanced and well-established of these has been emissions trading, which was a "key requirement for several countries within the climate negotiations. Without it, the adoption of an agreement with legally binding reduction and limitation targets probably would not have been possible."[ii] Under an emissions trading system, which has been implemented for sulfur dioxide (SO_2) in the US, the government sets a maximum cap on a company's emissions, granted in the form of emissions allowances (also known as credits or permits). But the beauty of the system, according to its proponents, is that the allowances can be bought and sold; so if company A commits to substantial emissions cutbacks, it will be financially rewarded because it can sell its extra allowances to company B, which otherwise would not have been capable of bringing its short-term emissions below the cap. The end product is an overall

emissions reduction equal to a strict command regulation, but achieved more efficiently and without slowing economic growth. In short, by giving emissions a price, they are brought under the influence of market forces, spurring cost and resource efficiency.

Kyoto contains two other important and related flexibility mechanisms known as emissions offsets. These offsets, formalized in the Kyoto Joint Implementation measures (JI) and the Clean Development Mechanism (CDM), allow developed countries to take credit—towards their own caps—for emissions reductions that they sponsor in developing countries.[iii] A major selling point for these flexibility measures was that they would serve as a development tool, encouraging innovative, sustainable projects in the developing world. As it was argued, these would help the developed world alleviate short-term costs in meeting caps and help the developing world alleviate poverty and long-term problems of unsustainable, fossil fuel-dependent development.[iv]

The purpose of this paper is to question the degree to which these market-based flexibility mechanisms can deliver on their promises of economic efficiency and sustainable development. Before accepting emissions trading as a consensus solution, it is necessary to examine the likely actual effects of international emissions markets on the developing world.[v] Doing so requires an investigation of the relationship between competing understandings of the market, neighborhood effects, and the prospects for growth and poverty reduction globally. My argument is that adequately assessing whether global GHG emissions trading can effectively deal with neighborhood effects and unequal development requires a shift away from conventional discussions of regulation that oversimplify the debate into questions of "government" versus "the market." Instead, it demands an examination of the dynamics between market and extra-market forces and

the effects of those dynamics on the ability of global emissions trading to achieve its proposed benefits. Ultimately, this analysis demonstrates that, far from its presentation as a simple solution to the economic and equity issues surrounding climate change, global emissions trading is instead fraught with risk for developing countries. But this conclusion cannot be reached simply through a reactionary rejection of all market mechanisms as homogenous and exploitative. Instead, it demands a "reflexive" view that refuses fundamentalist commitments to economic ideologies and instead evaluates the ways that markets operate in specific contexts with a particular emphasis on understanding the ways in which markets, government, and society are (co-)constituted through often asymmetrical power relations.[vi] Struggling for this reflexive view, then, is not a search for a middle ground that somehow reconciles all market theories, nor is it an unwillingness to make normative judgments about market theories and their applicability to specific policy options. Instead, it is a commitment to replace dogmatic ideological views about markets with a political process of contestation and critical engagement that considers not only the likely effects of specific policies but also how market theories and complex power dynamics shape the ways in which we come to analyze and understand those policies in the first place. As a result, a reflexive methodology does not require erasing or forgetting ideologies, but locating them and their effects within a political analysis of power. Such an approach does not move beyond ideology, but beyond ideological fundamentalism, allowing for policy discussions that recognize the limitations of market theories and that preserve a constructive openness in disagreement and debate.

This paper is organized into three major sections. The first section analyzes the multiple competing interpretations of markets and how each of those interpretations

addresses the issues of neighborhood effects and inequality. The second section examines the central issues and challenges for a global GHG trading system and attempts to understand those issues using the different lenses for understanding the operation of markets. Finally, the third section provides a synthesis of the previous two sections by drawing conclusions about global emissions trading and how it reflects on broader questions of market mechanisms and interpretations.

II. Competing interpretations of markets

Introduction

While most agree that markets, in one form or another, have long existed through human civilization, beyond that there seems to be little agreement.[vii] However, it is important to note that market theories and theorists do not all conform to easily isolated categories. It is often tempting to associate interpretations of markets with their most extreme adherents (such as seeing all market advocates as complete laissez faire economists) when in fact many ideas and thinkers exist in the gray areas. In many ways, the common representations of debates about markets encourage polarization by only seeing the worst of all theoretical worlds, and so it is necessary to recognize at the outset that the categories of market interpretations that follow are not monolithic.

Neoclassical economics

One of the most popular yet controversial views of markets is neoclassical economics, which can be traced directly to the ideas summarized and labeled by Milton Friedman as "liberalism." For Friedman, the essential tenets of liberalism include laissez faire domestic economic policies, encouragement of global free trade, support for representative government, and the promotion of civil liberties of individuals.[viii] A fundamental premise of this conception of markets is that economic activities are a form of fair, contractual exchange: in Friedman's terms, "both parties to an economic transaction benefit from it, *provided the transaction is bi-laterally voluntary and informed*."[ix] From this, Friedman associates market exchange with freedom because each economic actor has the choice to engage or not engage in such transactions.

Another essential element of this view is that these choices will be based on each individual's rational calculation of self-interest. Assuming that each transaction is both voluntary and informed, it is further assumed that each individual will only pursue contracts which serve that individual's self-interest, and a contract will only be formed if the self-interests of both (or all) parties are served.[x] Thus, even if the outcomes of market transactions are not perfectly equitable, the conditions under which choices are made are free and equal for each individual, thus creating equality of opportunity.

Moreover, Friedman's neoclassical position argues that markets most effectively and efficiently channel rational actions because of the nature of competition. At a very basic level, this is traced back to Adam Smith's *The Wealth of Nations*, in which he described the "invisible hand" of competition, which ensured that the cumulative effect of each actor's pursuit of self-interest was to enhance the greater good of society.[xi] According to this interpretation, because consumer demand dictates the goods capable of being sold in the market, producers who can efficiently meet (or supply) the demand are financially rewarded. But the lure of financial rewards applies to the self-interest of more than just one rational producer, and the result is multiple producers vying to create the most efficient means of meeting demand. This leads to a societal division of labor that responds to the price signals of supply and demand, and in doing so maximizes productivity and minimizes cost. The upshot is that all goods are more available at market-dictated prices, which allows for improved standards of living.[xii] Under this view, markets tend toward equilibria of supply and demand, producing the best outcomes as long as they are free of manipulation or interference.

At issue, then, for neoclassical political economy is identifying the primary culprits of market interference. Indeed, this is one of the most contentious subjects relating to Smith's work. Though Smith identified corporations and guilds as threats to perfect liberty in markets, neoclassical economics today tends to emphasize government as the most common and dangerous villain of market interference.[xiii] While it is inaccurate to claim that neoclassical economics denounces all state action, the theorized role of the state is extremely limited. The government's role is to provide a legal framework of civil rights and to act as the arbiter of its laws; or, in Friedman's terms, the government should act "both as a forum for determining the 'rules of the game' and as an umpire to interpret and enforce the rules decided on."[xiv] But even with the allowance of some state role, "interventions in markets (once created) must be kept to a bare minimum because, according to the theory, the state cannot possibly possess enough information to second-guess market signals (prices) and because powerful interest groups will inevitably distort and bias state interventions."[xv] Thus, even though the government's role is not completely eliminated, it is heavily curtailed and the overarching presumption is against state involvement in markets.

Since the 1960s, neoclassical economics has experienced a major revival in the form of neoliberalism, an economic philosophy based on the principles of liberalism. Neoliberalism has taken root alongside the growing "globalization" of the economy and a slate of major changes in global economic relations. Many of these changes were initiated in the early 1970s, as the gold standard began to atrophy and oil price hikes greatly expanded the amount of liquid capital (in banks holding assets of oil-producing nations) in global markets. This led to a flood of petro-dollars into developing countries, generally

at extremely low, but adjustable, interest rates.[xvi] Though much of this money was directed toward development projects, it was often squandered through poor planning or through corruption.[xvii] And ultimately, the chickens came home to roost as lenders raised interest rates, creating a pervasive debt crisis in the developing world.[xviii] In order to avoid defaulting on debt (and dooming their investment profile for the foreseeable future), most debt-burdened developing countries accepted short-term loans from the IMF. But in order to get these loans, developing countries had to accept the IMF's terms of lending, known as "loan conditionality," with the hope that IMF-inspired reforms would allow countries to earn enough money to pay back the loans.[xix] These reforms (commonly known as "structural adjustment" or "shock therapy") required a strict application of neoclassical economic policies, such as fiscal austerity, lowered taxes, devalued currency, market liberalization, privatization, and the encouragement of foreign direct investment (FDI).[xx] Because a series of continuous IMF loans were seen as essential to avoid major economic crises, loan conditionality became an immensely powerful tool by which neoliberalism, and its advancement of neoclassical principles, became the dominant method of economic organization and policymaking globally.[xxi]

This growing influence of neoliberalism and neoclassical economics has had a profound effect on the ways that social issues, particularly neighborhood effects and inequalities, have been approached in contemporary politics. Neighborhood effects are a relevant consideration for neoclassical economics because they challenge the notion that all market interactions are voluntary and informed. Friedman even concedes that in some instances intervention into markets can be necessary to correct the harmful effects of these negative externalities. However, in his view, the conditions under which

government action would be acceptable are extremely limited because neighborhood effects "have been used to rationalize almost every conceivable intervention."[xxii] In addition, government regulations are seen as necessarily inefficient, ensuring that interventions produce their own neighborhood effects "by failing to charge or compensate individuals properly."[xxiii] Without denouncing all state intervention, Friedman urges for an extremely cautious approach: "[i]n any particular case of proposed intervention, we must make up a balance sheet, listing separately the advantages and disadvantages" with a heavy presumption against intervention because of its inherent tradeoff with economic freedom.[xxiv]

Moreover, there has been a shift away from government interventions that are strictly negative commands (for example, a law to stop emitting dangerous pollutants). Instead, other approaches have attempted to tailor neoclassical economics to apply to negative externalities. For one, Free Market Environmentalism (FME) has argued that economic growth, spurred by markets, is a prerequisite to expanded environmental protection.[xxv] According to FME, "wealthier is healthier," meaning that as economic growth increases, there will be an increased demand for environmental protections (for example, to limit smog or pollution). Given that demand, the market can respond to correct the effects of negative externalities. Another component of FME and similar neoclassical approaches is based on the work of economist Ronald Coase, who argued that "goods and services can only be bought and sold and thus brought within the orbit of the market mechanism if they can be owned. [. . .] Coase then saw externalities as arising from an absence of property rights, and, as a consequence, certain economically important goods and services could not be [. . .] regulated by the market."[xxvi] Using this

line of reasoning, which strongly informs pollution trading plans, the only way to remedy market externalities is to provide property rights that then influence the market's operation.[xxvii] As a result, FME and many modern economists have argued that the solution to neighborhood effects is not government involvement in the market, but government provision of property rights to create a *new* market.[xxviii]

Neoclassical economics also explains the causes and solutions to poverty and inequality though the lens of the market. Because the market is understood as the most efficient allocator of goods and services, market efficiency should yield widespread improvements in standards of living.[xxix] For the vast majority of people, it is argued, the solution to poverty is economic growth, which will over time increase material living conditions. The cause for inequality is explained as a result of the fact that certain individuals make worse choices than others; in other words, they are less effective (or productive) in the pursuit of self-interest.[xxx] But this inequality in outcome does not stem from unfairness inherent with markets; rather, it is because markets are equally fair (in terms of opportunity) that inequalities in distribution of wealth can be explained as the fault of individuals. Under neoliberalism, this view of inequality has been carried over to international economic relations as neoliberals argue that liberalization of global markets is essential to spur an efficient global division of labor (based on comparative advantage) which fosters increases in global wealth that benefit all.[xxxi] At the same time, to neoclassical thinkers, countries that fail to achieve their development targets represent a failure to adequately implement neoliberal principles rather than a failure of neoclassical ideology itself.

"Good Governance"

Many economists and political scientists have attempted to move beyond orthodox neoclassical theory by explicitly recognizing particular failures in free markets. For them, it is essential to consider the roles that institutions play in creating the conditions under which markets can be successful. In order to advance their perception as pragmatic (or at least more pragmatic than neoclassical or Marxist political economy), many proponents have posited these approaches as a middle-ground or "third way." This sort of approach takes on several forms, the most important of which is the institutional turn toward "good governance" within "regulatory capitalism."[xxxii] The good governance approach openly refuses free market ideology, claiming that "the myth of the self-regulating economy is, today, *virtually* dead."[xxxiii] Instead of defending total market or state autonomy, the discourse of good governance instead argues that "[w]e have moved, by and large, to a more balanced position, one that recognizes both the power and the limitations of markets, and the necessity that government play a large role in the economy, though the bounds of that role remain in dispute."[xxxiv] Rather than give up on the state, the good governance position is in many ways neo-Keynesian in that government is expected to play an essential role, including through intervention, in correcting market shortcomings and stimulating market activity. Traditionally, Keynesian economics emphasized increasing aggregate demand, especially through very high levels of employment, and the government was expected to create avenues for employment when the market failed to do so quickly. But in many ways, this emphasis is less salient today as highly competitive and interdependent global markets have go beyond the scope of the traditional Keynesian focus. Nevertheless, the spirit of the Keynesian tradition

remains with the contemporary concept of good governance because the government continues to be theorized as a mechanism for correcting the failures of markets.

The growing emphasis on good governance has largely emerged as a result of the failures of neoliberalism in international economics and as such has been posited as both opposition to and support for the wider regime of market-centric solutions to global problems.[xxxv] At one level, many have argued that the dominance of neoliberal ideology has obscured the actual persistence of government involvement in markets: "[w]hile the conventional wisdom holds that we live in a neoliberal era and under neoliberal hegemony, the reality is significantly different and much more complex. In recent decades, regulatory reforms have spread around the globe [. . .]. The era of neoliberalism is *also* the golden era of regulation."[xxxvi] As a result, it is argued, neoliberal attempts to see the world in terms of free markets fail to grasp the enduring nature of regulation. This is especially important as regulations have changed; regulations do not always assume the form of command and control, but instead are created through delegation to " 'experts' who formulate and administer policies in an autonomous fashion from their regulatory bastions."[xxxvii] This shift has also entailed "new institutions, technologies, and instruments of regulation" that have made regulatory capitalism "a technological as much as a political order."[xxxviii] And because these "new instruments are highly sophisticated, but also vulnerable to misuse," the advocates of regulatory capitalism strongly emphasize the need for good governance.[xxxix]

Furthermore, the proponents of good governance have argued that an institutional focus is a prerequisite to any market-oriented approach. A prominent example is Joseph Stiglitz's best-selling book, *Globalization and Its Discontents*. In this scathing criticism

of the IMF and its US-led Washington Consensus, Stiglitz, a former Chief Economist at the World Bank, argues that neoliberal economic theory has failed to correspond to actually existing markets, resulting in catastrophic consequences for development and public welfare. Stiglitz and other proponents of good governance emphasize that imperfect institutions create imperfect market outcomes, and thus there is a need for governments to play a strong and expansive role in economic activities. In particular, they argue that developing countries, which often have weaker political and economic institutions, are uniquely more at risk from neoliberal, market-based policies.[xl]

The point of these criticisms is not to disrupt or displace the entirety of market logic, but instead to recognize the dangers of valorizing markets in the abstract. Stiglitz, for example, argues that one of the keys to successful economic development is proper sequencing and pacing; in other words, if economic transitions are not carefully managed, then they carry a significant risk of derailing development and causing suffering among the poor.[xli] By recognizing this danger, proponents argue that "the discourse of regulatory reform and 'good governance' both complements the neoliberal reforms and poses a challenge to some of its simplistic assumptions about the nature of the relations between politics and the economy in general and the state and the market in particular."[xlii] Good governance, then, is not a fundamental challenge to markets themselves but is a theory to better explain how they operate now and how they can and should be improved.

Not surprisingly, the discourse of good governance emphasizes the need for institutional involvement in markets to account for neighborhood effects and poverty. From this perspective, negative externalities are an inherent threat to the fair and efficient operation of markets. But instead of adopting Friedman's position that government

intervention fails to correct neighborhood effects, proponents of good governance stress efficient institutions capable of "smart regulation"—in this way, the issue of regulation "is shaped not only by the debate about more or less government but also by the quest for better instruments of regulation."[xliii] Well-designed regulations are seen as crucial to control externalities and are also correlated to the broader functioning of capitalism: "the legitimacy of capitalism rests on the ability of government to mitigate negative externalities through 'social regulation' (or the regulation of risk). Regulation is both a constitutive element of capitalism (as the framework that enables markets) and the tool that moderates and socializes it (the regulation of risk). From this point of view, the history of economic development is the history of regulation."[xliv]

This same perspective is applied to issues of poverty, inequality, and the global distribution of wealth. While typical theories of wealth distribution rely on models of either productivity, which explains income as a result of the value of an individual's production, or bargaining, which explains income as a result of power struggles within society, the good governance position argues that neither is adequate in isolation.[xlv] The missing component of both productivity and bargaining views is a failure to explain the ways in which institutions mediate productivity and bargaining. Thus, the persistence of global inequality is not the result of a cut-throat, zero-sum tradeoff between developed and developing countries; instead, it is the result of uneven development of local, national, and international institutions that can direct market forces in ways that encourage productivity and the reduction of inequality.[xlvi]

Taking the good governance model even further is the concept of heterarchic governance. In many ways, heterarchic governance is the height of good governance,

where the traditional competitive and antagonistic relations between the market and society are transcended. Heterarchy "comprises horizontal self-organization among mutually interdependent actors" and tries to break down the presumed antagonism between the market, the state, and civil society.[xlvii] Heterarchic governance is designed to change the interaction between cooperation and competition and "institutes negotiation around a long-term consensual project as the basis for both negative and positive coordination among interdependent actors. The key to its success is continued commitment to dialogue to generate and exchange more information [. . .]; to weaken opportunism by locking partners into a range of interdependent decisions [. . .]; and to build on the interdependencies and risks associated with 'asset specificity' by encouraging solidarity among those involved."[xlviii] In short, heterarchic governance attempts to reduce the animosity between all participants in economic activity and to establish frameworks for their cooperation and mutual reliance in order to achieve positive outcomes for the public good.

A central example of the new thinking on heterarchic governance is the notion of a "civil economy" advanced by Severyn Bruyn. In her book, *A Civil Economy*, she agrees that markets are not perfectly self-regulating or beneficial, but for her, "[t]he solution to the problem of a market failure is not only financial but also equally social."[xlix] These social solutions necessarily involve the participation of civil society as stakeholders in the business practices of corporations. The ultimate goal is a transition to self-regulating civil markets:

> By civil markets, we mean *systems of exchange in which competing actors agree to standards for the common good and are capable of enforcing them.* [. . .] A civil market, as we have defined it, must have the following: (1) 'accountability systems' that require corporations to be answerable to the people they affect and

> (2) 'civil structures' that solve problems of justice and fairness in the higher levels of a global market system. These two concepts are associated with civil corporations that (a) have their own self-enforcing codes of conduct—giving them capacity to respond effectively to their stakeholders and (b) participate in civil trade associations that have ethical standards written by members, including tribunals designed to induce compliance.[l]

Similar, then, to the basic good governance approach, heterarchic governance emphasizes the need for accountable and transparent institutions to effectively manage the processes and outcomes of markets. But heterarchic approaches go further in that the emphasis is no longer on government but governance, as "the government can serve the public better by assisting the development of a responsible *self-governing* economy."[li] While this approach does not eliminate the government entirely, as it "can always be a monitor, a safety net, and a court of last resort," the primary institutions of regulation are interdependent organizations of businesses and civil society. In this way, the movement toward heterarchic governance tries to move beyond the dichotomous choice between government and market by initiating an overarching market transformation.

This concept of heterarchic governance bears heavily on the issues of neighborhood effects and economic inequality. In a heterarchic system, in which citizens are stakeholders in all market transactions, negative externalities must be accounted for because affected citizens cannot simply be considered tangentially affected "third parties." As a result, a central component of the move toward a civil economy is "internalizing externalities" in "an effort to integrate corporate self-interest with the public welfare."[lii] In this sense, the attempt to transform the market into a self-regulating system aware of its broader social effects represents a new way of understanding neighborhood effects vis-à-vis the market.

The same can be said of heterarchic governance's approach to poverty and inequality. From the standpoint of proponents of heterarchy, the stark inequalities caused by free markets are a result of the market's abstraction from civil society. By increasing corporate accountability through ethical codes of conduct, which include commitments to employee rights and public welfare, it is hoped that civil markets can create a more equitable provision of goods and services through society.[liii] By removing the competitive drive that devalues workers and the public, heterarchic governance is an attempt to treat the causes of social and economic inequalities.

Good governance approaches, including heterarchy, have attempted to lay claim to a pragmatic middle-ground in debates over political economy by maintaining a strong belief in markets as successful and efficient while at the same time attempting to refine neoclassical theories to better account for factors that limit effective market organization. Central to this approach is an advocacy of institutions to mediate market activity and ensure the social and political conditions necessary for market success. Ultimately, as with the concept of heterarchy, it is hoped that these methods of governing the market can become routinized to transform economic activity in new, sustainable ways. Holistically, then, the good governance approach is not a fundamental or radical break with a faith in markets, but an attempt to align that faith with the actually existing circumstances in which markets operate.

Marxist political economy

In direct opposition to neoclassical political economy and the faith in markets is the field of Marxist political economy. Founded upon the writings of Karl Marx during

the 19th century, Marxist political economy argues that markets are founded on the coercive and exploitative conditions of private property rather than through voluntary and informed exchange. Responding to the notion that markets naturally emerge, Marx argued that capitalism's origins are located in the disintegration of feudalism, which freed serfs to sell their own labor while feudal elites maintained control over the means of production.[liv] Contrary to the view that capitalism is natural and inevitable, the consequence of Marx's view is that capitalism's history is determined by intense class struggle in which capitalists continually maneuver to maintain domination: in other words, capitalism's history is "written in the annals of mankind in letters of blood and fire."[lv] As a result, initial inequalities in the origins of capitalism circumvent real competition because they create an inherently unequal playing field.

This view of the origins of capitalism directly implicates neoclassical views of competition and freedom. For Marx, free choice and competition (voluntary and informed transactions in neoclassical parlance), the foundational elements of neoclassical political economy, are misnomers because monopolies are inherently formed by the process in which labor becomes extracted and alienated from the worker. As soon as the worker is forced to sell his or her labor as a commodity to the capitalist, a monopoly is created. Through the processes of separating the worker from labor, the worker from the capitalist, and work from capital, "the original characteristic of private property is monopoly."[lvi] In this way, Marx turns the entire idea of free competition on its head when he argues that "the completion of monopoly is competition."[lvii] For Marx, then, free competition can never exist under capitalism because labor itself in such a system is

inherently not free. Said differently, competition can never be voluntary when some start in chains.

Since Marx, several generations of political economists have attempted to further develop his arguments and apply them to the changing conditions of capitalism over time. One of these developments has been to refine the Marxist interpretation of the ways in which dominant economic interests maintain their position in society. A core thinker in this regard was Antonio Gramsci, who argued that capitalist domination could not be understood simply as the product of force and coercion. Instead, Gramsci argued that it also relied on a project of "manufacturing consent" for the dominant economic paradigm among subordinated classes.[lviii] By making short-term material concessions, the long-term stability of exploitative capital could be assured by persuading marginalized classes that the existing accumulation regime supported the popular interest.[lix] This was not to entirely rule out the importance of force, but instead to foster an understanding of capitalist "hegemony" that was more nuanced than Marx's "blood and fire" explanation.

This also has a profound implication for how the state and other social institutions are theorized in Marxist political economy. Because the state often facilitates the operation of markets, it can be seen as an essential supportive element of exploitative circuits of capital. But rather than oversimplify and understand the state only in instrumental terms—as a tool for the advancement of bourgeois interests—a neo-Gramscian view indicates that it should instead be theorized as a site of contestation, where there are diverse struggles of hegemonic projects vying to affect the state's roles and values.[lx] Not all of these struggles operate on equal terrain, however, as both the state's form and social inequalities in power relations make certain struggles more likely

to succeed than others.[lxi] The end result of this analysis is that the ongoing and incomplete nature of hegemonic projects means that there can be no stable and definitive meaning ascribed to "the state," "the market," or "society." Instead, it is argued that these are all social relations that are partial and constantly being shaped and re-shaped through ongoing hegemonic projects.[lxii] As a result, any attempt to grapple with questions of the market and the state must necessarily come to grips with the broader terrain of power relations that inform and underlie *specific* operations of the market and the state.[lxiii] This view is directly responsive to neoclassical claims that free markets are the inherent engine of capitalist growth:

> It is not the inherent efficiency of markets that drives 'wealth creation' or 'economic growth'. Instead, this is achieved through the market-mediated exploitation of wage-labour and the competitive (and creatively destructive) search for above-average profits; and both of these processes involve struggles to accumulate structural power in order to shape the operation of market forces and control the conditions for the valorization and realization of capital. Moreover […] the capital relation considered as a purely economic (or market-mediated) relation is constitutively incomplete. Its continued reproduction depends, in an unstable and contradictory way, on changing extra-economic conditions. Thus, while markets may mediate the search for added value, they cannot produce it. In addition, as commodification and fictitious commodification widen and deepen their penetration of social relations, they generate contradictions that cannot be fully resolved through the market mechanism, but only deferred and displaced. In this sense, much of what passes as market failure or market inadequacies is actually an expression of the underlying contradictions of capitalism. Thus, while markets may mediate contradictions and modify their forms of appearance, they cannot transcend them.[lxiv]

A focus on markets alone, then, ignores the ways in which markets can only produce wealth if many other extra-market conditions (such as support from the state) have been satisfied. According to Marxist political economy, these extra-market conditions are generated primarily through hegemonic projects to continue exploitation at the hands of dominant economic interests. This also implicates the narrative of good governance, as

attempts to use institutions to make markets more successful can be understood as part of a hegemonic project to secure the extra-market conditions necessary for the continued exploitation and alienation of labor.[lxv]

Another important and related component of new theorizing in Marxism has been to interrogate the role of spatial and temporal dimensions of capitalism. In Marx's writings, he predicted a growing "annihilation of space by time" in which geographic (spatial) barriers to capital were dismantled in order to facilitate capitalism's global expansion.[lxvi] Marxist theorists, such as Rosa Luxemburg and David Harvey, have argued that this is a necessary dynamic of capitalism as it can only survive through continuous geographic expansion. Because capitalism has tendencies toward overaccumulation of goods or capital, it must find profitable ways to use those assets or else face their devaluation.[lxvii] The solution to these crisis tendencies is what Harvey calls the "spatio-temporal fix" in which surpluses are "absorbed by (*a*) temporal displacement through investment in long-term capital projects or social expenditures (such as education or research) that defer the re-entry of capital values into circulation into the future, (*b*) spatial displacements through opening up new markets, new production capacities, and new resource, social, and labour possibilities elsewhere, or (*c*) some combination of (*a*) and (*b*)."[lxviii]

Over time, this means that capitalism produces space—by seeking to exploit uneven geographic conditions for profit, it invariably alters and shapes those conditions.[lxix] A classic example of this is the expansion of railroads: capitalism's need for an efficient means of bulk transport necessitated the widespread construction of railroads. And these railroads do more than alter the physical landscape. They also

produce certain locales as central points of commerce (hubs), require the production of other locales as centers of resource (coal) production, expand the fetishism of commodities as producer and consumer grow distant, and shape human interactions as interconnectedness affects the contours of society. The spatio-temporal fix, however, does not permanently resolve the problems of overaccumulation; instead, it delays them into the future. Because capitalism constantly requires new manifestations of the spatio-temporal fix, "the aggregate effect is [. . .] that capitalism perpetually seeks to create a geographic landscape to facilitate its activities at one point in time only to have to destroy it and build a wholly different landscape at a later point in time to accommodate its perpetual thirst for endless capital accumulation."[lxx]

Through this lens, the Marxist approach takes an entirely different approach to explaining the rise of neoliberalism globally. For Harvey, neoliberalism represents a third major stage in the evolution of the global economy. From the late 19th century until World War II, the global capitalist system was dominated by European bourgeois imperialism. But the conditions of overaccumulation during this period funneled huge sums into investments in productivity growth in the United States. As a result, World War II ushered in a new era in US economic dominance, founded on expanded reproduction (notably manufacturing) and a "Keynesian pact" between firms and workers.[lxxi] But as this system also came to be challenged (once again by its own hand as US investments in West Germany and Japan spurred competitive rivals) by international competition, the predominance of the US economy would have to be secured by other means. Starting in the 1970s, the US began a process of solidifying its economic position through the financialization of the global economy—content to let much of its

manufacturing base slip abroad, the US kept its position with rampant consumerism and the control of global capital flows. Ultimately, the US strategy for maintaining economic primacy changed as "[t]he US was complicit in undermining its dominance in manufacturing by unleashing the powers of finance throughout the globe. The benefit, however, was ever cheaper goods from elsewhere to fuel the endless consumerism to which the US was committed."[lxxii]

This shift toward financialization required a new paradigm of economic and market logic that was manifested in neoliberalism. The global acceptance of neoliberal ideology, often imposed through loan conditionality, fostered the liberalization of markets, especially capital markets, which facilitated the rapid movements of finance capital.[lxxiii] This became part and parcel of the spatio-temporal fix, which was increasingly centered on an ongoing form of "primitive accumulation" that Harvey labels "accumulation by dispossession."[lxxiv] This process takes place in two main ways. First, through financialization (and other neoliberal tools like privatization), new paths in circuits of capital are opened as the international financial system could "visit anything from mild to savage bouts of devaluation" on assets in developing countries which then "can be bought up at fire-sale prices and profitably recycled back into the circulation of capital by overaccumulated capital."[lxxv] Second, in order to find new ways to absorb capital, new rounds of "enclosing the commons" occur whereby the public is dispossessed of goods that become subject to property rights—even things that seem to be beyond the reach of the market (such as air or organs) are given a price.[lxxvi] In each case, the operation of the market is seen as an essential tool for continued accumulation by capitalist elites.

This has clear implications for the ways in which both neighborhood effects and inequality are understood in Marxist political economy. Under a Marxist interpretation, the entire conception of externalities is foreign because its existence is dependent on the acceptance of the premise that markets are voluntary and informed. Because market interactions are never truly voluntary, "externalities" simply demonstrate the sorts of inevitable social costs caused by capitalism. Moreover, attempts to account for externalties through the market are likely to be understood merely as new waves of accumulation by dispossession as markets for externalities become new sites for profitable investment of overaccumulated capital.[lxxvii]

At the same time, it is clear that the Marxist explanation of inequality diverges markedly from the neoclassical view—instead of blaming inequality on market distortions or on individuals who fail to succeed, Marxist political economy identifies inequality as an inherent component of market-mediated capitalist relations. Because capitalism, in both its origins and ongoing processes, is premised around fundamentally coercive class struggles, it is seen as necessarily including and creating inequality.

Toward a Reflexive Methodology

Given the significant disagreements over the operations and effects of markets, the goal of forging a theoretical synthesis is daunting and almost certainly unattainable. Nevertheless, each perspective on the market and its interaction with the state and civil society can contribute important insights for evaluating the issues of neighborhood effects and inequality. Rather than an overarching theoretical synthesis, then, one goal should be to draw from each perspective to the extent that it provides a valuable insight

into the specific operation of markets. But doing so requires grounding each market theory in the complex political terrain of power relations. This creates a better understanding of how the "insights" of each theory are intimately connected to its political assumptions and presuppositions. Instead of taking market theories and their policy positions at face value, each becomes interrogated and contested. Through this process, market debates can occur without ideological "blinders" or in other words, without an overwhelming ideological commitment to any interpretation that hinders the ability to see its limitations. This approach allows for a richer and more nuanced examination of how each theory applies to specific policy proposals and what each theory brings to the table.

Neoclassical economics teaches that, in many circumstances, market exchanges that are both voluntary and informed can provide a powerful force for the efficient allocation of resources. Understanding neoclassical economics is also essential for understanding the existing structure of the global economy. Even if neoliberalism causes inequality or suffering, it is nonetheless prominent, and the immediate dismantling of all neoliberalism would likely create considerable harm to at least short-term economic growth.[lxxviii] At the same time, the insights of Marxist political economy, good governance, and heterarchy all highlight particular failures of relying on markets alone.

Marxist political economy brings the issues of power and history to the fore and resists the neoclassical tendency to see markets as the inevitable outcome of human nature.[lxxix] This explicitly calls attention to the potential ways in which unequal power relations in society can significantly affect the operation of markets. In particular, Harvey's account of the rise of neoliberal hegemony and accumulation by dispossession

provides an important viewpoint for understanding the dangers built into the structure of the global economy. The Marxist conception of hegemony and the state can also assist in conceptualizing the institutional focus of good governance. But simultaneously, much Marxist political economy may go too far in its refusal to recognize the importance of markets.[lxxx] It may rely too heavily on inefficient state action or on transformations of the global economy that are difficult to theorize, let alone achieve, in the current context of neoliberal hegemonic projects.

The approach of good governance makes an important contribution in explaining the roles of institutions in the organization of markets, and in doing so helps to break down the view that all markets work the same regardless of their location or socio-political context. But other interpretations of the market can cut into the position of good governance. Neoliberals, for example, argue that claims of "good" governance ultimately become the rationale for "full" governance—in other words, all sorts of interventions become justified and prevent markets from working.[lxxxi] Moreover, the call for good governance often may obscure the questions of power evoked by Marxist political economy. For example, Stiglitz and other proponents of good governance generally assume that there exists a global consensus for "development" and economic growth.[lxxxii] They also assume that markets, once helped by government intervention, will achieve the tasks of efficient allocation of goods and services. A Marxist viewpoint casts doubt on both of those assumptions at the same time that it challenges the widespread faith that authors like Stiglitz place in reforming international institutions. This is especially true in the context of a neo-Gramscian understanding of hegemony and hegemonic projects. From a Marxist viewpoint, a glaring omission in the work of Stiglitz and other good

governance proponents is the influence of power and power relations in shaping how the state acts and is understood.[lxxxiii] Instead of taking the notion that "institutions matter" for granted, a Marxist interpretation demands that questions be asked about how institutions are formed and how they reflect ongoing struggles (of both force and consent) to mold civil and political society.

The ideal good governance system, heterarchic governance, provides a useful starting point for rethinking the generally accepted terms of competition under capitalism. Instead of understanding markets as necessarily antagonistic with civil society, heterarchy attempts to create new collaborative and self-regulatory mechanisms for shaping capitalist competition in ways that are not socially harmful. But this approach also faces serious obstacles and limitations. From the neoliberal standpoint, it attempts to force businesses into decisions that contradict the demands of the market—for example, that they adopt mutual codes of conduct—and thus put certain businesses at risk. If the market does not demand businesses to have a code of conduct, then those companies that choose to abide by them may suffer a competitive disadvantage, which can serve the perverse effect of pushing the most responsible and accountable businesses into bankruptcy and out of the market. For many Marxists, if good governance is abstracted from power, then the concept of heterarchic governance is entirely stripped of power. In light of this, heterarchy appears as a new forum for corporate dominance as "new forms of governance provide a new meeting ground for the conflicting logics of accumulation and political mobilization. This is one of the reasons why the apparent promise of symmetry in reflexive self-organization is rarely realized when the governance of capital accumulation is at stake."[lxxxiv] And the proponents of good governance could challenge

heterarchic governance for its under-theorization of the role of the state and state institutions. Dealing with extremely complex regulatory issues makes the problem of "the relative primacy of different modes of coordination and access to institutional support and material resources" potentially very difficult for heterarchic governance.[lxxxv] Given the magnitude of many debates over the market—in terms of vested economic and political interests—each of the other interpretations calls into question the propensity for all parties to engage in true cooperation and consensus under heterarchic governance.

Evaluating the positives and negatives of each perspective is a necessary step to avoid the trap of any fundamentalist market ideology. In criticizing the IMF, Stiglitz indicts its reliance on ideology: "[i]deology provides a lens through which one sees the world, a set of beliefs that are held so firmly that one hardly needs empirical confirmation. Evidence that contradicts those beliefs is summarily dismissed."[lxxxvi] But this criticism applies to more than just the IMF or advocates of neoclassical political economy—it extends to any interpretation of markets that from the start presumes its own truth and coherence.[lxxxvii] Similar critiques could and have been made about some proponents of Marxist ideology and its blanket dismissal of markets as exploitative. In many ways, the presumed dichotomous choice between neoclassical and Marxist political economy has been the impetus for new interpretations of the market, such as more moderate versions of neoclassical economics and Marxism as well as the discourses of good governance and heterarchy. At the same time, however, each of these theories runs the risk of falling victim to its own form of ideological orthodoxy and refusing to acknowledge either the benefits of other interpretations or its own deficiencies.

Thus, resolving these difficult questions of markets requires recognizing the failures, or what theorist Bob Jessop calls the "incompleteness," of each theory.[lxxxviii] This ultimately entails the adoption of a new method and orientation toward these issues of market organization:

> For, once the incompleteness of attempts at coordination (whether through the market, the state or heterarchy) is accepted as inevitable, it is necessary to adopt a satisficing approach which has at least three key dimensions. First, it requires a reflexive orientation about what would be an acceptable outcome in the case of incomplete success, to compare the effects of failure/inadequacies in the market, government and governance, and regular reassessment of the extent to which current actions are producing desired outcomes. This involves a commitment not only to learning but also to learning about how to learn reflexively. Second, it requires deliberate cultivation of a flexible repertoire (requisite variety) of responses to retain the ability flexibly to alter strategies and select those that are more successful. For, if every mode of economic and political coordination is failure-laden, relative success in coordination over time depends on the capacity to switch modes of coordination as the limits of any one mode become evident. […] This provides the basis for displacing or postponing failures and crises. It also suggests that the ideologically motivated destruction of alternative modes of coordination could prove counterproductive […]. Third, it requires self-reflexive 'irony' in the sense that the relevant social forces must recognize the likelihood of failure but proceed as if success were possible.[lxxxix]

But it is important that this view of markets not slip into a neutral, valueless relativism. Market activity and regulation cannot be understood simply as the realm of ironic and flexible technocrats and experts who dictate economic policy from on high. Instead, Jessop urges careful attention to the power relations that are at work in forging relationships between markets, states, and societies.[xc] This focus on specific influences of power is essential both to avoid dogmatic ideology (as accepting one market interpretation *a priori* reflects a certain operation of power) and to enrich debates over markets by establishing a perspective that acknowledges that the categories of the debate are constantly being reshaped and reorganized. It is with this perspective—that demands flexibility but seeks to locate it in specific contexts and specific understandings of

power—that we can evaluate the prospects of global markets in greenhouse gas emissions.

III. Greenhouse Gas Emissions Trading: the Issues

Introduction

Despite the flexibility mechanisms in the Kyoto Protocol, the United States has refused to seriously consider, let alone ratify, the treaty. Citing threats to the US economy, the Bush administration has consistently rejected binding caps or taxes on GHG emissions, which are steadfastly opposed by several major industries.[xci] In light of this opposition, policymakers have tried to devise other policy instruments, and the recent pattern in environmental legislation has entailed "a shift from [a] sectorally fragmented and largely legally based regulatory approach toward a greater use of voluntary, collaborative, or market-based regulatory instruments."[xcii]

Emissions trading falls squarely into the emergence of this new brand of environmental regulation. Despite the Bush administration's reticence to regulate fossil fuel use, especially under the Kyoto framework, many have called on the administration to establish a domestic carbon market because of its proposed flexibility and ability to limit heavy costs to industry.[xciii] But proposals are not limited to the domestic arena. Because GHGs spread equally throughout the atmosphere and because a larger trading regime creates more potential for cheap reductions, many proponents of emissions trading—recognizing that Kyoto is a lost cause for the US—have argued that the US should attempt to build its own networks (outside Kyoto) for emissions trading internationally.[xciv]

In this way, international emissions trading—whether under the auspices of Kyoto or some other regime—is regularly presented as the most effective and cost-efficient

solution to the global problem of climate change.[xcv] But many of the conclusions about the benefits of emissions trading are derived from particular interpretations of the market, notably the neoclassical interpretation. Therefore, it is necessary to consider the practical implementation and likely effects of emissions trading and especially important to consider them in light of competing understandings of the market's effects on externalities and inequalities.

Who should reduce emissions first?

For many, the Kyoto Protocol's primary importance was symbolic, as it acknowledged the risks of climate change and proposed taking a step forward to deal with those risks.[xcvi] But, in attempting to devise an international solution, the Protocol and its negotiations necessarily had to deal with questions of which countries should be required to reduce emissions first. Energy is a primary input for a wide range of economically important industries, and because caps on emissions are likely to raise per-unit costs of energy, most nations in the climate negotiations had to deal with risks of losing economic competitiveness to other countries which did not reduce emissions.[xcvii] This was a particularly sensitive issue for developing countries, whose projected future emissions may rise to the levels of developed countries even though their current emissions levels do not.[xcviii]

From the standpoint of neoclassical political economy, legally binding emissions reductions are an unnecessary interference in the market. According to this view, markets are ultimately adaptive to solve the problems of emissions. For example, if consumers truly want action to reverse climate change, they will alter their behavior and buy

products that are less emissions-intensive.[xcix] As suppliers compete to meet this demand, they will achieve economies of scale that make their products cheaper and more marketable, which further increases demand, creating a virtuous cycle that reduces emissions.[c] According to this view, binding regulations are counterproductive because they disrupt the market's ability to manage supply and demand. However, this hypothesis has been challenged by scores of analysts who refuse to believe that the laissez-faire approach can alter emissions with the certainty or speed necessary to deal with climate change.[ci] This is because the extreme neoclassical view encourages businesses to ignore society-wide long-run risks (neighborhood effects) in order to secure short-term profits. The extreme neoclassical view does not put a "price" on GHG emissions and thus removes the neighborhood effects from the considerations of the market.

A more moderate neoclassical view might acknowledge climate change as one of the few instances in which neighborhood effects require intervention in markets. But because of the dangers of intervention, mandatory reductions should occur with the least possible negative effects on markets.[cii] One central method of limiting market distortion is to ensure the existence of market-based flexibility mechanisms (like emissions trading) within any binding regulation. But implementing emissions trading requires establishing which countries should be responsible for emissions reductions, a process that neoclassical economists argued should be based exclusively on calculations of cost-efficiency.[ciii] Accordingly, the argument advanced was that rather than having regulations apply to all countries, the developing world should be the first to reduce because cost would be lower than in developed countries, where fossil-fuel intensive fixed capital, which is especially important in many sectors (such as electricity), is already established

and widespread.[civ] Going by criteria of cost-efficiency would then seem to dictate that the first wave of emissions abatement should occur in developing countries.[cv]

But the neoclassical viewpoint was quickly repudiated on a number of levels. First, it was challenged by "good governance" economists who saw markets as a useful tool for dealing with externalities but who also noted that the nature of the climate change problem made it unique from typical market operations. Because GHGs mix evenly throughout the atmosphere, the effects of one country's reduced emissions benefits all countries equally, regardless of who actually makes the reductions. Therefore, the atmosphere should be understood as a public good.[cvi] Moreover, because this public good is affected by the actions of private actors (such as businesses or individuals), the atmosphere must also be recognized as a *privately produced public good*.[cvii] While these distinctions may seem unimportant, they in fact have an enormous bearing on the way that markets operate: "[i]t is well known that markets with public goods are less efficient than standard markets. Typically, they induce inefficient outcomes."[cviii] One of the main reasons for this is the problem of free-riders, who do not make any emissions reduction (thus protecting and improving their economic competitiveness), but still reap all the benefits to the atmosphere from others countries that take action.[cix] Thus, markets in public goods function unlike markets in private goods in which the seller is the only one to gain from his or her sales.

Because of this, the issue becomes larger than simple efficiency, but instead becomes a matter of equity and the distribution of the rights to use the atmosphere (the public good). For many neoclassical economists, "[a]n implicit assumption is that markets themselves function efficiently; the matter to be decided was the distribution.

The two issues, efficiency and distribution, were seen as separate," but in actual markets with public goods, "the appropriate equitable distribution is needed for markets to function efficiently. Somewhat surprisingly, a measure of equity can lead to efficient allocation."[cx] Determining the role of equity issues required new criteria for calculating cost-efficiency in reducing emissions, yielding a recognition that the cheapest reductions were not necessarily in the developing world. The reason for this is that "[i]n markets for public goods, it is not the dollar value of the abatement that counts for efficiency but rather the opportunity cost of that dollar value in terms of the utility that it can provide."[cxi] In other words, "a dollar to an Indian does not have the same welfare implications as a dollar to an American. So the real opportunity costs of abatement to an Indian might be higher than that to an American even though the dollar cost is lower."[cxii] Because the opportunity cost of emissions reductions is higher in developing countries, "[r]equiring abatement from developing countries first would be a regressive measure, like taxing the poor the most."[cxiii] On the issue of who should abate, then, the neoclassical model has faced substantial opposition from good governance advocates who have demonstrated that expecting developing countries to reduce emissions first threatens both public welfare and market efficiency.

A second challenge to the neoclassical view has come from commentators influenced by Marxist political economy. From this perspective, one major issue in deciding which countries should abate is "climate justice," which argues that the industrialized nations, which emit the most and have gained the most from emitting, are solely responsible for emissions reductions, especially because the nations most at risk from climate change are developing countries.[cxiv] This view of climate justice also

recognizes that requiring emissions reductions in developing countries could pose serious dangers for human welfare, as rising prices for fossil fuels could exacerbate problems of poverty and energy access.[cxv] Moreover, the restrictions on emissions in developing countries could create new barriers to economic development by encouraging production to shift away from developing countries and to allow developed countries to lock in competitive advantages.[cxvi] The result would be to make developing countries increasingly reliant on imports to meet domestic demand, creating trade deficits and susceptibility to monopoly pricing by corporations that dominate international markets.

Ultimately the force of these arguments amounted to an agreement for binding regulations to apply only to developed countries during the early phases of the Kyoto Protocol. But not all the reductions were required to occur *in* developed countries as more and more emphasis came to be placed on flexibility mechanisms, or offsets, including emissions trading.

The effects of flexibility mechanisms for developing countries

The creation of flexibility mechanisms within Kyoto has not been without critics. The claims for climate justice continued and critics argued that allowing emissions offsets was simply another way of letting developed countries off the hook for their addiction to fossil fuels.[cxvii] Others argued that exemptions from binding caps were contrary to the spirit of the Protocol itself. To overcome this opposition, Kyoto's flexibility mechanisms were often cast as a tool to advance the interests of developing countries through technology transfers, collaborative partnerships, foreign investment, and economic "leapfrogging" over developed countries.[cxviii] But the means of achieving

these promises were left unclear in Kyoto, which did not explicitly set up a regime for the implementation of flexibility measures but instead recognized that such a regime would have to be crafted in practice and through future negotiations.[cxix] As a result, there is still much in question about whether flexibility mechanisms, such as those outlined in Kyoto, can address climate change and advance a development agenda for the developing world. Investigating this issue requires a two-part analysis—one that focuses on the designing of an emissions trading regime and another that evaluates the implications of opening new markets in emissions credits.

Designing a regime: negotiations, rules, and monitoring

In order to ensure that an emissions market functions effectively and efficiently, neoclassical views argue that they must be carefully negotiated and established. These negotiations should focus on the best ways to create market flexibility and liquidity, both of which allow an emissions credit system to be more efficient.[cxx] To do this requires substantial information and climate science data—how much countries have emitted over a period of years, the major sources of their emissions, and the likely costs of emission reductions to name only a few.[cxxi] It also requires a credible monitoring system that can verify when and where reductions are occurring.[cxxii] Most of these tasks, such as data compilation and monitoring, would be performed by an "umpire" (such as a government, a collection of governments, or an independent third party) that all parties agree to. Moreover, the neoclassical view places importance on the voluntary nature of market transactions—developed countries voluntarily agree to binding restrictions, and developing countries have a voluntary choice to participate in emissions markets. The

nature of this choice has allowed international emissions trading to be portrayed as low-risk for developing countries because "[i]f countries do not stand to gain, why would they enter the deal?"[cxxiii] This ability to opt-in to carbon markets, especially through programs like the CDM (because it allows reductions in developing countries to count in the market but does not require developing countries to implement binding caps), has been at the center of the neoclassical view of designing "win-win" emissions markets.

At the forefront of the opposition to these supposed "win-win" markets have been advocates strongly influenced by Marxist political economy. From their perspective, the design of any emissions trading scheme cannot be understood as the creation of a self-contained and isolated market. Instead, the rules are intrinsically shaped by the socio-economic context of class struggles that form the foundation of market activity. In the particular example of emissions trading, neo-Marxists have argued that it is impossible to understand how a regime would be designed without seeing it in light of the existing global economic system dominated by neoliberal ideology and the major powers of international finance.[cxxiv] Some critics of emissions markets have argued that "[e]missions trading programs may serve as another vehicle through which developed nations attempt to foist neo-liberal economic ideas upon the developing world" as "emissions trading embodies the characteristics of Western rationality: 'efficiency, reductionism, selectionism (survival of the fittest) and quantification.' "[cxxv] From this perspective, then, the creation of emissions markets becomes a mechanism by which market priorities override broader questions of capitalism and its social effects.[cxxvi]

This is especially evident in negotiations to design a trading regime, which will demonstrate a significant bias toward more economically and politically powerful

nations: "[s]ignificant asymmetries in bargaining and information between developing and developed nations suggest that developed nations will dominate negotiations over the details of any future emissions trading program, successfully crafting the international agreement to suit their interests."[cxxvii] For example, negotiations could establish extremely lenient caps on developing countries (in which case the price of credits would be so low as to be worthless) or could create "safety valves" that put a maximum price on the cost of emissions credits.[cxxviii] In this way, Marxist political economists rebuke the assumptions that the creation of emissions markets would be voluntary and informed. Rather, they argue that the conditions of negotiation would invariably reflect existing economic inequalities, as claims of "voluntary agreements" ignore the ways in which countries are virtually coerced through desperation (for example, by debt).[cxxix] This is also particularly relevant in light of power as it relates to struggles for hegemony. For some Marxists, the ability to craft agreements that achieve the consent of developing countries represents the consolidation of the hegemonic project of neoliberalism. By promising material concessions (such as new inflows of capital or technology), developing countries are successfully integrated into a coalition of the willing on behalf of transnational capital.[cxxx]

All of these examples are used to advance the argument that the rules of emissions trading will become biased in the same way that rules are biased within the existing global economic system. And even if the rules themselves are not directly supportive of developed countries, issues of monitoring and verification would create new means for wealthy companies and countries to take advantage.[cxxxi] Because reductions are brought under the logic of the market, it is argued that they increase the motivation and

opportunities for corruption: "[w]hen the incentive to reduce emissions is profit and cost-effectiveness, there is an incredible pressure to cheat by overestimating reductions, while underestimating emissions. This can lead to fraudulent claims of reductions, inaccurate reporting of emissions and general gaming of the system."[cxxxii] These risks have increasingly been couched in terms of corporate accounting scandals, particularly that of Enron (which was a major supporter of emissions trading), as many see new conflicts of interest arising between corporations that intend to act as both emissions monitors and as consultants to major firms in the market.[cxxxiii] This corruption could have a corrosive effect on the emissions trading regime itself as "[u]nverifiable emissions credits would flood the market, turning the trading system into a farce."[cxxxiv] At the same time, it would have an exploitative effect on developing countries because emissions reductions projects, instead of delivering development benefits, would instead become the guise for multinational rent-seeking through "myriad decentralized transactions" in which MNCs could covertly "trade internally between different national arms of [the] corporation, taking advantage of schemes to generate cheap permits in the developing world."[cxxxv] These and other kinds of market manipulations could also allow certain firms to create a monopoly in which they consolidate the profits from trading and have substantial control over the international price of credits.[cxxxvi] While some argue that regulation would limit these kinds of exploitative circumventions, the Marxist approach again calls attention to the context of such regulation and claims that "the neo-liberal trends in international trade make it unlikely that emissions markets will ever be tightly regulated."[cxxxvii] This is especially true if the neo-Gramscian analysis is correct that short-term concessions in emissions trading will merely pave the way for the re-entrenchment of neoliberalism in

the future. All of these concerns shape the Marxist rejection of emissions trading on the grounds that it is more likely to reinforce or exacerbate inequalities than contribute to sustainable or equitable development.

In many ways, the good governance approach agrees with the Marxist view and recognizes the dangers of international emissions trading for the developing world. However, for good governance proponents, these dangers are not attributed to inherent inequalities of power or class but rather to a history of uneven economic and political development. As a result, emissions trading is understood as a market mechanism that offers major upsides that can only be achieved through careful planning and regulation. A particular focus in this regard is on institutional capacity.[cxxxviii] For example, as discussed in relation to the neo-Marxist perspective, negotiations over a climate regime are seen as likely to reflect the interests of developed countries, not because of the menacing agenda of a "global capitalist order" but because of a lack of experience, expertise, and resources for developing countries to succeed in those environments.[cxxxix] This has in some cases been used as an argument against Kyoto and for smaller-scale emissions trading, as "[n]egotiations are dominated by old U.N. hands more familiar with using the United Nations to score ideological points than to solve problems. And the composition of new institutions must conform to the traditional U.N. practice of divvying up seats among the various regional groups, rather than a more functional approach that reflects an institution's particular tasks. The result is a significant institutional deficit."[cxl] Climate negotiations, like many of the IMF meetings that Stiglitz condemned, may often fail to be transparent and can exacerbate institutional problems by insulating decision-making about markets from public discussions.

For good governance proponents, the implications of this lack of institutional capacity extend beyond just climate negotiations. They also affect the overall operation of emissions markets and their ability to generate opportunities for development, economic growth, or the reduction of inequalities. If the foundations for markets are not established, numerous problems arise. For example, "the most frequently voiced concern about joint implementation is that a few countries could 'steal the march' on others by taking advantage of a thin market with little information."[cxli] In this scenario, a few wealthy countries or companies attempt to control the lion's share of credits in the developing world, allowing them to manipulate market prices and outcomes. Another scenario is that emissions trading would create dangerous economic volatility, mainly from inflows and outflows of investment, including FDI.[cxlii] For example, many good governance proponents have recognized risks in market liberalization "as part of the reason for the pervasive failure to prepare the regulatory foundation for successful liberalization" because "governments are anxious to gain the benefits of liberalization quickly."[cxliii] It is also argued that this applies to the attempts of developing countries to attract FDI, which becomes a race to the bottom in which "there has been an increasingly intense rivalry among countries to attract FDI inflows, with governments competing among themselves with a liberal policy framework, investment incentives and tax concessions."[cxliv] The fundamental issue in these scenarios is the level of institutional preparedness—in terms of the state, the market, and their inherent interactions—for the implementation of emissions trading. Good governance proponents ultimately argue that designing a regime must account for varying levels of preparedness and adjust implementation with a consideration for sequencing and pacing:

> If transparency, accurate monitoring, a functional legal system, and realistic incentives to trade are scarce in countries with economies in transition, 'the problems run much deeper in the developing world.' In developing nations, one finds few people with the necessary skills and experience to implement and monitor sophisticated policies; skilled labour is concentrated in cities rather than field posts; monitoring equipment is in short supply; even baseline data are unreliable; and informal and even institutionalised corruption runs rampant. Greenspan Bell suggests that it may be impossible 'to expect that countries only beginning the process of environmental protection can start with the most difficult environmental instruments.'[cxlv]

The main emphasis then is on the process of creating the rules and mechanisms of enforcing them. In contradiction to the Marxist view, good governance proponents believe that fair rules *can* be created, but that this requires a new emphasis on participation and institutional capacity building. With these comes the ability to effectively monitor and enforce agreements without manipulation or circumvention.

For proponents of heterarchic governance, the primary problem with the designing and implementing emissions trading, especially as it is conceived of under the neoclassical model, is the attempt to simply regulate corporations without creating linkages with civil society and the government. In terms of negotiations, this view indicts the idea that positive outcomes can be achieved without direct participation and input from societal stakeholders in the process.[cxlvi] Moreover, the whole orientation of the negotiations spurs controversy because the negotiations are necessarily adversarial.[cxlvii] Because there are so many disagreements and diverging perspectives, the emphasis of heterarchic governance is to find new ways to move beyond protracted negotiations. This requires reconceptualizing the intentions of an emissions trading regime. The point, from the view of heterarchic governance, should not be to negotiate a system where it is assumed corporations will regularly try to cheat, requiring strict regulators who can bring out the hammer and keep everyone in line.[cxlviii] Instead, the goal should be to foster

cultures of compliance that can increase participation (similar in that sense to good governance) but can also become self-regulating and less adversarial. This approach avoids the inherently antagonistic view of the state and market that expects countries or companies to circumvent regulations and the common good. In this way, proponents of heterarchic governance would likely agree that within the current organization of the global economy, the implementation of emissions trading is likely to have perverse, negative effects. But their view of a solution is not improved government regulation and institutional capacity; rather it is a broader change toward civil markets and public-private collaboration.[cxlix] However, the ability to actually achieve a solution such as this must be directly confronted by the persistent international inequalities established by Marxist and to some extent good governance proponents.

On the whole, it is clear that fashioning an agreeable and enforceable international emissions trading regime is complex and difficult. But rather than assume that market forces can move beyond these difficulties, both good governance and Marxist perspectives demonstrate the likelihood of manipulation of these difficulties to the benefit of economic elites and developed countries. While the good governance model assumes that institutional capacity building can overcome these dangers, the Marxist view questions the ways in which institutions are formed and how institutions can selectively benefit particular interests. This interrogation of the roles of institutions and their formations moves beyond the good governance claim that more knowledge can allow technocrats and experts to resolve institutional deficits. Instead, it locates the operation of institutions in hegemonic struggles, within society and the state, to advance particular economic interests. This emphasis on power reveals that the risk identified in emissions

trading (by both good governance and Marxist analysts) may be more systematic and far-reaching than good governance theorists are willing to admit.

New Markets: privatization, capital inflows, and derivatives

It is important to remember that the designing and implementation of an emissions market is more than just an act of regulation but is the active creation of an entirely new market in goods that previously were not within the realm of property rights. But the establishment of this new market has effects that are not limited to the primary market itself. Instead, like many markets, an international emissions trading regime is likely to spur the creation of new markets, which "are called *derivative* because they trade contracts whose value depend on (are derived from) the value of an underlying asset, in this case quotas to emit."[cl] These derivative markets are often involved in hedging risks with "futures and swaps" that serve two major market functions: "[t]hey reallocate risks [. . .], and they function as substitute credit markets, allowing traders with limited liquid assets to trade extensively. For example, trading options on oil futures requires less cash than trading oil futures. Thus, market liquidity is increased with options."[cli] These derivative markets can take a number of forms. Forward settlements are one form and "are contractual agreements between a buyer and seller for forward streams of a particular greenhouse gas commodity."[clii] Another common form is the options contract, which can be either a "call" or a "put" option:

> In a Call option the buyer of the option has the right but not the obligation to purchase a specific amount of a greenhouse gas commodity at a price (Strike Price) agreed to at the trade date. In this case the buyer of the Call option is the buyer of the commodity. In a Put option the buyer of the option has the right but not the obligation to sell a specific amount of a greenhouse gas commodity at a set price agreed to at the trade date. [. . .] An options buyer pays a premium for the

> flexibility provided by the seller of the option. The premium is a payment to the seller, compensating them for guaranteeing a market price to the buyer.[cliii]

Options are attractive in emissions markets because they offer flexibility to both buyers and sellers based upon anticipated costs of emissions reductions and emissions credits. Another form of derivative markets is in futures contracts, in which the buyer has the right and the obligation to buy by a certain date at a pre-agreed price.[cliv] Because futures represent a more stable and obligatory contract, "[f]utures contracts and options of futures differ from options and forwards in that the contract itself has value and is transferable between parties."[clv]

For neoclassical political economists, these markets in derivatives are valuable outgrowths of the primary market. Because they decrease the amount of risk born by a single party, they allow more buyers and sellers into the market, which is seen as necessary to "achieve market depth and liquidity and so improve market functioning."[clvi] These markets are understood as natural and practical extensions of the primary market in that they are organized around voluntary and informed choices of market participants and because they make market transactions more accessible to a broader range of participants. Trading in derivatives can also provide important information and price signals to market participants (for example, a sell-off of a company's stock on the New York Stock Exchange is likely a signal to other investors about the status of that company). As a result of these benefits, markets in derivatives increase market activity and are also likely to increase investment in global projects for emissions reductions.

Good governance proponents are skeptical of the ability of derivative markets, especially unregulated derivative markets in developing countries, to successfully foster market stability and efficiency. According to this view, trade in derivative markets can

easily spur volatility because those markets are organized around asymmetries of information: "[t]he concept of an efficient market in risk [. . .], is attractive" but "[m]ost of what happens in risk markets—betting, insurance, and securities markets—is not efficient in this sense. It is designed to exploit the "irrationalities" of our everyday behavior toward risk."[clvii] While many neoclassical economists claim that speculative trade in derivatives is a form of rational economic action, this is contested by good governance proponents who point out that in a perfect market, there would be no speculation; in this sense, speculative markets can *only* exist because of some irrationalities that are related to disparate amounts of information (or differing interpretations of information) between market participants.[clviii] This view is also wary of the claims that derivative markets insulate market participants from risk by spreading it around; instead, it is argued that in many cases the spreading of risk is an illusion that hides the ways in which risk is compounded and ignored.[clix] A common example in this regard has been maritime insurance in the UK, which encouraged investment on the premise that risks were adequately and safely distributed, creating an even greater and more dangerous ripple effect when the major insurance houses failed.[clx]

Good governance approaches are also skeptical of the claims about the primary and secondary markets spurring beneficial capital flows into developing countries. For one, they recognize that despite the way they are commonly portrayed by neoclassical economists, increased capital flows are not an end in themselves: "if cross-border financial flows from trading turn out to be significant, then it does not necessarily follow that revenues would be used domestically for socially beneficial purposes, such as poverty alleviation or helping countries adapt to adverse climate impacts."[clxi] This is

especially true in many developing countries where corruption can limit the distribution of investment flows to society's poorest.[clxii] Another danger is the volatility of trading in secondary markets, especially in poorly regulated markets with weak institutions because "[f]utures and Options trading is complex and can be risky. Participants and their brokers must have a clear understanding of the participants' financial situation, experience in trading futures and options, tolerance for risk and risk management or investment goals."[clxiii] This lesson of capital volatility has been witnessed numerous times in the past decade, as financial crises have struck many nations, with the most prominent being the East Asian financial crisis of 1997.[clxiv] While the causes and consequences of the East Asia crisis are still disputed, many good governance proponents, such as Stiglitz, have identified volatile capital flows as the primary instigator.[clxv] These capital flows are dangerous because they are subject to a herd mentality whereby investors respond to the actions of other investors, meaning that if some start to withdraw capital, then the others will quickly do the same as each investor is afraid to bear the costs of being the last person standing.[clxvi] This also makes derivative markets susceptible to self-fulfilling prophecies as even rumors of economic problems can cause a tidal wave of capital outflows.[clxvii]

While many of the capital flows discussed by Stiglitz and other good governance advocates are in extremely speculative markets such as currency values, the dangers are still applicable to markets related to emissions credits for two reasons. First, while not necessarily as volatile as currency speculation, speculation about the international carbon price could still spur rapid movements of significant sums of capital, especially if developing countries are competing to attract investment. Second, credit selling has a

direct effect on currency values. Because selling credits contributes to a country's export receipts, countries that sell credits face pressures for currency appreciation.[clxviii] Currency appreciation can be dangerous for developing countries by making them vulnerable to excessive cheap imports that can undercut domestic industries and by making exports more expensive, threatening globally-focused sectors of the domestic economy.[clxix] Moreover, increased movement of a country's currency increases its prospects for currency speculators, creating exactly the kinds of conditions that good governance advocates fear. By extension, proponents of heterarchic governance see the threats from derivative markets as by-products of the unsustainable and dysfunctional orientation of competition under existing models of markets and capitalism. Speculative "hot money" is clearly the result of a profit-motive that is detached from public welfare.

These criticisms are taken a step further by Marxist political economy, which is particularly wary of the creation of new global markets. This is especially true of Harvey's critique of accumulation by dispossession. For Harvey, one of the central means by which accumulation by dispossession occurs is through the creation of new markets, which can act as new circuits for the absorption and movement of capital.[clxx] Under this interpretation, the primary market itself is a likely method of accumulation by dispossession as overaccumulated capital can be invested in creating long-term emissions reductions (either domestically or abroad), effectively carrying out a spatio-temporal fix. These arguments are amplified in relation to derivative markets, which create opportunities for risky but potentially highly profitable investments.[clxxi] Moreover, the derivative markets create a new terrain for exploitative relationships with developing countries. For example, major companies or countries could try to leverage their

economic strength (through promises of market access or increased investment, etc.) to negotiate extremely unequal options contracts. In this way, the supposed benefits of options (flexibility and risk premiums) would be erased through coercive bargaining and negotiations. Another risk in these markets is the potential for powerful market players to monopolize information and use their informational advantage to generate windfall profits. Just as insider trading can facilitate enormous profits in a traditional stock market, insider trading in emissions markets and their derivatives could expand the terrains of accumulation by dispossession.

And again, a Marxist perspective of power relations and hegemony, especially vis-à-vis the state and institutions, casts doubt on the ability of any proposed mechanism—markets or institutions—to successfully manage or regulate newly opened emissions markets. Even if attempts by institutions to regulate these new markets do occur, those attempts will necessarily reflect the ongoing power struggles of hegemonic projects to shape and influence the creation and implementation of market regulations. As a result, it seems that the analysis of good governance approaches puts too many eggs in one basket because if institutions themselves are shaped and organized based on ongoing power relations, then those institutions are insufficient as a means of limiting or regulating the expansion of exploitative modes of accumulation.

Lessons in Practice?: The Clean Development Mechanism (CDM)

Because no international emissions trading regimes exist, making projections about outcomes can be a difficult task.[clxxii] The nearest example of empirical evidence is Kyoto's CDM, which spurred interest in many developed countries as a valuable site for

investment in order to secure emissions credits under Kyoto's binding caps. These investments have largely taken place under the auspices of development banks in various carbon funds, such as the World Bank's Prototype Carbon Fund (PCF) and BioCarbon Fund (BCF).[clxxiii] In these arrangements, governments and private entities can provide money and "in return, investors receive a pro rata share of the credits generated by the projects."[clxxiv] CDM projects, which produce "certified emissions reductions" credits, or CERs, "must be approved (validated) by an accredited independent entity and the emission reductions must be certified by a different accredited independent entity."[clxxv] In order for a project to be validated, it must meet the criteria of "additionality," meaning that the project must create greater emissions reductions than would have been achieved if the project did not take place.[clxxvi] This is determined by comparing the project to a "baseline methodology," specific to each project, that has to be approved by the CDM Executive Board.[clxxvii] The CDM criteria also require that projects support sustainable development and work in cooperation with a Designated National Authority to ensure criteria are being met.[clxxviii] In this way, the CDM represents a blending of the neoclassical and good governance approaches—it attempts to harness a market mechanism (emissions offsets) as a "win-win" solution, but it maintains a system of rules and regulatory oversight to ensure CDM projects fit the goals and criteria of Kyoto.

As a result, the CDM is in some ways a helpful example for evaluating the likely effects of international emissions trading, especially as it pertains to issues of development and relations between developed and developing countries. However, it should be noted at the outset that three issues limit the CDM's applicability as a conclusive test case. First, because the US has not ratified Kyoto, it has also not

participated in CDM activities or financing, which has greatly curtailed the size and strength of the CDM.[clxxix] Second, because Kyoto emissions caps expire (without a renewal) in 2012 and because many CDM projects require several years to complete, many have claimed that the number of CDM projects has fallen short of expectations.[clxxx] Third, the CDM is distinct from many designs for emissions trading, which assume trades between independent entities, not joint collaboration in an emissions reduction project. While programs like the CDM can make up a component of such designs, they are unlikely to encompass the whole regime (as demonstrated by the fact that the CDM is just one of three flexibility mechanisms in Kyoto). Nevertheless, a number of important lessons can be learned form evaluating CDM projects.

The first lesson is that issues of bureaucracy can turn a "win-win" situation into "lose-lose." Because the rules for additionality are highly subjective and difficult to pin down with scientific methodologies, there have been widespread fears that the CDM could be easily manipulated to generate CERs from projects where no real substantial emissions reductions took place.[clxxxi] As a result, the CDM Executive Board has required specific and detailed baseline calculation methodologies to be proposed for every project. This has created a backlog for the Board, which has dozens of proposed methodologies to evaluate.[clxxxii] While the regulatory role of the Board has been successful in rejecting a broad array of methodologies, this has also suppressed investor interest in the CDM because of the uncertainty involved in the methodology approval process.[clxxxiii] From the perspective of neoclassical economics, this chilling effect on investment demonstrates the inherent risk of "smart regulation" becoming over-regulation. As a result, many have called for increased business involvement in the approval process to make it faster and

more accepting of baseline methodologies.[clxxxiv] But with these proposals come increased dangers of creating incentives for cheating as both investors and the national authorities in CDM projects have an incentive to artificially inflate the amount of reductions achieved.[clxxxv]

A second lesson can also be drawn from the fact that, by most accounts, the CDM has failed to achieve its objectives of spurring sustainable development and beneficial transfers of capital and technology to developing countries. This failure stems from three main problems in the implementation of CDM projects. First, even if CDM projects can help some developing countries, the distribution of projects has been uneven and has occurred on the basis of factors divorced from questions of sustainability or development. Because investors base investments on perceptions of stability and future economic growth, their investments will not be spread equally nor will they be accessible to all countries. This trend has emerged in CDM investments as thus far a majority (58%) of all projects have taken place in China, India, and Brazil.[clxxxvi] This indicates that though CDM projects may show promise in some instances, benefits are likely to be limited to a few nations (or regions) and as a result may threaten greater inequalities between developing nations. While some have attributed these problems to a lack of US participation, it is unclear how or why the US would remedy the uneven patterns of investment, and as a result, many analysts have concluded that "[e]ven with a vibrant market, host countries are likely to find that it will not bring in the types of investments some early discussions of the CDM seemed to give rise to. The CDM cannot be all things to all countries and is not meant as a cure to the limitations of international development policies."[clxxxvii]

The second reason that CDM projects have failed to achieve their desired goal is that many projects have been poorly planned or fail to meet the spirit of the CDM's call to sustainable development. Most CDM projects—nearly 75% of them—have focused on "capturing landfill gas (methane) or hydroflourocarbons" and another large portion have pursued reforestation or carbon sequestration.[clxxxviii] Only 5% of projects have focused on renewable energy projects.[clxxxix] These emissions capture projects do little to contribute to sustainable energy production or to more equitable development in developing countries. These types of projects can also spur counterproductive effects on public welfare as nations try to earn emissions credits. For example, in South Africa, instead of closing a landfill, alleged to be causing illnesses in local communities, the government opted to keep the landfill open but to turn it into a CDM project to capture methane.[cxc]

The third reason for CDM failure is that the additionality requirements can create perverse incentives by making it unprofitable for developing countries to undertake sustainable development projects on their own.[cxci] Because credits can only be earned for reductions that would not have been made otherwise, the appeal of CDM projects can have a chilling effect on governments that fear that domestic anti-pollution efforts will cause future CDM projects to fail the additionality criteria.[cxcii] While the designated national authority, or DNA, is intended to prevent these kinds of perverse incentives, the DNA is often assigned to bureaucratic state departments (such as the Department of Minerals and Energy in South Africa) that have limited experience with CDM projects and that have shown a failure to include and account for public comments in their decision-making. [cxciii] And even if the institutional troubles of the DNA in every country

could be resolved, it only becomes more likely that claims of over-regulation, similar to those directed at the CDM Executive Board, would increase.

These failures cast a troubling light on the CDM and on the goal of using emissions trading projects as development tools. Because these types of projects are driven by the market goals of profitability, they will encourage shortsighted and self-interested investments:

> The function of the CDM market will continue to be to identify and fund low-cost carbon credits, not make investments that drive strategic change in energy and transport. Like US emissions markets, the CDM market is necessarily blind to the fact that not all so-called 'emissions reductions' locations and types are equal in environmental value and potential for driving long-term, system-wide structural innovation and change toward non fossil-dependent energy and transport. It would thus be inaccurate to characterise the current market including credit-generating 'offset' projects as 'at least a small step in the right direction' or as 'doing more good than harm' with regard to technological change.[cxciv]

The lessons from the CDM, therefore, seem to represent a broader failure of emissions offsets to account for, let alone support, the interests of developing countries.

IV: Conclusions

International emissions trading is closely related to a wide range of controversial topics and heated debates. The previous two sections, through an analysis of both its theoretical underpinnings and policy implications, have attempted to show the ways in which emission trading is more complex than either its advocates or detractors claim. Indeed, this complexity reflects the magnitude and depth of the issues surrounding emissions trading. Through an analysis of these subjects, several conclusions, both theoretical and practical, can be reached.

The first conclusion is a recognition that understanding the debates over emissions trading requires an investigation of the theoretical foundations that underlie the main policy positions. As a result, evaluating the likely outcomes of emissions trading challenges us to consider how interpretations of markets frame arguments over neighborhood effects, global inequalities, and the roles of the state. While this may seem obvious in the abstract, it is a point often forgotten in the thick of intense arguments over the desirability and implementation of emissions trading regimes. Many of the central questions involved—neighborhood effects of markets, negotiations to establish an international regime, mechanisms for regulation and monitoring, stability of global capital flows, or the effects of derivative markets to name only a few—have a scope that extends far beyond their immediate policy application to emissions trading. Consequently, one's position on many of the main questions of emissions trading policy begs the larger question of how that position fits within a broader perspective of the operation of markets in relation to institutions (such as the state) and society. Attempting

to bracket off single policy issues from these broader theoretical currents paves the way for myopic analysis and shallow comprehension.

A second and related conclusion is that ideological fundamentalism—toward any market theory or interpretation—detracts from the ability to adequately analyze complicated questions of politics and of policy. In the attempt to reduce all political questions to an understanding of "free markets" versus "the state," rigid approaches of ideological fundamentalism fail in successfully explaining policies like emissions trading, often labeled "smart regulations," designed to blend regulatory and market mechanisms. Thus, although it may share characteristics with both command (state-directed) and voluntary (free market-directed) approaches, knee-jerk ideological attempts to lump emissions trading together with command or market approaches are both inaccurate and shortsighted. Simultaneously, it is important to recognize that positions like "good governance" (the primary source for smart regulations), often couched in anti-ideological terms (e.g. rejecting both neoclassical and Marxist political economy) can themselves become a source of ideological fundamentalism. Just as neoclassical theorists rely on preconceived notions of markets, good governance proponents risk a reliance on preconceived notions of institutions, which obscure important questions of how specific institutions are theorized, produced, and deployed in specific contexts. And as new forms of "smart regulation" become an increasingly popular tool among policymakers, there is a greater necessity to be able to move beyond ideological boundaries to evaluate the institutional context of each type of regulation. The point is that we should not put the cart before the horse by presuming that concepts like "markets," the "state," or the "capitalist class" (to list only a few examples) are static and universally applicable in

homogenous ways. Instead, the examples presented here demonstrate the benefits of a reflexive approach that seeks to interrogate these concepts through a lens of power relations rather than take them for granted. This is not to argue that ideological positions have nothing to contribute to these value-laden discussions; instead, it is to claim that the contribution of any fundamentalism is inherently limited by its unwillingness to confront or question its own validity. This should not be construed as an attempt to wave a magic wand and pretend that all competing viewpoints are somehow compatible, but rather is a demand for a more reflexive and skeptical perspective that attempts to ground theoretical and policy debates in specific contexts of political struggles of power and knowledge. Through this analysis, the reflexive position aspires to understand the strengths and limitations of every form of ideological fundamentalism and as a result, refuses to presume that it has "the answer" before the question has even been asked. Following a reflexive methodology thus demands a commitment to critical questioning and openness that is not only willing to take a strong position but *also* to modify that position in light of ongoing debate and dialogue.

With this approach in mind, the third main conclusion is that, under current circumstances, an international emissions trading regime would be unlikely to adequately deal with neighborhood effects and would likely exacerbate inequalities between developed and developing countries. Furthermore, while the good governance approach provides a useful explanation of *how* international emissions trading would have these negative effects, it does not do enough to explain the *why*. It is here that an approach informed by Marxist political economy can make a significant contribution. Ultimately, a new emissions trading regime is likely to fail because it does not adequately account for

the fact that market participants enter the market under starkly asymmetrical distributions of power and influence. While good governance approaches recognize the symptoms of these problems in market failures, their turn to institutions as the necessary antidote does not come to grips with the degree to which unequal power dynamics are likely to permeate the institutions within an emissions trading regime. Not only do many inequalities extend beyond problems of institutional capacity (for example, vastly different bargaining positions based on needs of market access or international debt), but they are also involved in the very composition and operation of institutions.[cxcv] Once we move beyond the position of taking the state or institutions for granted as neutral and effective protectors of the public interest, the good governance approach appears increasingly incapable of dealing with the problems it identifies in neoclassical paradigms. Without a mechanism for regulating new markets in emissions or dealing with power asymmetries, the likely effects of an emissions trading regime increasingly seem to reflect a Marxist interpretation, which identifies numerous ways in which the regime would advance hegemonic projects designed to continue accumulation by dispossession as a central mode of capitalist accumulation. Virtually all parts of the process of global emissions trading—from negotiation through implementation—contain serious risks of being appropriated to continue and strengthen exploitative accumulation by opening new avenues in the circuits of transnational capital. Thus, while international emissions trading can often appear as a reasonable and compelling approach based on an alleged "middle ground" of the neoclassical and good governance approaches, without a more thorough analysis of power discrepancies in international political economy, such a regime would only compound the problems it seeks to address.

Bibliography

Aldy, Joseph E., Richard Baron, and Laurence Tubiana. "Addressing Cost: the Political Economy of Climate Change." Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Center On Global Climate Change. Accessed 20 Feb. 2006 <http://www.pewclimate.org/docUploads/Beyond%20Kyoto%2Epdf>.

Ashton, John, and Xueman Wang. "Equity and Climate: in Principle and Practice." Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Center On Global Climate Change. Accessed 20 Feb. 2006 <http://www.pewclimate.org/docUploads/Beyond%20Kyoto%2Epdf>.

Bachram, Heidi. "Climate Fraud and Carbon Colonialism: the New Trade in Greenhouse Gases." Capitalism Nature Socialism 15 (2004). Accessed 20 Feb. 2006 <http://www.carbontradewatch.org/pubs/cns.pdf>.

Baron, Richard, Cedric Philibert, and Rick Bradley. Act Locally, Trade Globally: Emissions Trading for Climate Policy. International Energy Agency; OECD. Paris: OECD/IEA, 2005.

Baumol, William J. The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism. Princeton: Princeton UP, 2002.

Block, Fred. Introduction. The Great Transformation. By Karl Polanyi. Boston: Beacon P, 2001. vii-xvii.

Bodansky, Daniel. “Climate Commitments: Assessing the Options.” Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Center On Global Climate Change. Accessed 20 Feb. 2006 <http://www.pewclimate.org/docUploads/Beyond%20Kyoto%2Epdf>.

Bodansky, Daniel. U.S. Climate Policy After Kyoto: Elements for Success. Carnegie Endowment for International Peace. 2002. Accessed 24 Feb. 2006 <http://www.ceip.org/files/pdf/Policybrief15.pdf>.

Bond, Patrick. Global Economic and Geopolitical Turbulence: Implications for Third World Development. Ukzn School of Development Studies. 2005. Accessed 21 Feb. 2006 <sds.ukzn.ac.za/files/bondukznaug24.pdf>.

"Bonn Statement On Climate Change." Corporate Europe Observatory. 16 July 2001. Accessed 26 Feb. 2006 <http://www.corporateeurope.org/climate/bonnstatement.html>.

Bruyn, Severyn T. A Civil Economy: Transforming the Market in the Twenty-First Century. Ann Arbor: University of Michigan P, 2000.

Busch, Per-Olof, Helge Jorgens, and Kerstin Tews. "The Global Diffusion of Regulatory Instruments: the Making of a New International Environmental Regime." The Annals of the American Academy of Political and Social Science 598 (March 2005): 146-167.

Carbon Trade Watch. The Sky Is Not the Limit. Transnational Institute, 2003. Accessed 10 Nov. 2005 <http://www.tni.org/reports/ctw/skytext.pdf>.

Carrier, James G. "Introduction." Meanings of the Market. Ed. James G. Carrier. Oxford: Berg, 1997. 1-67.

Charnovitz, Steve. "Trade and Climate: Potential Conflicts and Synergies." Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Center On Global Climate Change. Accessed 20 Feb. 2006 <http://www.pewclimate.org/docUploads/Beyond%20Kyoto%2Epdf>.

"Glossary." Chicago Board of Trade. Accessed 14 Mar. 2006 <http://www.cbot.com/cbot/pub/page/0,3181,1059,00.html#F>.

Chichilnisky, Graciela. "Equity and Efficiency in Emission Markets: the Case for an International Bank for Environmental Settlements." Environmental Markets: Equity and Efficiency. Ed. Graciela Chichilnisky and Geoffrey Heal. New York: Columbia UP, 2000. 180-217.

Chichilnisky, Graciela, and Geoffrey Heal. "Introduction." Environmental Markets: Equity and Efficiency. Ed. Graciela Chichilnisky and Geoffrey Heal. New York: Columbia UP, 2000. 1-12.

Chichilnisky, Graciela, and Geoffrey Heal. "Markets for Tradable Carbon Dioxide Emission Quotas: Principles and Practice." Environmental Markets: Equity and Efficiency. Ed. Graciela Chichilnisky and Geoffrey Heal. New York: Columbia UP, 2000. 13-45.

Dessus, Benjamin. "Equity, Sustainability, and Solidarity Concerns." Issues & Options: the Clean Development Mechanism. Ed. Jose Goldemberg. New York: United Nations Development Programme, 1998. 81-90.

Diringer, Elliot. “Overview: Climate Crossroads.” Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Center On Global Climate Change. Accessed 20 Feb. 2006 <http://www.pewclimate.org/docUploads/Beyond%20Kyoto%2Epdf>.

Dixon, Norm. Global Warming: Is Kyoto Accord the Answer? Green Left Weekly, 2004. Accessed 3 Mar. 2006 <http://www.greenleft.org.au/back/2004/610/610p8.htm>.

Eichengreen, Barry, and Albert Fishlow. "Contending with Capital Flows: What is Different About the 1990s?" Capital Flows and Financial Crises. Ed. Miles Kahler. Ithaca, NY: Cornell UP, 1998. 23-68.

Erion, Graham. "What's Wrong with Carbon Trading." Trouble in the Air. Ed. Patrick Bond and Rehana Dada. Accessed 15 Feb. 2006 <www.carbontradewatch.org/pubs/CCS_ENERGYSERIES_1005_COMPLETE.pdf>.

Erion, Graham, Larry Lohmann, Jutta Kill, and Michael K. Dorsey. "Is Following the American Pollution Trading Model a Recipe for Injustice in Carbon Markets." Trouble in the Air. Ed. Patrick Bond and Rehana Dada. Accessed 15 Feb. 2006 <www.carbontradewatch.org/pubs/CCS_ENERGYSERIES_1005_COMPLETE.pdf>.

"Focus: Kyoto Protocol." Apr. 2005. Allens Arthur Robinson Law Firm. Accessed 7 Apr. 2006 <http://www.aar.com.au/pubs/pdf/env/fokypapr05.pdf>.

Friedman, Milton. Capitalism and Freedom. 40th Anniversary ed. Chicago: University of Chicago P, 2002.

Ghimire, K.B. "Markets and Civil Society in Rural Transformation: an Overview of Principal Issues, Trends and Outcomes." Civil Society and the Market Question. Ed. K.b.

Ghimire. New York: Palgrave Macmillan, 2005.

Gwynne, Robert N., Thomas Klak, and Denis J.b. Shaw. Alternative Capitalisms: Geographies of Emerging Regions. London: Arnold, 2003.

Hahn, Robert W., and Robert N. Stavins. What Has the Kyoto Protocol Wrought?: the Real Architecture of International Tradable Permit Markets. Washington, D.C.: American Enterprise Institute P, 1999.

Harvey, David. A Brief History of Neoliberalism. Oxford: Oxford UP, 2005.

Harvey, David. The New Imperialism. Oxford: Oxford UP, 2003.

Hassing, Paul, and Matthew S. Mendis. "Sustainable Development and Greenhouse Gas Reduction." Issues & Options: the Clean Development Mechanism. Ed. Jose Goldemberg. New York: United Nations Development Programme, 1998. 147-162.

Heller, Thomas C., and P.r. Shukla. "Development and Climate: Engaging Developing Countries." Beyond Kyoto: Advancing the International Effort Against Climate Change. Pew Center On Global Climate Change. Accessed 20 Feb. 2006 <http://www.pewclimate.org/docUploads/Beyond%20Kyoto%2Epdf>.

Jessop, Bob. Institutional (Re)Turns and the Strategic-Relational Approach. Department of Sociology, Lancaster University. 2003. Accessed 7 Apr. 2006 <www.lancs.ac.uk/fss/sociology/papers/jessop-institutional-(re)turns.pdf>.

Jessop, Bob. "L'Economia Integrale, Fordism, and Post-Fordism." 15 Nov. 1997. Accessed 7 Apr. 2006 <http://members.jcom.home.ne.jp/katori/Jessop_on_Gramsci.html>.

Jessop, Bob. State Theory: Putting Capitalist States in Their Place. University Park, PA: Pennsylvania State UP, 1990.

Jessop, Bob. The Future of the Capitalist State. Cambridge, UK: Polity Press, 2002.

Kay, John. Culture and Prosperity: the Truth About Markets--Why Some Nations Are Rich But Most Remain Poor. New York: Harperbusiness, 2004.

Kumar, Nagesh. Globalization and the Quality of FDI. Oxford: Oxford UP, 2002.

Lal, Deepak. In Praise of Empires. New York: Palgrave Macmillan, 2004.

Levi-Faur, David. “The Global Diffusion of Regulatory Capitalism.” The Annals of the American Academy of Political and Social Science 598 (March 2005): 12-32.

Levi-Faur, David, and Jacint Jordana. "Preface: the Making of a New Regulatory Order." The Annals of the American Academy of Political and Social Science 598 (March 2005): 6-12.

Levi-Faur, David, and Jacint Jordana. "The Diffusion of Regulatory Capitalism in Latin America: Sectoral and National Channels in the Making of a New Order." The Annals of the American Academy of Political and Social Science 598 (March 2005): 102-124.

Martins, Joaquim Oliveira, and Peter Sturm. "Differentiated or Uniform International Carbon Taxes: Theoretical Evidences and Procedural Constraints." Environmental Markets: Equity and Efficiency. Ed. Graciela Chichilnisky and Geoffrey Heal. New York: Columbia UP, 2000. 156-168.

Marx, Karl. Capital: a Critique of Political Economy. New York: Random House, 1906.

Marx, Karl. "On James Mill." Karl Marx: Selected Writings. Second Edition. Ed. David McLellan. Oxford: Oxford UP, 2000. 124-134.

McKibbin, Warwick J., Robert Shackleton, and Peter J. Wilcoxen. What to Expect From an International System of Tradable Permits for Carbon Emissions. Brookings

Institution. 1998. Accessed 20 Feb. 2006 <https://www.brookings.edu/dybdocroot/views/papers/mckibbin/143.pdf>.

McMurtry, John. Value Wars: the Global Market Versus the Life Economy. London: Pluto P, 2002.

"Nothing More Than an Illusion." Financial Express 24 Feb. 2005. LexisNexis. Walla Walla, WA. Accessed 13 Mar. 2005.

Oosterlynck, Stijn. Organic Intellectuals and the Crisis of Neo-Liberalism: Joseph Stiglitz and the Post-Washington Consensus. Dept. of Sociology, Lancaster University. Accessed 7 Apr. 2006 <http://netx.u-paris10.fr/actuelmarx/m4Ooster.htm>.

Purkayastha, Prabir, and Vijay Prashad. Enron Blowout: Corporate Capitalism and Theft of the Global Commons. New Delhi: Leftword, 2002.

Richman, Emily. "Emissions Trading and the Development Critique: Exposing the Threat to Developing Countries." New York University Journal of International Law and Politics (2003): 133-176. Law Reviews & Journals. Lexisnexis. Accessed 3 Mar. 2006.

Simpson, Brian P. Markets Don't Fail!. Lanham: Lexington Books, 2005.

Smith, Adam. The Wealth of Nations. Oxford: Oxford UP, 1998.

Smith, Kevin, Adam Ma'anit, Steven Kelk, Tamra Gilbertson, Graham Erion, and Heidi Bachram. Hoodwinked in the Hothouse. Carbon Trade Watch and the Transnational Institute. Glasgow: The Clydeside P, 2005. Accessed 10 Nov. 2005 <http://www.carbontradewatch.org/pubs/hothousebw.pdf>.

Smith, Tony. "Review: Globalization and Its Discontents." Iowa State University. Accessed 7 Apr. 2006 <http://www.public.iastate.edu/~tonys/Stiglitz.html>.

Steger, Manfred. Globalism: the New Market Ideology. Lanham: Rowman & Littlefield, 2002.

Stiglitz, Joseph E. Globalization and Its Discontents. New York: W.W. Norton & Company, 2003.

Stiglitz, Joseph E. Foreword. The Great Transformation. By Karl Polanyi. Boston: Beacon P, 2001. vii-xvii.

Stowell, Deborah. Climate Trading: Development of Greenhouse Gas Markets. New York: Palgrave Macmillan, 2005.

Theberge, Alexander. The Latin American Debt Crisis of the 1980s and Its Historical Precursors. 1999. Accessed 15 Mar. 2006 <http://www.columbia.edu/~ad245/theberge.pdf>.

Vedantam, Shankar. "Kyoto Credits System Aids the Rich, Some Say." Washington Post 12 Mar. 2005. LexisNexis. Walla Walla, WA. Accessed 18 Mar. 2005.

Watts, Michael. "Development and Governmentality." Singapore Journal of Tropical Geography (2002). Accessed 7 Apr. 2006 <www.unc.edu/courses/2005fall/geog/160/001/GEC'05/watts.pdf>.

Way, Christopher R. “Political Insecurity and the Diffusion of Financial Market Regulation.” The Annals of the American Academy of Political and Social Science 598 (March 2005): 125-144.

Wiener, Jonathan B. Designing Global Climate Policy: Efficient Markets Versus Political Markets. Center for the Study of American Business. 1997. Accessed 3 Mar. 2006 <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=61189>.

Werksman, Jacob. "The Clean Development Mechanism: Unwrapping the 'Kyoto Surprise'" Environmental Markets: Equity and Efficiency. Ed. Graciela Chichilnisky and Geoffrey Heal. New York: Columbia UP, 2000. 218-241.

Williamson, John. "What Washington Means by Policy Reform." Latin American Adjustment: How Much Has Happened? Ed. John Williamson. Accessed 5 Mar. 2006 <http://www.iie.com/publications/papers/paper.cfm?researchid=486>.

Worthington, Richard. “Double-Edged Sword of the Kyoto Protocol.” Trouble in the Air. Ed. Patrick Bond and Rehana Dada. Accessed 15 Feb. 2006 <www.carbontradewatch.org/pubs/CCS_ENERGYSERIES_1005_COMPLETE.pdf>.

Notes

[i] Bodansky, Beyond Kyoto, online.
[ii] Stowell, 37.
[iii] Bachram, online.
[iv] Bachram, online; Dessus, 82; Erion, online; Worthington, online.
[v] It is important to note that I am only dealing with the concept of a global emissions trading regime, not a national or regional system. While such systems can and do exist, and are worthy of significant future scholarship, a global regime is a more salient example for my purposes as it more directly confronts the issues of international inequalities of wealth and power.
[vi] Jessop, The Future of the Capitalist State, 244.
[vii] Ghimire, 2-3.
[viii] Friedman, 5.
[ix] Friedman, 13. His emphasis.
[x] Friedman, 13.
[xi] Smith, 292.
[xii] Smith 11-25.
[xiii] Smith, 65-66 for one of many examples of his dislike of corporations.
[xiv] Friedman, 15.
[xv] Harvey, A Brief History of Neoliberalism, 2.
[xvi] Theberge, online.
[xvii] Theberge, online.
[xviii] Theberge, online.
[xix] Williamson, online; Stiglitz, 46-48.
[xx] Williamson, online.
[xxi] Levi-Faur, 14.
[xxii] Friedman, 31.
[xxiii] Friedman, 31.
[xxiv] Friedman, 31.
[xxv] Mayhugh, online.
[xxvi] Chichilnisky and Heal, 18
[xxvii] Chichilnisky and Heal, 18.
[xxviii] Chichilnisky and Heal, 18.
[xxix] Lal, 122-3.
[xxx] Kay, 289.
[xxxi] Lal, 121-6.
[xxxii] Stiglitz, xiii; Levi-Faur, 14.
[xxxiii] Stiglitz, x.
[xxxiv] Levi-Faur, 16-17; Stiglitz viii.
[xxxv] Some see it as a replacement (Stiglitz), others view it as a form of life-support, as explained below.
[xxxvi] Levi-Faur and Jordana, 6-7.
[xxxvii] Levi-Faur, 13.
[xxxviii] Levi-Faur and Jordana, 6; Levi-Faur, 21.
[xxxix] Levi-Faur, 22. One example of the kind of new expertise in regulation could be the EPA's occasional requirement of the "best available technology" for pollution control. The determinations about what technologies are the "best available" are left in the hands of EPA experts.
[xl] Stiglitz, 71.
[xli] Stiglitz, 18.
[xlii] Levi-Faur, 14.
[xliii] Levi-Faur , 21.
[xliv] Levi-Faur, 14.
[xlv] Kay, 289-90.
[xlvi] Kay, 285.
[xlvii] Jessop, The Future of the Capitalist State, 228.

[xlviii] Jessop, The Future of the Capitalist State, 229.
[xlix] Bruyn, 97.
[l] Bruyn, 207. Emphasis in original.
[li] Bruyn, 161. Emphasis mine.
[lii] Bruyn, 32.
[liii] Bruyn, 81, 101.
[liv] Marx, Capital, 784-6.
[lv] Marx, Capital, 786..
[lvi] Marx, On James Mill, 129.
[lvii] Marx, On James Mill, 129.
[lviii] Oosterlynck, online.
[lix] Jessop, State Theory, 42. Oosterlynck online.
[lx] Jessop, State Theory, 9.
[lxi] Jessop, State Theory, 269, 366. "the state must be analyzed both as a complex institutional ensemble with its own modes of calculation and operational procedures and as a site of political practices which seek to deploy its various institions and capacities for specific purposes. Rather than trying to define the core of the state in *a priori*terms, we need to explore how its boundaries are established through specific practices within and outside the state." (366)
[lxii] Jessop, State Theory, 9. Jessop describes the state as constantly being shaped by "competing state projects. This implies that effectively functioning states are emergent, tendential phenomena and that there could well be continuing struggles to impose contradictory 'apparatus unities' on (potential) state organs. [. . .] There is never a point when *the* state is finally built within a given territory and thereafter operates, so to speak, on automatic pilot according to its own definite, fixed and inevitable laws. [. . .] Whether, how and to what extent one can talk in definite terms about the state actually depends on the contingent and provisional outcome of struggles to realize more or less specific 'state projects.' For, whatever constitutions might declare about the unity and sovereignty of the modern state as a juridical subject, there are often several rival 'states' competing for a temporary and local hegemony within a given national territory. [. . .] These reflections suggest that state actions should not be attributed to *the* state as an originating subject but should be understood as the emergent, unintended and complex resultant of what rival 'states within the state' have done and are doing on a complex strategic terrain."
[lxiii] Jessop, State Theory, 9.
[lxiv] Jessop, The Future of the Capitalist State, 225-6.
[lxv] Oosterlynck online; see also Jessop, The Future of the Capitalist State, 236: "despite the survival of market rhetoric in neoliberal regimes, the most significant trend in these, as well as in post-Fordist regimes where other types of governance predominate, is toward networking, governance, partnership and other forms of self-organization as the primary means of correction for market failure."
[lxvi] Gwynne, Klak, and Shaw, 10.
[lxvii] Harvey, The New Imperialism, 109, 139-144.
[lxviii] Harvey, The New Imperialism, 109.
[lxix] Harvey, The New Imperialism, 94-101. This section summarizes a number of Harvey's previous writings to explain the process by which capitalism produces space.
[lxx] Harvey, The New Imperialism, 101.
[lxxi] Harvey, The New Imperialism, 49-62.
[lxxii] Harvey, The New Imperialism, 65. Two important notes should be made here. The first is that the transition to neoliberalism was not entirely pre-planned nor was it smooth. Instead it emerged through many "gyrations and chaotic experiments" (Harvey, A Brief History of Neoliberalism, 13). The second important note is that neoliberalism involved more than just an economic dimension, but also relies heavily on an ideological component by which consent for neoliberal policies is secured through their representation as accepted "common sense." (Harvey, A Brief History of Neoliberalism, 39).
[lxxiii] Harvey, The New Imperialism, 62.
[lxxiv] Harvey, The New Imperialism, 144.
[lxxv] Harvey, The New Imperialism, 156, 150.
[lxxvi] Harvey, The New Imperialism, 148.
[lxxvii] Bond, online.

[lxxviii] A sudden reversal in policy would likely send negative signals to global markets, which would reduce short-term investments. While the long-term effects might be positive, these kinds of short-term shocks are risky as many countries have become reliant on short-run investments for important state functions.
[lxxix] Smith 21.
[lxxx] Something that I consider to be an example of this is John McMurtry's work, which calls neoliberalism a "genocidal campaign" (20).
[lxxxi] Lal, 132-3.. An example that Lal gives responds directly to Stiglitz's writings about the East Asia financial crisis. While Stiglitz claims that temporary capital controls were essential to stabilize the situation, Lal argues that once in place, very few countries will ever actually reduce those controls. Because of the ease with which government policymakers or defenders of "good governance" can claim that their intervention is necessary to correct the market or promote public welfare, it is feared that the discourse of good governance could justify a slippery slope of constant market interference and regulation.
[lxxxii] For example, this quotation: "In some ways, the growth/poverty debate seemed pointless. After all, almost everyone believes in growth." (Stiglitz, 82)
[lxxxiii] Oosterlynck, online; Jessop, Institutional (Re)Turns, online.
[lxxxiv] Jessop, The Future of the Capitalist State, 238-9.
[lxxxv] Jessop, The Future of the Capitalist State, 239-40.
[lxxxvi] Stiglitz, 222.
[lxxxvii] For the purposes of clarity, it is important that I elaborate on some terminology issues. It is easy to conflate "ideology" with "ideological fundamentalism." This is so for Stiglitz, as he assumes (as demonstrated in his writing about the IMF) that ideology is necessarily fundamentalist ideology. While I think there is a compelling level of simplicity in this approach of labeling any dogmatism as "ideology", it is compelling largely because it is an oversimplification, and as a result, Stiglitz seems to want to find a world without "ideology" (as Stiglitz uses the term). I break from this approach in that I do not think that we can simply whitewash "ideology" and make decisions through neutral, technocratic, expert-driven mechanisms. Rather, I think that the real danger is from ideological fundamentalism, which limits critical self-reflexivity and questioning. Instead of forgetting ideology, we should remain continually open to questioning it.
[lxxxviii] Jessop, The Future of the Capitalist State, 244.
[lxxxix] Jessop, The Future of the Capitalist State, 244.
[xc] Jessop, State Theory, 269, 366.
[xci] Busch, Jorgens, and Tews, 159-61.
[xcii] Busch, Jorgens, and Tews, 146. It should be noted that they are not describing the US in isolation, but are describing this as a growing trend in almost every industrialized country.
[xciii] Proponents of a domestic emissions market for carbon regularly point to the US market in SO2 as an example of the system's ability to work in the US.
[xciv] Bodansky, US Climate Policy After Kyoto, online.
[xcv] Aldy, Baron, Tibuana, online.
[xcvi] Bodansky, Beyond Kyoto, online.
[xcvii] Busch, Jorgens, and Tews, 161.
[xcviii] Chichilnisky, 188.
[xcix] Mayhugh, online.
[c] Mayhugh, online. Another example would be the market for pollution control technologies—if governments or firms request them, it will spur innovation to meet the demand, creating cheaper and cheaper technologies to resolve pollution problems.
[ci] Diringer, online. To prove their point, these critics only really had to point to the existing data of emissions.
[cii] This is the general claim made about the market efficiency of emissions trading.
[ciii] Chichilnisky, 190-2
[civ] Busch, Jorgens, and Tews 159-60.
[cv] Chichilnisky, 190-2. Chichilnisky briefly explains this argument in order to counter it.
[cvi] Chichilnisky, 190.
[cvii] Chichilnisky and Heal, 3.
[cviii] Chichilnisky and Heal, 3.
[cix] Chichilnisky and Heal, 28.

[cx] Chichilnisky, 192-3.
[cxi] Chichilnisky, 191.
[cxii] Chichilnisky and Heal, 7.
[cxiii] Chichilnisky, 191-2 It should be noted that this also has an important bearing for the operation of markets in emissions quotas. The important point is that the question of who is allowed to emit is a central issue because of the nature of the atmosphere as a privately produced public good.
[cxiv] Erion, online. Some people would take issue with the claim that "developing countries" generally are more at-risk from climate change. While this claim is obviously a generalization, it is supported in part by scientific studies (which show that regions in Africa and Latin America are extremely high-risk) and by the fact that the response-ability of developing countries is likely to be more limited than that of wealthier developed countries.
[cxv] Baron, Philibert, and Bradley, 169.
[cxvi] Chichilnisky, 187.
[cxvii] Bachram, online.
[cxviii] Bachram, online.
[cxix] This is evident from the text of Kyoto, in which the specifics are far from clear. This isn't to say that Kyoto gives no guidance on the creation of flexibility mechanisms because it does give some form and explanation to the functioning of the CDM and JI. However, it was not very explicit in explaining the makeup of future emissions trading regimes.
[cxx] Chichilnisky and Heal, 42.
[cxxi] Virtually everyone acknowledges the extensive need for information, the primary question is over whether or not that information is actually available in some objective form.
[cxxii] Baron, Philibert, and Bradley, 190.
[cxxiii] Chichilnisky and Heal, 16.
[cxxiv] Richman, online; Bonn Statement, online; Bachram, online.
[cxxv] Richman, online. I should note that in this quotation, Richman is quoting Kenyan professor Calestous Juma.
[cxxvi] Carrier, 6: "Kapferer is right when he says that 'the Market' is a bleached 'capitalism': the institutions and relations involved remain the same, but the scholarly and polemical overtones have been washed away, the old arguments and analyses forgotten, the old academic literature jettisoned as inapplicable."
[cxxvii] Richman, online.
[cxxviii] Bodansky, US Climate Policy After Kyoto, online. Bodansky suggests the "safety valve" as a way of ensuring business confidence and protecting businesses against dangerous swings in the price of credits.
[cxxix] While not the exact same kind of situation, the World Bank has in the past made environmental conditions a requirement to receive loans, Busch, Jorgens, and Tews, 156.
[cxxx] This critique is extended to Stiglitz in particular by Oosterlynck.
[cxxxi] Bachram, online; Carbon Trade Watch, online.
[cxxxii] Carbon Trade Watch, online.
[cxxxiii] Carbon Trade Watch, online; Bachram, online. As an empirical example, Bachram cites corruption in emissions accounting in the first year of the UK's emissions trading regime.
[cxxxiv] Bonn Statement, online.
[cxxxv] Carbon Trade Watch, online; Weiner, online.
[cxxxvi] Not many have made this argument explicitly in terms of creating monopolies, however it is a common argument that developed countries, by buying up all the cheapest reductions in the developing world, will then have a substantial advantage over developing countries when they too become subject to binding caps but, without any more cheap or easy reductions available, have to turn to the developed world to buy credits. This argument is advanced in several places, including in Dixon and Richman.
[cxxxvii] Bachram, online.
[cxxxviii] Bodansky, US Climate Policy after Kyoto, online.
[cxxxix] Baron, Philibert, and Bradley, 190.
[cxl] Bodansky, US Climate Policy after Kyoto, online.
[cxli] Chichilnisky and Heal, 16.
[cxlii] Carbon Trade Watch, online.
[cxliii] Way, 129.

[cxliv] Kumar, 2-3. Others have argued that the attempts to attract FDI "give authoritarian regimes an edge" thanks to "lower wages, bans on labor unions, and relaxed environmental laws" (Steger 76-7).
[cxlv] Baron, Philibert, and Bradley, 190-1.
[cxlvi] Bruyn, 14-15, 96.
[cxlvii] Bodansky, US Climate Policy after Kyoto, online.
[cxlviii] Bruyn, 96.
[cxlix] One example would be regulatory negotiation, in which a US regulatory agency, like the EPA, before issuing a regulation brings together the main interested parties and attempts to negotiate a regulation that all parties agree to.
[cl] Chichilnisky and Heal, 17.
[cli] Chichilnisky and Heal, 42.
[clii] Stowell, 196.
[cliii] Stowell, 197.
[cliv] "Glossary:, online.
[clv] Stowell, 198.
[clvi] Chichilnisky and Heal, 42.
[clvii] Kay, 245-246.
[clviii] Kay, 244-5.
[clix] Kay, 237.
[clx] Kay, 237.
[clxi] Baron, Philibert, and Bradley, 190-1.
[clxii] Stiglitz, 69-72.
[clxiii] Stowell, 198.
[clxiv] Bond, online; Stiglitz, 92-94.
[clxv] Stiglitz, 99-101.
[clxvi] Eichengreen and Fishlow, 59.
[clxvii] Stiglitz, 94.
[clxviii] McKibbin, Shackleton, and Wilcoxen, online.
[clxix]McKibbin, Shackleton, and Wilcoxen, online. Currency appreciation hurts export sectors by making them less competitive in global markets, meaning that capital inflows for one particular export (normally a natural resource, like oil, but which could be extended to things like carbon credits) discourages diversification of the economy, deteriorating overall economic performance. This is the concept known as 'Dutch Disease.'
[clxx] Harvey, 148.
[clxxi] Stowell, 198.
[clxxii] And that's part of my point—because it's necessarily a projection, it draws increasingly on interpretations and understandings of markets.
[clxxiii] Stowell, 177.
[clxxiv] Stowell, 177.
[clxxv] Baron, Philibert, and Bradley, 31.
[clxxvi] Baron, Philibert, and Bradley, 44-5.
[clxxvii] Baron, Philibert, and Bradley, 31.
[clxxviii] "Focus: Kyoto Protocol," online; Erion, online.
[clxxix] "Nothing More than an Illusion," online.
[clxxx] Vedantam, online.
[clxxxi] Dessus, 88.
[clxxxii] Baron, Philibert, and Bradley, 52.
[clxxxiii] Baron, Philibert, and Bradley, 57.
[clxxxiv] Baron, Philibert, and Bradley, 57.
[clxxxv] Baron, Philibert, and Bradley, 47.
[clxxxvi] Worthington, online.
[clxxxvii] Stowell, 65.
[clxxxviii] Erion, online.
[clxxxix] Erion, online.
[cxc] Worthington, online.

[cxci] Worthington, online.
[cxcii] Erion, online.
[cxciii] Erion, online.
[cxciv] Erion, Lohmann, Kill, and Dorsey, online.
[cxcv] Oosterlynck, online.