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Revisiting Foreign Direct Investment and Collective Labor Rights

Replicating "the positive case" of economic globalization

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Revisiting Foreign Direct Investment and Collective Labor Rights:

Replicating "the positive case" of economic globalization.

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1: Introduction

During the past decades, developing countries have witnessed a strong expansion in private capital flows, notably in the form of foreign direct investment (FDI). FDI accounted for 34 percent of net capital inflows in developing countries during the 1990s (Akuyz and Cornford 1999: 8-10), and developing countries are increasingly called upon by international financial institutions to make themselves more attractive to foreign investors (Kosack and Tobin 2006: 206).

The core of economic development strategies for many developing countries lies in attracting FDI. Their challenge is to attract FDI in ways that simultaneously enhance their long-term development objectives (Blanton and Blanton 2009: 470). Along with an increased penetration of capital flows to developing countries comes the concern about the potential effects on the host countries` policies, economies and social issues. In particular, the main concern has been what Oman (1999: 3) has called "bidding wars" among countries to attract FDI and that these "wars" put downward pressures on standards of protection such as workers` rights.

Figure 1: Labor rights scores in developing countries over time
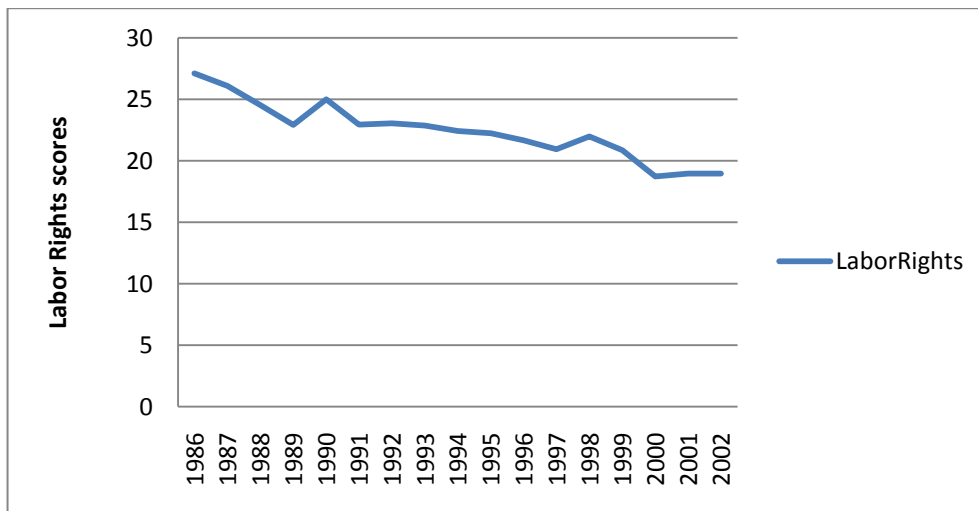
Note: Labor rights` scores are obtained from the dataset provided by Mosley and Uno (2007), and contain scores from 90 developing countries included in their main model.

In figure 1, we can see that the general trend during the period 1986-2002 has been a reduction of collective labor rights. The question asked in this paper is; *how does FDI affect labor rights in developing countries*? Previous empirical analyses are not in agreement on this question. With the research question in mind, it is worth noticing that a lack of a real counterfactual makes observation of causality problematic (Moses and Knutsen 2007: 91-92),

so there is no telling how the rights of workers would have evolved in a protectionist environment. It is rather how rights are influenced in an environment where increased openness is favored, and as developing countries are becoming more dependent upon FDI (see Appendix 5, Figure 1, of increased levels of FDI stock relative to GDP).

In strict replication of Mosley and Uno (2007), I investigate the robustness of their initial finding that FDI increases labor rights. Their analysis of economic globalization and collective labor rights employs a Time Series Cross Section (TSCS) analysis of 90 developing countries from 1986 to 2002. This replication provides estimates from 84 of these countries during the same time period, and is in agreement with Mosley and Uno`s (2007) general argument that the impact of globalization depends on the precise way in which a country participates in global production networks. As well, I find FDI to be the positive case of economic globalization, increasing collective labor rights. However, this replication is in disagreement with their conclusion that FDI flows contributes to improved rights. I find a positive and statistical significant relationship only with FDI stock during the last years of the sample. Even though Mosley and Uno `s (2007) conclusion is confirmed in the replication, the external validity of their findings is thus dependent upon which years are included in the sample. FDI will do nothing for developing countries before it has penetrated a country at a certain level. But even then, the impact is very small.

There are signs in this replication of FDI flows to be negatively associated with labor rights at the same time as the positive long- term effects of FDI stocks have taken place. This may suggest that foreign capital goes to countries with fewer rights when higher levels of FDI already are present. However, this negative relationship is not significant, but could show a two-way effect of FDI in countries which have opened themselves to large amounts of FDI. I suggest that future research should either carefully select years included in the sample and address this question when countries have been largely penetrated by FDI, or move to more dynamic models where an assumption of linearity is not violated.

The paper will proceed as follows; I will first provide some insights to why a replication is a good approach. Second, I will address the theoretical aspects of the question. Two competing hypotheses address the topic at hand; if FDI increases labor rights, a "Climb to the Top" should occur. If "bidding wars", or other pressures contribute to lowering of rights, a "Race to the Bottom" is likely. An introduction to the theoretical part will be provided in part 3 of the paper. A large part of this paper will be in chapter 4, the research design, as a thorough description of variables is important considering I am sticking close to the original study. The results will be presented in a section on its own, providing the original

model by Mosley and Uno (2007), checking the robustness of this model during time periods and through a sensitivity analysis of variables. Third, the replicated model, using Panel Corrected Standard Errors (PCSE), will be compared to two other estimation techniques (OLS with lagged dependent variable and Newey-West standard error). A discussion of the results will be found in part 6 of the paper, before I come to a final conclusion.

2: Replication

Rather than providing another statistical model to address the question at hand, a good approach will be to address and build on existing work. Mosley and Uno (2007) have created a comprehensive measure of collective labor rights and provide a large number of variables. For these reasons, it is an excellent study to replicate.

Replications are necessary as objectivity and self-correction distinguish the scientific method from other approaches to knowledge (Lamal 1991). The demarcation principle regarding scientific knowledge is *falsification* according to Karl Popper. In Popper`s own words:

> We are not interested in establishing scientific theories as secure, or
> certain, or probable. Conscious of our fallibility we are only interested
> in criticizing them and testing them, hoping to find out where we are
> mistaken; and learning from our mistakes; and, if we are lucky, of
> proceeding to better theories (Popper 2002 [1963]: 310).

Popper here criticizes the view of the «verificationists», and sees scientific knowledge as *a posteriori* knowledge derived from a cumulative process of trials and errors. Our support of viewpoints is presumed to be based in large part on the persuasiveness of the evidence. But even for the "verificationists", conclusions by inductive inference need more than one confirming instance (Lamal 1991).

I will not address a discussion on the ontological and epistemological assumptions behind statistical replications. Rather, I take a pluralistic methodological point of view, and argue that replications of empirical analysis are necessary. According to King (1995: 445), the most productive method of building on existing research is to replicate an existing finding; to follow the same path as a previous researcher and improve on methodology or data in some way. Replications provide information about the validity and reliability of the original study. If the results are in agreement, replications provide for external validity. If the results are in disagreement, however, doubt is cast on the internal validity of the original study. The results

of a replication provide more information on the disconfirmation or confirmation of a theory (Lamal 1991). A norm against replication would lead to a fragmented and dispersed literature with a lack of continuity within the discipline (Hendrick 1991: 42).

There are several ways to begin a replication process. Replications must always involve some variation in the conditions from the original study. An identical replication would be pointless (Lindsey and Ehrenberg 1993: 220). Through an independent data collection, the researcher is able to comment on whether the data used in an original study were collected properly (Herrnson 1995: 452). This does not mean that replications discredit the researcher of the original study. As King (1995: 445) argues, as well as being cited and applauded, being criticized or even attacked are strong evidence that you have been taken seriously. A replication enables a researcher to comment on whether generalizations under one set of conditions are present under others (Herrnson 1995: 452). For our current purposes, there are three goals in designing a replication: the validation of conclusions, the extension of conclusions, and the reduction of random error. Validation or confirmation of conclusions rules out the possibility that the results are due to chance. Second, replications are designed to investigate the extent to which the conclusion of the original study is still valid when moderate changes in the covariables and conditions are introduced. Third, the most obvious goal is simply to gather more data to try and achieve a more precise conclusion (Bayarri and Mayoral 2002: 207).

3: Theoretical framework: Foreign Direct Investment and Labor Rights

The theoretical part of the paper will start by introducing the article which is the basis for my replication study and the analyses that follows. I will address Mosley and Uno`s (2007) more general arguments as it concerns economic globalization, and does not entirely focus on FDI, as well as discussing the article`s impact and the importance of the topic. Second, I will provide definitions on FDI and collective labor rights, before I start on the theoretical arguments. Mosley and Uno (2007) consider three casual pathways in which FDI could *directly* enhance labor rights. They first consider MNCs influence on governments. Second, they consider the practices of MNCs, and how practices in developing countries can change in increased presence of MNCs. Third, they argue that MNCs are motivated by quality of labor rather than low costs. Through any of these causal pathways, a "Climb to the Top" should occur. Their "Race to the Bottom" hypothesis is specifically in accordance to the view that

MNCs are able to threaten to exit, and that increased competition due to capital mobility produce incentives for governments to decrease rights.

The theoretical arguments in this paper will address more *indirect* effects of FDI as well, considering less immediate influences on labor rights. First, I argue that MNCs have gained more bargaining power towards governments in developing countries, which may have impact on governments` decisions to either lower rights, or increase them. Second, I consider the motivation, strategies and practices of MNCs in investments decisions, and argue these research questions mostly address the opposite of the causal chain. Third, I address more indirect effects of increased levels of FDI. But first, the general arguments and analysis by Mosley and Uno (2007) will be addressed.

3.1. The Mosley and Uno (2007) article

The article, "Racing to the Bottom or Climbing to the Top? Economic Globalization and Collective labor rights", by Mosley and Uno (2007), explores how economic globalization affects the legal and practical rights of workers to engage in collective, organized labor activity such as being able to bargain and engage in collective strikes. They argue that aspects of economic globalization affect collective labor rights differently, so the impact of economic globalization depends on the precise ways in which a country is engaged in global production networks. They find a positive relationship with FDI and collective labor rights, but a negative effect from trade.

As regards to the impact of FDI, they provide two estimates of FDI. They find that both FDI flows and FDI stocks are positively associated with collective labor rights. Only their flow variable, however, is statistical significant (Mosley and Uno 2007: 936). They also include 11 other independent variables; these will be addressed in the research design. They provide two competing hypothesis for their question of economic globalization; "Climbing to the Top" or "Racing to the Bottom". Their positive case of economic globalization, FDI, thus supports the first view. Both of these hypotheses will be addressed later in the theoretical part. The other independent variables included, will be addressed in the research design. But for now, this small introduction to their analysis provides an opening to the topic, question and analyses that will follow.

The academic impact of Mosley and Uno`s (2007) work may be large. When checking Social Science Citation Index and Science Citation Index Expanded, their article has already been cited 15 times in the workings of others (ISI Web of Knowledge 2011). Their model is

also included in a book recently published by Mosley (2011:147). The result of FDI legitimizes a further recommendation by international institutions to liberalize markets in developing countries. As "openness" of international commerce is historically rare (Lake 2009: 221), finding answers to this controversial question may be vital for the further existence of the international market. Helleiner (2001) questions the assumptions that the new liberal global financial order is here to stay. Rather, counter movements that reasserted social control over markets in the 1930s, argued by Karl Polyani in *The Great Transformation*, are according to Helleiner (2001) comparable with some of today`s reactions to financial globalization. Aaronson (2005: 177) argues that when human beings are mistreated as goods are produced; it is a market failure as well as moral failure. Second, Aaronson (2005) argues that foreign policy interests are jeopardized if business does not uphold values as democracy and human rights, as future markets are expected to be in developing countries. More radical FDI policies, increase in expropriation, are likely if TNCs are perceived as responsible for economic hardship (Kennedy, Jr. 1992). Excessive repression in the future should be of concern to foreign investors as well. According to a survey in 2001, TNCs were asked to identify critical location factors considered very influential. Second on the list (after access to customers), 64 percent of the respondents cited a stable social and political environment (MIGA 2002: 19).

Understanding how FDI affect labor rights, is of importance as "openness" is rare and its continuance may be dependent upon upholding these rights. Apart from the normative aspects of labor rights, it is both important to understand how FDI affects labor rights, and the pace of its influence on these rights. Before entering the theoretical arguments, a deeper understanding of FDI and collective labor rights is necessary.

3.2. Defining the concepts

Mosley and Uno (2007) define FDI as "long term cross-border investment, which provides the investor (a multinational firm) with a management interest in an enterprise (an affiliate) and direct control over its production activities" (Mosley and Uno 2007: 925). A similar definition, but more specified, is provided by the Organization for Economic Co-operation and Development (OECD). OECD describes FDI in the following way: "Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise"). A lasting interest implies the existence of a long-term

relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise" (OECD 1999: 7-8). OECD (1999: 8) sets the threshold value for the degree of influence and effective voice in management at 10 per cent or more of the ordinary shares or voting power of the enterprise. To be labeled a foreign direct investor does not require total control of the management, but is distinguished from other types of foreign investment in the threshold value of *degree* of ownership.

The International Labor Organization (ILO) identifies four internationally recognized rights and principles at work. These "core" labor standards are: 1) freedom of association and the effective recognition of the rights to collective bargaining; 2) elimination of all forms of forced and compulsory labor; 3) effective abolition of child labor; and 4) elimination of discrimination in respect of employment and occupation (ILO 2006: 12). Mosley and Uno`s (2007) dependent variable "collective labor rights" reflects the first of the four core principles, and will be further described in the research design.

The foundation of integrating this principle is providing workers a mechanism for negotiating a fair share of the results of their work, and enable firms to ensure that competition is based on a collaborative effort to raise productivity and working conditions. The ILO conventions of 1948 on "Freedom of Association and Protection of the Right to Organize" (No. 87) and of 1949 on "Right to Organize and Collective Bargaining Convention" (No. 98), was substantiated in The Declaration on the Fundamental Principles and Rights at Work of 1998, which calls upon the members of ILO to comply with these principles regardless of the member states has ratified conventions or not (ILO 2006: 15, 49-50). Compliance to ILO core rights, however, is based on soft law. As ILO has no enforcement power, such standards may risk being a gimmick to reconcile wishes of naïve activists with the need to strengthen the legitimacy of international organizations in a changing world (Hassel 2008: 232). Further, governments may use global laws and ratify human rights treaties as a shield for increasingly violent behavior (Hafner-Burton and Tsutsui 2005: 1384).

3.3. Relative bargaining in the international market.

As clear rules regarding social practices of global officials and global corporations are ill defined at the international level (Aaronson 2005: 176), scholars have tried to identify how economic globalization has affected host government policies and power. Some have argued that bargaining power has been transferred from the state to multinational corporations

(Stopford, Strange and Henley 1991: 215), and that globalization leads to decreased domestic autonomy and fragmentation. Rosenau says: «... authority is simultaneously being relocated upward toward supranational entities, sideways toward transnational corporations and social movements, and downward toward subnational groups and communities» (Rosenau 1994: 258). Despite these changes, states are still the central actors at the international level. They are not just the only actors any more (Ibid).

Krasner (1994) argues that globalization, challenges to the authority of the state and transnational flows are not new phenomena, and that the fundamental problems of international political economy are enduring. Markets are however, volatile social processes that change very quickly. It is the speed, quantity and comprehensiveness of capital flows that is new with contemporary economic globalization (Apodaca 2001: 587). Labor may be the major loser from globalization. As capitalism emerged in the West, protections for workers were lost and labor movements emerged in response to local changes. Given the mobility of capital, labor was obliged to play catch-up. Labor`s nationalism grew as a strategy to cope as markets grew toward national boundaries from local settings. The nub of the problem for labor today, is that labor is deeply committed to its nation, and their progresses in coping with globalization has been limited and slow (Ross 2000).

The «West» experienced what Ross (2000: 80) calls a rare «win-win» situation the years following World War II. The effectiveness of unions was conditioned by their ability to engage in multi-employer collective bargaining. Cragg (2000) argues that a division of responsibility between corporations and governments through a «social contract» following World War II resulted in improvements of life in the industrialized world. Human rights were a government responsibility, and laws were passed to protect human rights. Within this framework, the private sector assumed primary responsibility for generating wealth. Today, corporations have a great deal of freedom to choose the legal systems that will govern their operations. This has given corporations a powerful tool for persuading the host countries to create a favorable legal environment with little regulatory constraint (Cragg 2000: 209).

Developing countries have a comparative advantage in labor. Workers have however, little opportunity to compete in foreign markets (Flanagan 2006: 149). As Moses argues, this historical context is contradictory, and says: «..., our international regime is a historical anomaly, in at least two ways. First, there is a glaring contradiction between the dominant ideology of liberalism and the alleged needs of liberal states to restrict severely their citizens` freedom of mobility. Second, and more obviously, the nature and extent of these restrictions on human mobility are unparalleled in human history» (Moses 2006: 55). If workers have no

choice of employers, an employer can force worker conditions below competitive market norms. Bargaining power between workers and employers depends on the choice available to workers and employers respectively (Flanagan 2006: 149).

Laws and practice may still uphold, increase or decrease, by either government policies or pressures from investors. In the discussion about who holds more power between investors and governments in developing countries, Vernon (1971: 46-59) argues that the bargaining power shifts from foreign investors to governments as soon as an agreement is in place. In his obsolescing bargain theory, he argues that as the level of risk associated with a project decreases and becomes successful, governments feel justified in demanding more out of the project. As enterprises may be in remote places in the foreign country, governments put pressure on foreign investors to provide services and public utilities that would otherwise be expected from governments. The bargaining power of foreign investors becomes obsolete after the investment is made. Host countries become dependent and more vulnerable from foreign interests. Governments are increasingly threatened by the fact that the flow of money is dependent upon foreign investors to continue their operations. However, Vernon (1971: 45-59) argues that this perception of threat need not be overstated. Investors are increasingly committed to their projects by success and by the sinking of commitments.

Whether or not bargaining power of investors becomes obsolete after an agreement is in place, or if it strengthens along increased levels of FDI penetration or not, there is one thing these arguments have in common. At some degree and some point in time, firms have capacity to engage in bargaining with states on regulatory policies before they decide to locate their business. Labor on the other hand, is still nationalized, and has little power to choose location. A redistribution of resources away from labor and towards capital is the practical result of increased capital mobility (Thomas 2001). Especially in developing countries, where the legal framework may be low, taking into account the motivations and strategies of MNCs and TNCs become important. As the practical result may as well be a reduction of the regulatory capacity of the state (Ibid), foreign investors may have direct impact on labor rights as they operate in these countries. So, the next subchapter asks if labor rights are of importance to foreign investors.

3.4. Do MNCs and TNCs care about labor?

> The social responsibility of the modern corporation is simply to maximize
> profits. To go beyond this objective is a misuse of power that is doomed to
> fail and in the process impede the exercise on the part of civil authorities of
> their own proper responsibilities (Milton Friedman, in Cragg 2000: 206).

The last subchapter considered the potential bargaining power of foreign investors. This may put developing countries in quite a dilemma. On the one hand, they have a list of bad experiences with them. On the other, they need these corporations to invest in their countries (Martinussen 1997: 126). How multinationals behave is of importance to labor in these countries. Several multinational corporations have been exposed in the media as "sweatshop" contractors (Spar 1998:7), "sweatshops" defined as "exploiting workers by paying low wages and subjecting them to violations of certain universal social norms or standards governing their employment" (Brown, Deardorff and Stern 2003:2-3). Along with the revealing of "sweatshop" contractors, a simultaneous growth of sweat campaigns during the 1990s cultivated a new enthusiasm for Corporate Social Responsibility (CSR) in global business (Yu 2008: 513). With the liberalization of markets, multinationals bring with them their names, reputation and their international images. This makes them more powerful, but also more vulnerable. When local firms in developing countries abuse their workers, few in the West hear about it. Multinationals however, are likely to make front page news in the developed world if they purchase goods from abusive suppliers (Spar 1999:70).

The implementation of CSR in firms, however, does not necessarily correspond to an improvement in rights. In some cases, where unions have been implemented to follow codes of conduct, these unions have been an arm of management rather than representing the freedom of association and collective bargaining, and actually made things worse for workers (e.g. Wang 2005; Yu 2008). This strategy however, has turned out to be a success in terms of reputation and profitability (Yu 2008: 516).

Foreign direct investment strategies are not necessarily related to cheap labor. Countries with more stable and democratic political institutions attract more FDI (Ahlquist 2006; Choi 2009; Jakobsen 2006; Jakobsen and de Soysa 2006; Jensen 2003; Kucera 2002). Blanton and Blanton (2006) in their two-stage analysis find human rights issues not to be related to investment decisions, although countries with less repression host larger amounts of FDI. Investors take into account the risk of investing in repressive regimes. TNCs prefer

democratic environments, as they provide firmer institutional barriers against risk of policy changes such as forced contract renegotiations, restrictions, corruption, and tax increases (Jakobsen 2006). Respect for human rights may as well create an environment conducive to more productive labor (Blanton and Blanton 2009: 472). According to Li and Resnick (2003), even though democratic institutions attract FDI through better judicial systems and rule of law, democracies also push foreign investors away. Higher levels of democracies impose constraints on capital and the host governments, as the influence from MNCs is likely to be balanced by opposing groups. Autocratic governments are less exposed to pressures of social interests and they are less likely to limit the monopoly or oligopoly positions of multinational enterprises (MNEs).

Economists have argued that the production strategies for MNCs and TNCs have more to do with access to markets and resources. According to Bognanno, Keane and Yang (2005), wages and industrial relation environments are significant determinants of MNCs locations. They find U.S. MNCs to prefer low-wage countries, but this impact is much smaller than market size. Dunning (1988) in his eclectic theory, argues there is a consensus of opinion about the determinants of an enterprise to engage in international production (financed by FDI). These three determinants, also known as the OLI paradigm, are 1) Ownership advantages: the extent to which the enterprise possesses or can acquire assets that competitors do not possess. The decision to invest rests as well on whether it is in the firm`s interest to make use of these assets themselves, or to sell or lease them to other firms. Ownership advantages are not exclusive to international firms, but they may derive certain additional advantages (such as transfer pricing) since they operate in different location-specific environments; 2) Location advantages: how far it is profitable to exploit these assets in foreign countries rather than at home. The wider the attractions of a production base in a foreign country, the greater the likelihood that an enterprise will engage in international production; and 3) Internalization advantages: the propensity to internalize ownership or location advantages. The basic incentive of a firm to internalize its ownership endowments is to avoid the disadvantages of one of the two external mechanisms of resource allocation: the market system and the public authority fiat.

Researchers that consider the motivation and strategies of MNCs, use FDI as a dependent variable and address questions about how labor rights affect FDI inflows. They are not in agreement. Some find higher labor standards to be positively related to FDI inflows (Busse 2003; Busse, Nunnenkamp and Spatareanu 2011). According to Busse et al. (2011:152), this finding is present even in the smallest and poorest developing countries,

countries that may have little to offer except cheap labor. Others find that labor rights are not significantly related to FDI inflows (Kucera 2002; Teitelbaum 2010).

3.5. Racing to the Bottom or Climbing to the Top?

The strategies and motivations of MNCs and TNCs, may reflect direct consequences on labor rights. The two competing hypothesis; "Climbing to the Top" and "Race to the Bottom" however, includes various theories on indirect effects as well. Letnes (2004: 265) argues that in the case of human rights, host countries` scores are far more likely to be colored by the actions of the host country`s government, only indirect effects of TNC activity. Labor rights may work in the same way.

First of all, according to the "Race to the Bottom" hypothesis, governments lower labor rights due to a competition between countries to attract FDI. According to McGie (1992: 565), particularly governments in developing countries are willing to deny even the most basic rights of workers to gain the advantage to attract foreign capital. Even though foreign investors, given choice, would prefer cheap labor (Spar 1999: 64), the "Race to the Bottom" hypothesis does not depend on investors being truly attracted to countries with lower labor standards. This is more a matter of a government`s *perception* of the activity of foreign investors (Kucera 2002: 31). Second, governments adopt new policies, not in isolation but in response to what the counterparts in other countries are doing (Simmons, Dobbin and Garret 2006:.782). Policy diffusion theories reject the notion that that processes of policy change can be adequately understood by conceiving of national governments as making decisions independently of each other. Policy decisions in a given country are systematically conditioned by prior policies in other countries (Simmons et al. 2006: 787).

Korten (1995: 28) argues that economic globalization is largely a modern form of the imperial phenomenon, and carries much of the same consequences. Variations of dependency theory that exist share the assumption that international capitalism is organized around the exploitation of the less industrialized and that this dynamic is necessary to maintain a global capitalist system. Thus the policy choices are constrained or guided by their connections to the developed world, particularly to MNCs. As a result, decisions benefit MNCs and domestic elites but to the overall detriment to the citizens (Richards, Gelleny and Sacko 2001: 223). Chang (2007: 66) argues that developing countries need time to improve their capabilities by mastering advanced technologies and building effective organizations before being exposed to international competition. Otherwise, the industries in these countries will not survive.

According to the "race to the Bottom" hypothesis, countries in competition cut taxes and regulations to win over investors and export markets. The mechanism underlying competitive diffusion is considered the same behind the argument that competition promotes efficient policy tools (Simmons et al. 2006), leading to a "Climb to the Top". First, according to neoliberal thoughts, FDI has a positive effect on economic growth which provides political elites with a larger set of option. Developing countries will raise their economic standing through the opportunities provided by foreign investment, while countries that fail to take advantage of this opportunity will languish in underdevelopment (Richards et al. 2001: 221-222). A developing country may access managerial assets and technology, as well as job training and increased opportunities for subcontracting (Amirahmadi and Wu 1994: 185).

Second, attracting FDI will help through economic development help forming a middle class, modernize and stabilize political environments, and break down the power of local monopolies. A political environment more respectful to human rights will flourish (Richards et al. 2001: 221-22). Both business and the local population have strong interests in the rule of law, and in the promulgation of open markets and economic freedom (Spar 1999: 76). Economic growth is a vital part of development. But as Kosack and Tobin (2006: 207) argue, it is merely a measure of capacity; the extra money on its own does nothing to guarantee that a population is less impoverished. Hence, there is no guarantee that they will increase a middle class or use this capacity to secure more rights for their population. Poor countries may develop little if growth merely enriches small elites, leaving the majority of the population without additional income.

Prior empirical analysis provides inadequate answers to questions concerning the relationship between FDI and labor rights. Previous research that use FDI as an independent variable, addressing questions on how FDI affect labor rights (as here), or more general on human rights issues, are not in agreement. This replication study check the robustness of Mosley and Uno (2007) who find a positive relationship between FDI and collective labor rights. Apodaca (2002) finds that FDI is the only globalization variable that promotes every aspect of human and economic development in Asia; a reduction in physical integrity abuses and infant mortality rates, and promotes economic development. Apodaca (2001) finds a positive impact of FDI on personal integrity rights. Kim and Trumbore (2010) use only one indicator for FDI; transnational mergers and acquisitions (M & As). They find that M & As have a positive impact on human rights across several indicators; physical integrity rights, empowerment, workers` rights and women`s economic rights. Richards et al. (2001) find a positive relationship with political and civil rights, but no significant relationship with

physical integrity rights. de Soysa and Vadlamannati (2011) use an index of economic globalization, as well as social and political globalization, and find that all three dimensions predict higher levels of human rights.

According to Kosack and Tobin (2006), FDI contribute little to growth or human development. Letnes (2002) tests and finds support for the argument that there has been a shift in composition of FDI, away from the primary sector to the secondary and tertiary sectors. But finds no support that this shift has had a positive effect on human rights. According to Letnes (2002), a minimum of created assets such as human capital and infrastructure needs to reach a certain threshold for human rights to benefit from FDI. The more economically developed a country is, the more likely it is to develop and sustain democratic values in the presence of TNCs, and gain from their presence (Letnes 2002: 270). Neumayer and de Soysa (2006) find no significant relationship between an economy`s penetration of FDI and labor standards.

As the research front does not reach a consensus on the topic at hand, the theoretical chapter shows that there may be both direct and indirect mechanisms that will affect labor rights. The direct mechanisms of the behavior of MNCs may be reflected in short- term effects of FDI, while the long- term spill-over effects is mostly considered as FDI manages to penetrate a country. Mosley and Uno (2007) provide two estimates of FDI; FDI flow and FDI stocks. They find a positive relationship with both variables, but only the flow variable is statistical significant. Their respective definitions will be present in the next section, in the research design which will discuss the replication process, estimation techniques and finally the variables included. But as there are no theoretical arguments to doubt Mosley and Uno`s (2007) findings, the *a priori* expectation is to find the same results.

4: Research Design

4.1. Replication process

The first step in replicating Mosley and Uno`s (2007) argument is to get the same results and verify their main model, which is based on a sample of 90 developing countries (appendix 1) during the period 1986-2002. Their Time-Series Cross-Section (TSCS) dataset includes 140 countries from 1985 to 2002. Most of the "left over" countries have scores on labor rights as well, and will be included in calculating scores on two independent variables: economic peer`s practices and regional practices. During the process of getting the sample right and including new variables, I depend on the statistical software package SPSS Version 18 (SPSS

for Windows 2009). To do the analysis, I use STATA Intercooled 11.1 (StataCorp 2009). Problems along the way, concerning updating and adding new variables, will be discussed when each variable is defined later in this section.

After the verification of the main model, I will see if the findings are robust across time. By splitting up the data in time periods, I show that the relationship between FDI and labor rights is not robust across time and that FDI stock is positively and significantly related to labor rights only during the last years of the sample. Second, I will see if these findings are robust when controlling for other measures of variables as democracy and civil war, as well as using updated data on NGOs and a recalculated variable of regional peers practices. Here, we can see that the relationship between FDI flows and labor rights is highly sensitive to alternative measures of control variables. Third, I will see if the findings are robust using updated estimates for the independent variables. As TSCS data can be problematic, the replicated model will be reanalyzed using other estimation techniques. I will now present the estimation techniques used in the analysis, followed by the description of the variables included.

4.2. Estimation techniques

The main model (Mosley and Uno 2007) is a TSCS analysis of 13 independent variables` and correlates of collective labor rights. Mosley and Uno (2007:936) report using the Panel Corrected Standard Error (PCSE) approach developed by Beck and Katz (1995). They assume autocorrelation between panels (AR1 process), which leads to Prais -Winsten regression.[1] To deal with missing cases, pairwise deletion is selected. This approach provides the same estimates as Mosley and Uno (2007) report in their analysis.[2]

After replicating the main model with updated and new variables, I will reanalyze their findings using two other estimation techniques. The replicated model using Prais-Winsten regression with PCSE will be compared to regression with Newey-West standard errors, and an OLS regression including a lagged dependent variable as a covariate. This will give us some insight as to how robust these new results are when taking into consideration different approaches to dealing with problems in TSCS data, and show that the results from the replicated model lacks robustness across estimation techniques. As TSCS data has both a

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[1] Mosley and Uno (2007: 936) report OLS regression with PCSE estimates and assume autocorrelation. Including an AR1 approach leads to Prais -Winsten regression. According to the STATA user guide (in StataCorp 2009 software: 367), both OLS and Prais-Winsten are estimates for linear TSCS models, but Prais-Winsten is not an Ordinary Least Square (OLS) regression.

[2] Only minor differences in the *constant* of the model are found (see table 2, main model (1)).

temporal and a spatial dimension, different models provide solutions to deal with heteroskedasticity and autocorrelation (Yafee 2003: 3). The advantages and disadvantages of these techniques to the model will be discussed along with the results.

The main model can be stipulated as followed:

Labor rights$_{it}$ = β_0 $_+$ β_1 FDIflows$_{it}$ + β_2 FDIstock$_{it}$ + β_3 External debt$_{it}$ + β_4 Trade$_{it}$ + β_5 Regional practices$_{it}$ + β_6 Economic peers practices$_{it}$ + β_7 NGOs$_{it}$ + β_8 FDIxNGOs$_{it}$ + β_9 Income$_{it}$ + β_{10} Growth$_{it}$ + β_{11} Population$_{it}$ + β_{12} Democracy$_{it}$ + β_{13} Civil War$_{it}$ $_+$ ε_{it}

4.3. Variables

Dependent variable

Mosley and Uno (2007: appendix: 3) have constructed an indicator of collective labor rights that includes both legal protection and actual protection of rights. The measure of collective labor rights can be divided into six broader categories; freedom of association and collective bargaining related liberties, the right to establish and join worker and union organizations, other union activities, the right to bargain collectively, the right to strike, and rights in export processing zones (Mosley and Uno 2007: appendix: 5-6). They build on Kucera`s (2002) template that records 37 violations within these six broader categories. Possible scores on collective labor rights range from zero to 76.5. Higher scores indicate higher provision of labor rights, although it is stressed that a score of 76.5 is the highest *possible* score and that maximum *actual* scores in their mid-30s indicate few violations (Mosley and Uno 2007: appendix: 4).

Independent variables

Foreign direct investment (FDI)

According to the neoclassical view of capitalism, foreign firms should affect little but the competitive structure of the market. However, they may bring tools necessary for growth and development, especially in countries that lack basic institutions and mechanisms of capitalism (Spar 1995: 137). The potential benefits of FDI may cause countries to "Race to the Bottom" in rights to attract foreign investment and provide MNCs and TNCs with increased bargaining power to pressure governments to change laws of the host country, or simply disrupt the practices already present. As FDI may bring potential benefits, an increasing middle class may flourish and put pressure on governments to increase rights. With this short summary of

the theoretical aspects, there are no prior reasons to question the findings of Mosley and Uno (2007). So, I expect FDI to increase collective labor rights.

FDI is measured by stock and flow. Mosley and Uno (2007: appendix) report obtaining estimates of FDI flows from the World Bank, World Development Indicators (WDI). The World Bank (2011) has updated estimates of FDI flows; these are obtained and reflect the new variable FDIflows2. This indicator for FDI flow measures net inflows (new investment less disinvestment), as a percentage of Gross Domestic Product (GDP) (World Bank 2011); the same indicator as reported used in the initial analysis by Mosley and Uno (2007).[3]

While the flow variable captures the immediate change in FDI, the stock variable reflects the overall presence of FDI in a country the specific year (Mosley and Uno 2007). I use the same indicator of FDI Stock as Mosley and Uno (2007: appendix); existing stock, as a percentage of GDP. Data are obtained from the United Nations Conference on Trade and Development (UNCTAD 2011). The new variable, FDIstock2, reflect the updated estimates of FDI stocks.[4]

External debt

Foreign borrowing can be a useful tool for economic development. Excessive debt however, can lead to crisis and harm economic growth (Forslund and Rau-Goering 2011). Many developing countries rely on financial flows from abroad to finance domestic investment and now carry substantial debt to foreigners (Krugman and Obstfeld 2009: 628-629). Forslund et al. (2011:1) argue that the first step to debt sustainability is to avoid borrowing to much during "good times". As Chang (2007: 86-87) argues, a "herd-behavior" in capital flows can create asset bubbles during good times. As they tend to come in and out at the same time, the economic downturn gets even worse. When debt becomes high, the pressures from private international investors and institutions may also increase (Mosley and Uno 2007: 933). As the stakes are high for both private capital to pull back and governments getting stuck with high debt, governments may reduce rights to provide incentives for future investment and reduce costs. Richards et al. (2001) find that large debt burdens limit political and civil rights.

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[3] The World Bank (2011) has no estimates for FDI flows in Lebanon; consequently Lebanon is excluded from the analysis.

[4] UNCTAD (2011) has no estimates for FDI Stock in Indonesia; consequently Indonesia is excluded from the analysis.

Mosley and Uno (2007) however, find no significant relationship between debt and collective labor rights. I expect the same results.

Mosley and Uno (2007) use an indicator for external debt that measures total debt as a percentage of GDP. They report obtaining data from the World Bank and define external debt as "total debt owed to nonresidents that is repayable in foreign currency, goods, or services, as a percentage of GDP" (Mosley and Uno 2007: appendix). The World Bank (2011) does not measure external debt as a percentage of GDP, but a new indicator measures total debt as a percentage of Gross National Income (GNI). This indicator, external debt stocks, is also debt owed to nonresidents repayable in foreign currency, goods, or services. Total external debt is defined as "the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of IMF credit, and short-term debt. GNI (formerly GNP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary outcome (compensation of employees and property income) from abroad" (World Bank 2011). The new variable is labeled "External debt2". [5]

Trade

Mosley and Uno (2007: 939) argue that higher levels of export and imports argue are linked to lower levels of rights, and that this negative relationship reflects the competitive pressures from participating in global production networks. Neumayer and de Soysa (2006) however, find support for the view that countries more open to trade are more protective of FACB (free association and collective bargaining) rights than closed economies. According to Greenhill, Mosley and Prakash (2009), overall dependence on trade is not significantly related to labor rights. They find however, that rights of their trading partners affect labor right outcomes. The positive relationship between bilateral trading contexts is however significant only for labor laws and not actual labor practices.

I use the same indicator as Mosley and Uno (2007) for trade openness; trade, as a percentage of GDP. Trade is here defined as the sum of exports and imports of goods and services (percent of GDP). Data are obtained from the World Bank (2011). "Trade2" reflects the updated trade data.

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[5] No estimates are available from the World Bank (2011) for three of the countries in the original study; Haiti, Oman, and Trinidad and Tobago.

Regional Peers Practices

According to the "Race to Bottom" hypothesis, countries are prisoners caught in the prisoners` dilemma, where all countries are left worse off (Neumayer and de Soysa 2006). Mosley and Uno (2007) find a positive relationship between regional labor practices within a region and the labor practices of a given country. The behavior of peer nations matters in governments` propensity to protect labor rights. Countries within the same region may be competing for the same type of investor; investors motivated by consumer markets, natural resources, or low transportation costs (Mosley and Uno 2007:934). They may be competing for reinvestment as well. According to Phelps and Fuller (2000: 240), local institutions have an interest in embedding firms within a particular territory. Multinational enterprises (MNEs) however, consider advantages gained from particular territories with the potential for exploiting these more widely across national borders and sub national borders.

The regions are categorized here and made into five dummy variables by Mosley and Uno (2007); 1) North Africa and the Middle East; 2) Sub-Saharan Africa; 3) Latin America; 4) Caribbean; and 5) Asia-Pacific. The variable measures the average labor rights of the other countries in the same region in a given year. The average labor rights for other countries in the same region, are calculated yearly and provide the data for regional practices of the given country. I recalculate the regional practices variable (Regional Practices2), and expect the same results (see appendix 2 for countries included).

Economic Peers Practices

As competition between economic peers has an impact on labor rights, we can follow the same logic as we expected with respect to competition within regional boundaries. Nations that enjoy the same level of economic development are in competition with one another. Similar skill levels, infrastructure and resource endowments attract the same type of investors, who search for the most efficient location within these countries` level of development. Thus, the labor rights of a country may follow the same path as their economic peers (Mosley and Uno 2007: 934). No significant relationship is found by Mosley and Uno (2007), however, and I expect the same results.

The economic peer's practices variable is based on the mean labor rights` scores from other countries in the same income decile. Income is measured by GDP per capita and these estimates are updated by the World Bank (2011) (see income variable description). The countries that have estimates of income are divided into ten categories, ranged from lowest to

highest income (see appendix 3). The range of income is based on every country`s mean score of income between the years 1986-2002. Scores on practices of the economic peers are calculated from mean scores of labor rights in the countries included in the dataset by Mosley and Uno (2007) that belong to the same income decile. Mean labor rights scores are calculated annually.

Non - Governmental Organizations (NGOs)

The presence of NGOs can put pressure on governments and multinationals to increase levels of rights for individuals and workers. Firms may be more inclined to respect workers` rights where MNCs are monitored by human rights` NGOs (Mosley and Uno 2007: 935). Few studies however support this link. Murdie (2009) finds that higher levels of human rights` NGOs correlate with empowerment rights (freedom of religion, speech, movement, political participation and worker`s rights). Mosley and Uno (2007) on the other hand, find a negative relationship, although insignificant, between human rights` NGOs and collective labor rights. The reason for this negative relationship however, is considered to be an increase in violation reports, rather than actual violations, in the increasing presence of NGOs (Mosley and Uno 2007: 939).

In cases of less democratic states it may not be enough to struggle against governments` subordination of civil society. According to Pratt (2004), strategies in attacking a rooted suspicion of the "West" (used as a mechanism to discredit NGOs by linking them with donors), are used to challenge the relations of power between civil society and the state. In the case of Egypt, NGOs indirectly contributed to reproducing authoritarian policies rather than challenging them. They avoided addressing the issue of transnational links, and the government was able to take advantage and pass a new law to maintain governmental control over NGOs (Pratt 2004).

Data on the total number of human rights` NGOs involved in a country the specific year was obtained by Mosley and Uno (2007:appendix) from the Human Rights Internet`s List of Organizations. They report collecting data from 1986, 1991, 1994 and 2000 (Mosley and Uno 2007: appendix). The intervening years are interpolated, and the data for 2001 and 2002 are extrapolated. This variable is transformed as a natural logarithm.

To follow Mosley and Uno (2007) and provide a second check on this variable is not an easy task. First, the lists of organizations are not easy to find. The *Master Lists* referred to are not available on the internet or available at the Human Rights Internet Reporter`s

webpage. They are supplements of the journal *Human Rights Internet`s Reporter*; books that supplement certain volumes of this journal. I managed to get a hold of four books; two of which are of the same years as Mosley and Uno (2007) report, and two years that have not been used previously by them. The Human Rights Internet`s Reporter *Masterlists* and *Lists of Organization*s which I am able to obtain, contain data for the number of organizations in 1986, 1987, 1989 and 1991. These data are transformed into natural logarithm, then interpolated and extrapolated, and provide the estimates for NGOs2.

As the variable provided by Mosley and Uno (2007) includes data from years that are more dispersed, and the NGOs2 variable is based on years more clustered, the new variable will be more problematic. But I take advantage of the possibility of providing more reliable estimates of NGOs by creating another variable as well; NGOs3, which combines data from NGOs and NGOs2. By using the data from 1986, 1987, 1989 and 1991 in NGOs2, and adding the data from Mosley and Uno`s (2007) NGOs variable (from 1994 and 2000), fewer years are based on interpolated data. Thus the NGOs3 variable should provide more reliable estimates. The data for the six years of estimates are data of the natural logarithm of number of organizations. The remaining years are interpolated and extrapolated; and provide the estimates behind NGOs3.

FDI x NGOs

Mosley and Uno (2007) include an interaction term of FDI flows and NGOs, called FDINGOs. Due to updates of the NGO and FDI data, the interaction term is calculated in various combinations. First, since I am checking to see if changes in the NGOs variable impact the results (case specifications of determining robustness), two new interaction terms are calculated using the old FDI data. FDIxNGOs2 is the interaction term using old estimates of FDI and new estimates from the NGOs2 variable. FDIxNGOs3 is an interaction term using old FDI data and new estimates from the NGOs3 variable.

Second, in the replicated and reanalyzed models, I use updated data from both the NGOs and FDI. FDI2xNGOs2 is the new variable that calculates the interaction between FDIflows2 and NGOs2. FDI2xNGOs3 is the new variable that uses the updated data of FDIflows2 and NGOs3, and should provide the more reliable source for the interaction term due to an expected improvement in the NGOs3 variable. However, as the NGOs variable is problematic, I check for robustness in both the NGOs2 and NGOs3 variable; thus both interaction terms will be used.

Income

Some studies find that income is related to less labor rights (Greenhill et al. 2009; Mosley and Uno 2007). Others find no significant relationship between income and labor rights in developing countries (Neumayer and de Soysa 2006). Mosley and Uno (2007) argue that even though improvements in rights are expected as a result of economic development, the opportunities of repression are greater in more industrialized developing countries as industrial sectors tend toward higher unionization and greater worker demands.

The income variable is measured as GDP per capita, based on purchasing power parity (PPP), transformed as a natural logarithm (Mosley and Uno 2007; appendix). The World Bank (2011) provides two indicators for GDP per capita; one in current international dollars, the other in constant 2005 international dollars. The updated variable, Income2, measures GDP per capita based on PPP in current international dollars.[6] An international dollar means that the dollar has the same purchasing power over GDP as the U.S. dollar has in the U.S. (World Bank 2011). The new variable is transformed as a natural logarithm as well. The World Bank (2011) defines GDP at purchaser`s prices as "the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products".

Economic Growth

According to neoliberal theories, economic development should increase rights. The matter of economic growth and rights does not seem however, to be as straight forward. Some argue that rights must precede economic development while others argue that countries violate human rights for economic development purposes (Richards et al. 2001). On the causal relationship between economic development and democracy, Burkhart and Lewis-Beck (1994) find that while democracy does not cause economic development, economic development however causes democracy. Mosley and Uno (2007) find no significant relationship between economic growth and labor right outcomes. I expect the same result.

The economic growth variable is reportedly measured as annual change in GDP per capita, obtained from the World Bank (Mosley and Uno 2007: appendix). The World Bank

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[6] The problem with the income variable is that the new data show extremely low estimates for one country; Zimbabwe has an income of 0.15 dollars in 1986, and is estimated below one dollar in all the years included in the analysis. Data are downloaded a second time (28.02.2011), and estimates in Zimbabwe are removed. The other countries have the same estimates as January edition. Consequently, I exclude estimates for Zimbabwe.

(2011) provides new estimates on the same indicator. There are no similarities however, between the old estimates included in the Mosley and Uno (2007) dataset and the estimates provided by the World Bank (2011). The estimates of economic growth that measures GDP growth (annual percent) however are almost identical to the old estimates. I make two new variables from these indicators. "Growth2" is the annual growth of GDP as a percent. "Growth3" is the annual growth of GDP per capita as a percent. The annual percent change in GDP and GDP per capita are based on constant local currency (World Bank 2011).

Population

A large population is argued to create social tension and repression as it creates stress on the nation`s resources (Letnes 2008: 102). Mosley and Uno (2007: 935) argue that repression may be easier to carry out in less populated countries. They find support, however, for more repression among larger populated countries. This finding is consistent with other findings on the relationship between population and physical integrity rights (e.g. Letnes 2008; Poe and Tate 1994; Poe, Tate and Keith 1999) and empowerment rights (Murdie 2009). Data on population is obtained from the World Bank (2011). The indicator of total population is based on the de facto definition. This definition counts all residents regardless of legal status or citizenship, except for refugees (World Bank 2011). I transform the variable as a natural logarithm. This is the same indicator of population as is used in the initial analysis by Mosley and Uno (2007: appendix). "Population2" is the updated variable in the replication analysis.

Democracy

The positive relationship between democracy and labor rights is expected to stay the same. Democracy is found to decrease levels of physical integrity rights violations (Letnes 2008; Poe and Tate 1994; Poe et al. 1999; Richards et al. 2001). On the relationship between democracy and labor rights, democracy is associated with higher levels of collective labor rights (Mosley and Uno 2007; Neumayer and de Soysa 2006). Greenhill et al. (2009) however, find inconclusive results on labor law outcomes and no significant relationship with actual labor practices. According to Bueno De Mesquita, Downs, Smith and Cherif (2005), different aspects of democracy have greater human rights` returns than others, and a level of progress must be achieved before democracies are linked with improved rights. They find that the level of democracy does not matter. Only countries that score the highest on democracy correlate with improved human rights. Second, they find that political participation is

relatively more important than other dimensions of democracy in reducing human rights violations.

Mosley and Uno (2007) have obtained data from the Polity IV database (Center of Systematic Peace 2011a). This variable combines the level of autocracy and democracy, with a range of -10 (autocracy) to 10 (democracy) (Mosley and Uno 2007: appendix). I obtain data from the Polity2 project (Center of Systematic Peace 2011a), which is a revised combined polity score including interregnum years. This variable was added to the Polity project in 2002 to facilitate the measure to time series analysis (Marshall, Gurr and Jaggers 2010: 8), and is the most popular measure of political regimes (Plumper and Neumayer 2010: 206). I rescale the data so 1 (previous -10) indicates highest level of autocracy and 21 indicates fully consolidated democracy. Plumper and Neumayer (2010: 209) criticize the Polity 2 scores during interregnum years for lacking face validity. By coding interregnum and transition periods as 0 (now the score of 11), the interregnum increases the level of democracy in autocracies and vice versa. However, as Polity2 is used to check for robustness against other measures, these problems can be discussed if the Polity2 indicator should provide deviant results.

In addition to the Polity2 index, I use the democracy index from Vanhanen`s (2011) Polyarchy dataset (version 2.0). This index covers years up to 2000 (Vanhanen 2011). The index of democracy combines two indicators: participation and competition. The index forms a continuum from high to zero; high values indicate democracy and low values to represent non-democracies, but there is no clear threshold values in the index for differentiating between them (Vanhanen 2000). Vanhanen (2000: 252) defines democracy as a "political system in which ideologically and socially different groups are legally entitled to compete for political power, and in which institutional power-holders are elected by the people and are responsible to the people". He argues that competition and participation are the two most important dimension of democracy. Vanhanen`s (2000: 256) argument for not including political and civil liberties as further dimensions, is that legal competition for power hardly takes place without the existence of such liberties. He compares the Polyarchy, Freedom House and the Polity datasets, and finds similar results despite different operational and measurement differences. Including too many attributes of democracy can also be a potential drawback, delivering little analytical use. As Munck and Verkuilen (2002: 9) point out; if a market-based economic system is seen as a defining attribute of democracy, then the link between markets and democracy is left out for empirical research. The same problem may be between the link between democracy and collective labor rights. Obtaining a maximalist

definition of democracy might mean that we measure a dimension of democracy. Although these problems may be at hand, I also obtained freedom scores from Freedom House (2011) due to the comparability of minimalistic and maximalist measures. Freedom scores measure political rights and civil liberties (Freedom House 2011). A dummy variable is created; the reference category indicates "Free" (1). "Partly free" and "Not free" are coded as "Not free" (0).

Civil War

Civil war is considered to have a negative relationship with human rights and labor rights. Civil war leads to higher levels of physical integrity abuses (Apodaca 2002; Letnes 2008; Poe and Tate 1994; Poe et al. 1999; Richards et al. 2001). Some find no significant relationship between civil war and labor rights (e.g. Greenhill et al. 2009).

Mosley and Uno (2007) include a dummy variable to control for civil war. I include a new variable, obtained from the Center for Systematic Peace (2011b); Major Episodes of Political Violence (MEPV) dataset. The MEPV dataset includes several indicators for conflict. The civil war indicator measures the magnitude score of episodes of civil warfare involving the state in a given year. This indicator range from lowest (1) to highest (10), and zero denotes no episodes (Marshall 2010).

To sum up, some of the variables are problematic and need further evaluation. First of all, democracy and civil war provide alternative measures from the inclusion of different aspects of these variables. Second, a small inconsistency in the original variable of regional peers practices and the recalculated variable needs to be addressed as they are expected to be identical. As well, NGOs may be the variable of greatest discrepancies when considering non-economic data. These four variables are selected to be a part of the sensitivity analysis. As well, NGOs will be considered in the replicated model, and considering confusion to whether or not Growth was initially measured by GDP or GDP per capita, this will be dealt with in the replicated model. The next section thus presents the results.

5: Results

The variables described in the previous chapter provide the basis for the replication analysis which follows. The procedure of this replication is split up in three subchapters, each with their specific purpose. First, I will simply provide evidence that the Mosley and Uno (2007) analysis can be verified. Both descriptive statistics and their main model will be presented.

Minor deviations are noted, but the main purpose is to shortly describe the results and show that their work is replicable. In this same subchapter, I change the temporal framework and show that their results are not consistent over time. The external validity of their work is dependent upon the time frame. The sample is split up into three periods; 1986-1991, 1991-1996 and 1996-2002. These periods seem logical as the first consist of years before the total collapse of the Soviet Union, and a change in the international system occurred. The period between 1991 to 1996 shows a slow but consistent increase of FDI into developing countries, while the latter period provide years where FDI increases quite fast relatively to the previous ones. The periods are also chosen to provide relatively same amount of years, trying to keep the amount of cases relatively close. I also check to see how sensitive their results of FDI are to decreasing the number of years from each side of the time frame.

Second, the subchapter 5.2., provide a sensitivity analysis of Mosley and Uno`s (2007) results when changing indicators of variables. Four variables of non-economic data are selected, as the change in economic data is left for the replicated model and these four variables are to some extent problematic. These are regional peer`s practices, democracy, civil war and NGOs. Third, the replicated model using PCSE estimates are compared to OLS and Newey -West estimates in subchapter 5.3. As there was some confusion to which measure of Growth was used in the initial main model and the NGOs variable is problematic, I discuss if their alternative matters. But first, I verify the Mosley and Uno`s (2007) results, and change the temporal frame of their findings.

5.1. Verification and time periods

In table 1, descriptive statistics of the verified main model are presented. The descriptive statistics are of same results as presented by Mosley and Uno (2007), except for the standard error of FDI flows (see Note 7). The mean labor right score is 21.83, which is quite low when we recognize that the *possible* highest score is 76.5 (Mosley and Uno (2007: appendix 4). However, the maximum labor rights score in this sample of developing countries is 34.50.

Table 1: Descriptive statistics of variables of main model (model 1 in table 2).

Variable	Mean	St. dev.	Min	Max
Labor rights	21.83	7.49	0	34.50
FDIflows	2.22	3.84[7]	-12.21	44.99
FDIstock	19.45	18.45	0.10	116.80
External Debt	90.09	87.19	2.75	1064.41
Trade	67.63	37.54	8.96	282.40
Regional Practices	23.41	3.31	15.21	33.27
Economic Peers Practices	23.98	2.43	16.47	30.65
NGOs	2.16	1.25	-1.79	5.45
FDINGOs	4.69	8.15	-26.82	112.78
Income	7.69	0.81	5.83	9.44
Growth	3.39	5.14	-50.25	38.85
Population	16.26	1.58	13.05	20.97
Democracy	1.41	6.49	-10	10
Civil War	0.21	0.41	0	1

In table 2, Mosley and Uno`s (2007) main model is verified (model 1). We can see that the FDI flow variable is significant at a 0.1 level. The coefficient shows a positive relationship between FDI flows and labor rights for the 90 developing countries included in the sample. The FDI stock coefficient, however, is positive but close to zero and not statistical significant. The other results verify Mosley and Uno`s (2007) findings as well. Trade, income, population and civil war are significant and negatively related to labor rights. More democratic countries have higher labor rights. Economic peer`s practices and regional practices are positively related to labor rights. However, only the regional practices variable is statistically significant. The positive relationship means that when labor practices of other countries in the same region *either* increases or decreases, it influences the rights of the specific country within the same region. The coefficients of debt and growth are positive and the NGO variable is negatively related to labor rights, but these results are not statistical significant at any level.

Verifying Mosley and Uno`s (2007) descriptive statistics and results show that their analysis is replicable, and that there is no confusion of the sample of countries and years included in their analysis. The next step is changing the temporal frame in the sample, checking if the results are reliable across time. This will show that one cannot generalize from these results for the whole period of the sample, and that Mosley and Uno`s (2007) result of a significant increase in labor rights from FDI flows is basically due to a large number of cases and more specifically due to underestimation of FDI flows in 2002. Second, their positive but

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[7] Standard deviation is 3.84. In Mosley and Uno (2007: 932) the standard deviation of FDI flows is reported to be 2.84. Otherwise, descriptive statistics are the same.

non-significant result of FDI stock is due to a positive significant relationship with labor rights during the latter years of the sample.

Table 2: PCSE (AR1) model of labor rights, changing time periods. Standard errors in parenthesis.

| Independent variables	Main model (1) 1986-2002	(2) 1986-1991	(3) 1991-1996	(4) 1996-2002	(5) 1991-2002	(6) 1986-2001
FDI flows	0.1351*	0.3781	0.0495	0.1271	0.1067	0.1310
	(0.0788)	(0.2571)	(0.1071)	(0.1200)	(0.7982)	(0.0830)
FDI stock	0.0063	-0.0068	-0.0068	0.0213*	0.0008	0.0039
	(0.0135)	(0.0299)	(0.0185)	(0.0110)	(0.0128)	(0.0136)
Debt	0.0041	0.0037	0.0024	0.0182***	0.0062	0.0040
	(0.0043)	(0.0039)	(0.0074)	(0.0058)	(0.0060)	(0.0044)
Trade	-0.0176**	-0.0179	-0.0085	-0.0222**	-0.0133	-0.0169*
	(0.0089)	(0.0146)	(0.0131)	(0.0099)	(0.0094)	(0.0092)
Reg. Practices	0.5114***	0.4573***	0.1813*	0.3522***	0.3756***	0.5010***
	(0.0761)	(0.1543)	(0.1055)	(0.1019)	(0.0795)	(0.0768)
Ec.PeersPrac.	0.1174	0.3604***	-0.3742**	-0.0932	-0.1109	0.1338
	(0.0869)	(0.0969)	(0.1492)	(0.1703)	(0.1160)	(0.0894)
NGOs	-0.4450	-0.3482	-1.0267**	0.0652	-0.2784	-0.5113
	(0.2999)	(0.3733)	(0.4758)	(0.4695)	(0.3756)	(0.3112)
FDINGOs	-0.0480	-0.1470	-0.0245	-0.0400	-0.0302	-0.0503
	(0.0411)	(0.1502)	(0.0542)	(0.0722)	(0.0409)	(0.0430)
Income	-1.5062***	-1.2033**	-2.0682***	-1.3208***	-1.8704***	-1.5392***
	(0.3147)	(0.5676)	(0.7111)	(0.2515)	(0.3835)	(0.3266)
Growth	0.0398	0.0135	0.0122	0.1157**	0.0444	0.0440
	(0.0277)	(0.0263)	(0.0495)	(0.0456)	(0.0360)	(0.0293)
Population	-1.4484***	-0.7253***	-1.0957**	-1.8009***	-1.6774***	-1.3662***
	(0.2836)	(0.2773)	(0.4704)	(0.3376)	(0.3478)	(0.2851)
Democracy	0.1368***	0.1161*	0.2293***	0.1069	0.1227**	0.1510***
	(0.0477)	(0.0617)	(0.0750)	(0.0742)	(0.0597)	(0.0485)
CivilWar	-1.0743*	-2.5354***	-0.5979	-1.4846**	-0.8686	-1.0819*
	(0.6130)	(0.9640)	(1.1744)	(0.6194)	(0.6604)	(0.6425)
Constant	43.6939***	26.2192***	63.1349***	53.0412***	57.4413***	42.6468***
	(5.8428)[8]	(9.7223)	(9.6581)	(5.6923)	(6.4031)	(5.9112)
N	1286	384	476	581	970	1221
countries	90	71	88	88	89	90
rho	0.5945	0.4770	0.5292	0.5364	0.5883	0.5849
R^2	0.3763	0.5031	0.4226	0.4039	0.3564	0.3789
$Wald^2$	287.97	780.97	2229.48	1471.18	388.48	284.22

Note:* $p<0.1$, **$p<0.05$, ***$p<0.01$

Table 2, models 2 through 6 shows how results change during certain periods (models 2-4) and how far years from the sample are removed until changes in FDI occur (models 5

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[8] The constant is 43.6939. In Mosley and Uno (2007: 938) the constant is reported to be 43.6933. Otherwise, the coefficients and standard errors are the same.

and 6). The FDI flow coefficient is positive, but not statistically significant for any of the time periods. During the periods 1986-1991, 1991- 1996 and 1996-2002, the amount of cases included in the analyses is obviously severely reduced. The result of FDI flows is significant until I remove the years before 1991 or simply remove the year 2002. As seen in Figure 2, estimates of FDI flows (as a percentage of GDP) in 2002 are underestimated if evaluated relative to updated estimates provided by the World Bank (2011). The positive relationship between FDI flows and labor rights thus seem to be present in a large number of cases, and is simply due to underestimation of FDI flows in 2002. The estimates of 2002 are not considered reliable as the new estimates from the World Bank (2011) are clearly different from the previous estimates. This might cause a spurious relationship between the two variables. As a significant relationship is not present when removing 2002, or when amount of cases decreases, this relationship is highly sensitive to minor changes. The high sensitivity of FDI flows when changing the temporal frame, may lead us to question the significant relationship with collective labor rights. A spurious relationship may be present due to low internal validity in the estimates of 2002, as I consider the new data provided by World Bank (2011) to be more reliable than the old ones (considering knowledge as a cumulative process for the World Bank as well as within other field).

Figure 2: relative mean scores on FDI flows (FDI flows and FDI flows 2) as a percentage of GDP.
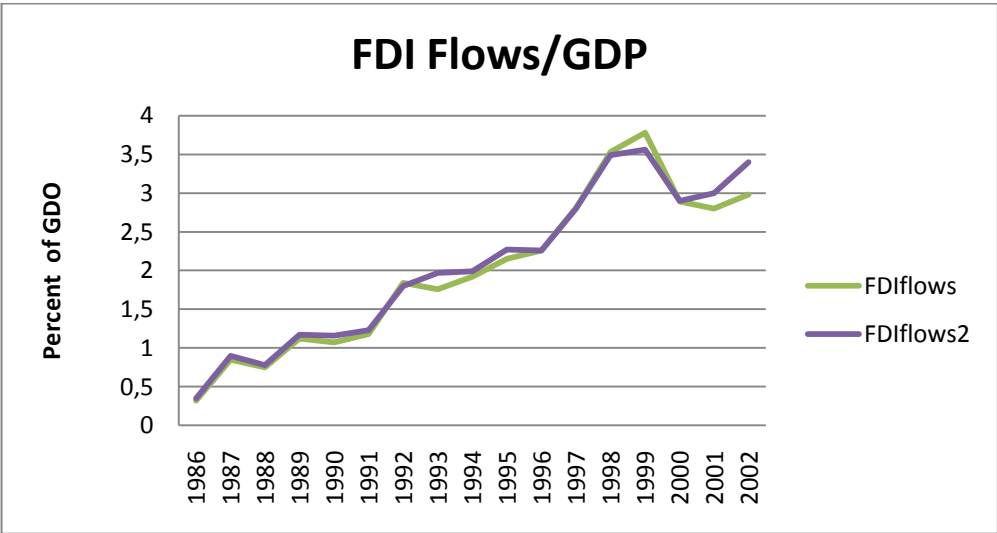
The Stock variable, which was slightly positive, becomes negative during the first two periods, but is not statistical significant. The coefficient is, however, positive and significant

during 1996-2002. Appendix 5, Figure 1, shows that from 1996 to 2002, FDI stocks are increasing in developing countries. This suggests that FDI stocks are not related to labor rights before developing countries have become more dependent upon FDI, and foreign investment has reached a certain level of penetration. During this period only as well, debt and growth are positively and significantly related to labor rights. Trade is negatively related to labor rights for all three periods, but only statistically significant during this latter period. Economic peer`s practices, is negatively related to labor rights, but not statistically significant during this period. Democracy, however, is not significantly related to labor rights during this latter period, although the relationship is a positive one. The NGO variable is positive only during this period. This interpretation may be problematic as this period includes data collection only for the year 2000. Second, extrapolating for the years 2001 and 2002 is more problematic than interpolating during the other time periods. Thus, when considering time periods, dealing with missing data in this way, this period is considered more problematic than the other two periods. Income and population are negatively and statistically significant for all three periods. Civil war is negatively related to labor rights all three periods. The years 1991 to 1996 do not show a significant relationship, though the standard error during this period is large.

Of the variables included in the analysis, FDI flow seems to be most sensitive to change. Other findings of the original study lack robustness as well considering the time periods. Especially those related to economic factors of globalization; FDI stock and trade, as well as growth and debt have an impact only during the latter years. The non-significant relationship with democracy provides an interesting finding as well. It is relevant that the time periods do not provide the same conclusion as in the original study. At the same time, the sample is narrowed. Second, the PCSE model has been criticized for providing rather imprecise estimates if the ratio t/n (time/number) is small; in cases where N is very large compared to the time dimension T (Hoeckle 2011: 5). However, a number of variables are robust when years are dropped. Regional practices, the interaction term between FDI and NGOs, income and population are variables that provide robust findings when considering time periods. The inconsistent findings throughout time will be considered in the replication study. For now, it seems relevant for the research question posed, that the significant relationship in the original study between FDI flows and collective labor rights is highly sensitive to minor adjustments. Second, FDI stock seems to be rather more relevant as the coefficient is statistically significant during the last years of the sample and that the positive relationship is absent in other periods. The non-linear relationships across time, implies that

the external validity of the results of Mosley and Uno (2007) is dependent upon the sample of years included in the analysis. In particular, p-values for regression coefficients are dependent upon the assumption that the relationship between regressors and Y is linear. When this assumption is not true, then the model might fail to hold the other regressors constant in attempting to estimate the relation between Y and the specific X variables. One solution will be to fit a nonlinear regression model (Kelly and Maxwell 2010: 286).

The purpose is this replication is not to deal with these assumptions, and find solutions. I will rather show how different models show inconsistent findings when such assumptions are violated. I will further address the nonlinear relationships in the replicated model, and see if the same results are present through time. For now, I have commented on the positive relationship between FDI stock and labor rights during the latter years, assuming this relationship has something to do with level of penetration. As the flow variable is consistent across time, it is likely that this assumption is the right one. If the change in result had something to do with institutional change, or due to "intervention" of some sort, the flow variable should show different results during the same period as well. That does not mean that the different effects trough time for the other explanatory variables are due to some "institutional effect" especially for the last period. My main focus here though, is on the relationship between FDI and labor rights. As this relationship is highly sensitive to change over time, I will further address the sensitivity when considering cases of measurements of variables. Considering there were some minor differences between the estimates of NGOs and regional peers practices, and labor rights in the original study and when recalculating these variables, I will see if these differences have an impact on the results. Second, democracy and civil war provide for alternative estimates as they are various definitions on these variables. So they provide for interesting alternates.

5.2. Sensitivity analysis: regional peer`s practices, democracy, civil war and NGOs.

Four cases are considered in evaluating sensitivity to measurements of variables. First of all, a minor difference in estimates when calculating regional peer`s practices for the replication study will be considered. NGOs is the second case, as two new variables provide estimates of number of NGOs present in a country. The estimates of the NGOs, NGOs2 and NGOs3 are not coherent (see Appendix 5, Figure 6). The NGOs2 should provide the least reliable estimates, and the NGOs3 are considered an improvement to NGOs. How these differences

affect the results of the original study is considered. Measuring civil war with MEPV data and different measures on democracy are also considered.

The relationship between FDI flows and labor rights stays positive for all models in Table 3. When there is a small drop in the coefficient, however, the relationship is no longer statistical significant. The coefficients are no longer significantly related to labor rights when changing the measure of democracy to Vanhanen`s (2011) estimates, using the MEPV data (Center for Systematic Peace 2011b) for civil war, or by using the new NGOs3 variable. The regional peers` practices variable, which has been recalculated, shows a slightly lower mean score than in the original study. In appendix 5 (figure 4), when comparing the updated variable with the original one, one cannot see the difference between the two. The difference in estimates does not significantly affect the results. [9]

The FDI stock variable is robust across differences in measurements in variables. The coefficients stay slightly positive for all models, but there are no statistically significant results. The number of NGOs involved in a country, stays negatively related to labor rights. The improvement of the NGOs3 variable turns, as mentioned, the FDI flow variable to a non-significant result. NGOs3 itself, is statistically significant (model 4). Changing the civil war measure, turn the relationship between civil war and labor rights into a positive one. The relationship is not significant, but as all other analysis show a significant negative relationship, this result is worth noticing as MEPV data will be used in the replicated model. On democracy, it is worth noticing the large increase in the coefficient when changing the democracy measure to the Freedom House scores (model 7). Freedom House scores on democracy do not absorb explanation away from other variables. Nor is the correlation between the two high (r = 0.13, see appendix 4) enough to say they measure the same thing. The standard error is however much higher for Freedom House estimates, making the coefficient less reliable. Even though more difficult to define, *Freedom* seems to be more influential for labor right outcomes than minimalistic definitions on democracy which include only participation and competition.

Except from FDI flow, the sensitivity analysis confirms the results of the original model for most cases. Along with FDI stock; debt, trade, regional practices, economic peer`s practices (except when controlling for NGO2, which is considered the less reliable of three NGOs variables), income and population stay robust across cases. The positive coefficient of

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[9] When recalculating these estimates, I got different estimates for one region only; Asia and Pacific (for countries included in regions, see appendix 6). The original data has a mean of 24, 50 with a standard deviation of 1.35. The recalculated variable has a mean of 24.03 with a standard deviation of 1.26 for this region. The estimates for the four other regions are identical.

growth, is statistically significant in both changes of the NGOs (NGOs2 and NGOs3), as well as controlling for the Freedom House scores on democracy. Overall, the FDI flow variable, as well as NGOs, Growth and civil war seem most sensitive to changes. Otherwise, the overall value of Mosley and Uno (2007) is that the results from their analysis of economic globalization provide reliable results and not sensitive to minor changes of measurement. It is rather the results across time that lack robustness, which implies that contradictory results may be related to which periods they include in their sample. Second, this implies that one needs to consider more dynamic theories to questions regarding economic globalization and collective labor rights.

Before I turn to the next section, which will deal with the actual replicated model and its robustness across estimation techniques and time; these two subchapters have provided some interesting findings. First of all, I have found high sensitivity in the relationship between FDI flows and collective labor rights. As the replication will show a non-significant and robust result, this original relationship is considered to be spurious due to low internal validity of the FDI flow variable during 2002, and that even including 2002 provides high sensitivity to alternative measures. The FDI stock is robust across cases, but a positive and significant relationship is considered to be present during some of the last years of the sample. On the relationship between economic globalization and collective labor rights, the external validity of Mosley and Uno `s (2007) conclusions, is determined by the time periods of the sample. The FDI stock variable is the only variable that actually changes the respective sign of the coefficient, being positive only the latter period. The p-value though, concluding based on level of significance, is highly sensitive to periods, making the probability of type-1 error higher.

These findings have relevance for some of the results in the replicated model, and provide inconsistent results in reanalyzed models. The following subchapters will provide the replicated main model, and the same model using Newey-West and OLS (including lagged dependent variable). Considering there was some confusion whether or not Growth was initially measured by GDP or GDP per capita in the original model, and that two new variables are calculated of NGOs, their alternative measure will be compared to the original model. Second, I will discuss the problems relating to time periods that is still present after replicating Mosley and Uno`s (2007) initial analysis.

Table 3: Sensitivity analysis: PCSE (AR1) models of case specifications

Indep variables	Main Model (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FDI flow	0.1351*	0.1353*	0.1423*	0.0841	0.1348*	0.1304	0.1456*	0.1183
	(0.0788)	(0.0787)	(0.0781)	(0.0802)	(0.0792)	(0.0891)	(0.0808)	(0.0752)
FDI stock	0.0063	0.0058	0.0106	0.0075	0.0066	0.0030	0.0019	0.0078
	(0.0135)	(0.0135)	(0.0154)	(0.0139)	(0.0135)	(0.0147)	(0.0132)	(0.0138)
Debt	0.0041	0.0039	0.0033	0.0042	0.0040	0.0030	0.0043	0.0034
	(0.0043)	(0.0043)	(0.0050)	(0.0041)	(0.0043)	(0.0044)	(0.0044)	(0.0043)
Trade	-0.0176**	-0.0166*	-0.0281**	-0.0171*	-0.1758**	-0.0167*	-0.0181*	-0.0170*
	(0.0089)	(0.0089)	(0.0115)	(0.0087)	(0.0089)	(0.0010)	(0.0093)	(0.0089)
Reg. Prac	0.5114***		0.5220***	0.5026***	0.5100***	0.4821***	0.4619***	0.5100***
	(0.0761)		(0.0182)	(0.0725)	(0.0763)	(0.0782)	(0.0779)	(0.0765)
Reg.Prac2		0.5088***						
		(0.0760)						
Ec.PeerPr	0.1174	0.1189	0.1410*	0.0952	0.1202	0.1232	0.1120	0.1155
	(0.0869)	(0.0870)	(0.0825)	(0.0746)	(0.0873)	(0.0911)	(0.0853)	(0.0882)
NGOs	-0.4450	-0.4430			-0.4545	-0.5587*	-0.3213	-0.4680
	(0.2999)	(0.3004)			(0.3026)	(0.3176)	(0.2988)	(0.2977)
NGOs2			-0.1543					
			(0.2557)					
NGOs3				-0.5855*				
				(0.3178)				
FDINGOs	-0.0480	-0.0484			-0.0472	-0.0529	-0.0475	-0.0411
	(0.0411)	(0.0410)			(0.0412)	(0.0455)	(0.0415)	(0.0400)
FDIxNGO2			-0.0682*					
			(0.0404)					
FDIxNGO3				-0.0199				
				(0.0410)				
Income	-1.5062***	-1.5283***	-0.9648*	-1.5629***	-1.4953***	-1.8674***	-1.5946***	-1.5131***
	(0.3147)	(0.3142)	(0.5025)	(0.3274)	(0.3141)	(0.3626)	(0.3278)	(0.3133)
Growth	0.0398	0.0402	0.0744**	0.0452*	0.0398	0.0345	0.0501*	0.0450
	(0.0277)	(0.0278)	(0.0302)	(0.0235)	(0.0277)	(0.0321)	(0.0267)	(0.0280)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Population	-1.4484***	-1.4221***	-1.6500***	-1.4606***	-1.4475***	-1.3287***	-1.5016***	-1.5426***
	(0.2836)	(0.2841)	(0.3055)	(0.2757)	(0.2838)	(0.2812)	(0.2733)	(0.2772)
Democracy	0.1368***	0.1383***	0.0878*	0.1379***				0.1468***
	(0.0477)	(0.0477)	(0.0499)	(0.0466)				(0.0479)
DemPol2					0.1327***			
					(0.0485)			
Vanhanen						0.1406***		
						(0.0312)		
Free House							2.1664***	
							(0.6087)	
CivilWar	-1.0743*	-1.0612*	-1.5376**	-1.0347*	-1.0607*	-1.2739**	-1.0348*	
	(0.6130)	(0.6137)	(0.7394)	(0.6097)	(0.6053)	(0.6379)	(0.5813)	
CWMEPV								0.2443
								(0.2071)
Constant	43.6939***	43.4573***	41.9727***	45.2295***	42.1355***	44.4937***	45.9822***	45.0498***
	(5.8428)	(5.9076)	(7.2531)	(5.8591)	(5.9641)	(6.2889)	(5.7861)	(5.8136)
N	1286	1286	1086	1413	1287	1148	1300	1286
countries	90	90	70	90	90	90	90	90
rho	0.5945	0.5947	0.6085	0.6135	0.5942	0.5594	0.5861	0.5940
R^2	0.3763	0.3759	0.3731	0.3762	0.3757	0.3849	0.3774	0.3753
$Wald^2$	287.97	289.36	229.78	309.14	285.17	305.79	344.24	285.79

Note: *p<0.1, **p<0.05, ***p<0.01.

5.3. Replicated models with updated estimates, and reanalyzes.

The replicated model includes 1303 cases (see table 5, model 9), as opposed to 1286 cases in the original model (see table 2, model1). There are only 84 countries included in the replicated model, as opposed to 90 in the original study (for countries included in both samples). Table 4 includes descriptive statistics of the replicated model. The mean of the labor rights scores is higher in the replicated model (22.27), than in the original model (21.83). Thus, with a small exclusion of countries, but a larger amount of cases per country, the sample in the replication model provide a number of cases more slightly more respectful to labor rights than in the original study.

Table 4: Descriptive statistics of replicated model (model 9 in table 5) of labor rights, 1986-2002.

Variable	Mean	St.Dev	Min	Max
Labor Rights	22.27	7.54	0	34.50
FDIflows2	2.13	4.02	-28.62	46.49
FDIstock2	18.45	19.59	0.03	127.45
Debt2	97.63	102.45	2.94	1210.06
Trade2	68.00	39.51	10.83	280.36
Regional Peers Practices2	23.31	3.18	15.21	32.95
Economic Peers Practices2	23.70	2.39	16.58	30.83
NGO3	1.94	1.31	-1.10	5.45
FDI2xNGO3	4.42	8.16	-33.30	89.02
Income2	7.43	0.94	5.25	9.50
Growth3	1.10	4.98	-46.89	20.97
Population2	16.21	1.56	12.91	20.97
Democracy Pol2	12.07	6.41	1	21
Civil War MEPV	0.35	1.19	0	6

Even though there are differences in the descriptive statistics, there are no implications that changes in the sample of cases or changing variables have had major effects on these data. Two of the variables that are noticeable are the Growth variable and the NGO variable. Growth3 (GDP per capita) is clearly different from the original model. As we can see from Appendix 5, Figure 8, "Growth" in the original model is very close to "Growth2 (GDP)", and not to Growth3 (GDP per capita). The differences in the three variables of NGOs can be seen in Appendix 5, Figure 6. NGOs3, which theoretically should provide the best estimate, is much closer to the original estimates of NGOs than NGOs2. The latter is expected to be the least favorable of the three; but I will compare results by these two new measures in the analysis (NGOs3 and NGOs2).

Table 5: Replicated and reanalyzed model.

Independent variables	PCSE (AR1) MainModel2 (9)	PCSE (AR1) Growth2 (10)	PCSE (AR1) NGOs2 (11)	OLS lag(1) MainModel2 (12)	Newey West MainModel2 (13)
Lag(1)LaborRights				0.7001***	
				(0.0110)	
FDIflows2	0.0190	0.0189	0.1042	-0.0247	-0.0498
	(0.0658)	(0.0659)	(0.0709)	(0.0799)	(0.1056)
FDIStock2	0.0118	0.0119	0.0110	0.0124	0.0342***
	(0.0152)	(0.0152)	(0.0148)	(0.0086)	(0.0129)
Debt2	0.0019	0.0020	0.0017	0.0020	0.0043
	(0.0035)	(0.0035)	(0.0042)	(0.0014)	(0.0028)
Trade2	-0.0143	-0.01437	-0.0265**	-0.0089*	-0.0252***
	(0.0102)	(0.0102)	(0.0119)	(0.0048)	(0.0088)
Reg. Peers. Pr.2	0.5824***	0.5825***	0.6628***	0.2073***	0.6705***
	(0.0760)	(0.0759)	(0.0823)	(0.0593)	(0.0900)
Ec. Peers. Pr2	0.1264	0.1263	0.1238	-0.0213	-0.0311
	(0.0806)	(0.0806)	(0.0918)	(0.0760)	(0.1215)
NGOs2			0.0092		
			(0.2388)		
NGOs3	-0.2472	-0.2451		-0.1492	-0.3190
	(0.3110)	(0.3115)		(0.1568)	(0.2590)
FDI2xNGOs2			-0.0670		
			(0.0438)		
FDI2xNGOs3	-0.0132	-0.0134		0.0051	-0.0053
	(0.0356)	(0.0357)		(0.0388)	(0.0588)
Income2	-1.0503***	-1.0464***	-0.3624	-0.3110*	-1.0251***
	(0.3264)	(0.3285)	(0.4015)	(0.1877)	(0.3290)
Growth2		0.0278			
		(0.0281)			
Growth3	0.0244		0.0559	0.0361	0.0184
	(0.0283)		(0.0347)	(0.0268)	(0.0388)
Population2	-1.6880***	-1.6896***	-1.8272***	-0.5292***	-1.6237***
	(0.2687)	(0.2684)	(0.2940)	(0.1245)	(0.2146)
DemocracyPol2	0.0903*	0.0907*	0.0360	0.0405	0.1143**
	(0.0494)	(0.0492)	(0.0496)	(0.0249)	(0.0452)
CiwilWarMEPV	0.2050	0.2079	0.2425	0.1092	0.1706
	(0.1964)	(0.1973)	(0.2222)	(0.1132)	(0.1950)
Constant	40.8212***	40.7394***	36.8161***	12.7909***	41.2786***
	(5.6579)	(5.6686)	(7.1487)	(3.3805)	(5.4585)
N	1303	1304	994	1237	1303
Countries	84	84	64	84	84
rho	0.6110	0.6109	0.6013		
R^2	0.3851	0.3853	0.3853	0.6377	
Wald	356.33	354.07	315.69		

Note: *p<0.1, **p<0.05, ***p<0.01

In Table 5, I present the replicated PCSE model (model 9) and check the robustness of these findings by comparison with two other estimation techniques; the Ordinary Least Square (OLS) including a lagged dependent variable (model 12) and the Newey-West (model 13) regression model. Model 10 are included only as to check whether GDP growth or GDP per capita growth, as there was some confusion to which measure used in the original study, provide different results. Model 11 includes the new measure of NGOs (NGOs2), and is included only to see if it provides different results than the NGOs3 variable (which is based on NGOs2 and data from the original NGO variable).

In the replicated model (model 9), the FDI flow variable is no longer statistically significant. This result is consistent across all five models in Table 5. The coefficient is positive in the PCSE model, but negative using OLS and Newey-West estimates. The PCSE model provides the lowest standard error. As the coefficients in all models are relatively low and dispersed around zero, these findings should be interpreted as FDI flow is not related to collective labor rights. There is one deviant finding from these interpretations of the coefficients. When controlling for the NGOs2 variable (model 11), the coefficient is higher (although non-significant) for FDI flows. The NGOs2 variable is considered to be the less reliable of the two measures (NGOs2 and NGOs3) as more of the estimates are based on extrapolation. As the variable does not show any other significantly deviant results on the topic at hand, I will not elaborate any further on model 11.

FDI stock is less robust across estimation techniques. In the replicated PCSE model, as well as the OLS estimate, the relationship with collective labor rights is positive, but not statistically significant. The replication model is thus in agreement with the results of Mosley and Uno (2007). In model 13 however, using Newey-West regression, a positive relationship is present and statistically significant at a 0.01 level. According to Beck and Katz (1995: 641), the PCSE work well in conditions of heteroscedasiticity and autocorrelation. However, estimation is problematic when N is large compared to the time dimension T (Hoeckle 2011: 5). The Newey-West standard error is slightly smaller than the PCSE model for FDI stock. However, Newey-West standard errors are expected to generate a small bias, underestimating the true standard error even when the maximum length of lag (as in this case), is set to T-1 (Peterson 2009:453). The OLS regression model, which includes a lagged dependent variable, shows a quite similar result as the PCSE model for FDI stocks. The lagged dependent variable is thought to control for unexplained variance in the model, but is also criticized for soaking up and reduce causal effects of the other independent variables (Jakobsen and de Soysa 2006: 397).

To check the robustness of the Newey-West result of FDI stock, I control for regions in this model. FDI stock is still statistically significant (p<0.01), and FDI flows not.[10] Second, I check to see if the differences in significant results in FDI stock in the Newey-West and PCSE models are due their ability to deal with heteroscedasticity. The residuals seem quite normally distributed. A "fan" pattern, though, show minor signs of heteroscedasticity. The dependent variable is slightly positive skewed, so I transform labor rights to a natural logarithm. This poses a minor problem considering countries that gave a score of zero on the dependent variable. Only one case though, Sudan in 1996, has a labor right score of zero. As this case is deleted from the analysis, and the dependent variable is transformed; the Newey-West model still provide significant results (p<0.01) while the PCSE model does not. Third, considering relationships between FDI and collective labor rights were inconsistent during time periods, I control for years in the model. Most of year dummies are significantly lower in labor rights than 1986 (reference category). FDI stock is statistically significant at a 0.01 level.[11] Forth, all models are reanalyzed after controlling for influential cases. Eritrea 1998, Nicaragua 1989, Sierra Leone 1986 and Swaziland 1998 provides influential cases in the data, testing leverage, Cook`s D and DF Beta`s. The results are the same in the PCSE model. FDI stock is statistically significant in Newey-West model (p<0.05).[12]

Considering that the original model showed inconsistent findings across time, and the results show inconsistent findings of FDI stock (although all coefficients are positive), I add another table in Appendix 7. Adding three models using the PCSE approach, in checking time periods for the original model (Table 2), I am able to compare the previous results with new updated data. These findings show quite consistent results. As T (time) is low, I also check these results with Newey-West estimation (these models are not included). As for the findings from the original study, FDI stock is positively and statistically significant at a 0.1 level during 1996 to 2002. No significant relationship is present during the other time periods. As the overall penetration increases during this period (see appendix 5, Figure 1), it seems as FDI stock needs to reach a certain level of penetration before it positively affects labor rights. The result is confirmed using Newey-West estimates.[13] FDI flow is not statistically significant for

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[10] The regression model is not included, and other results will not be discussed as this is entirely to check the robustness of FDI.

[11] Including time dummy variables in the Newey-West model; FDI Stock coefficient =0.04, standard error=0.01, the result is significant at a 0.01 level.

[12] Only minor differences are found when excluding influential cases. Income is not statistically significant in the OLS model.

[13] When using Newey -West estimates, FDI stock is statistically significant at a 0.05 level. The coefficient is 0.04 and the standard error is 0.02.

any time period in the replicated model. The result is confirmed with Newey-West estimates. The flow variable shows a negative coefficient during 1996 to 2002. The same result is present using Newey-West estimates (coefficient = -0.26), although the standard error is much higher (0.21). These findings confirm that FDI stock may be relevant to labor right outcomes only during the latter period of the sample included in the analysis. As this period include a higher number of cases than the two previous periods, I compare the results with a model including years 1986 to 1996. The results from this period show no statistical significant relationship with either FDI flow or FDI stock and labor rights.

As for the other independent variables included in the replicated model compared to the findings of Mosley and Uno (2007), the results confirm that debt is not statistically significant associated with labor rights. This result is consistent for all estimation techniques. However, a small positive coefficient is statistically significant during the latter period of the sample ($p<0.05$). The result is confirmed using Newey-West estimates for this period ($p<0.01$). Trade, which was initially negatively and significantly related to labor rights, is not statistical significant in the replicated study using the PCSE approach. A significant result is, however, present both using OLS and Newey-West estimates. The lack of a consistent finding of trade, may as well be due to a confirmed result that trade is statistical significant only during the latter period (1996-2002). Trade being negatively and significantly related to labor rights these last years of the sample, is confirmed by Newey-West estimates ($p<0.05$).

Even though the replication finds results that the relationship between economic globalization is rather more complex than initially considered, due to its different impact across time, the replication confirms many results as well. The positive and significant relationship between regional peer`s practices and labor rights, is robust as the result is confirmed in all models. Economic peers practices is not statistical significant in any model. Although the positive coefficient is negative for OLS and Newey -West, the negative coefficient is present the years after 1991. A negative and significant result of income is robust for all estimation techniques and confirms the result from the original study.

Growth is positive but not statistically significantly related to labor rights in the replicated or the reanalyzed models, thus confirm the result from the original study. Including GDP growth (Growth2) rather than GDP per capita growth (Growth3) in model 10, there are no noticeable differences in any of the results. As Growth 2 and Growth 3 are highly correlated (r= 0.98), using one or the other measure has no implications for the results. Growth is however, statistical significant during the latter period when using Newey-West estimates and OLS. This implies as well that growth has impact on labor rights as it has

reached a certain level.[14] Population is negatively related to labor rights. This result is statistically significant in all models and confirms the findings of the original model.

NGOs provide negative coefficients in all models, except when using the NGOs2 variable in model 11. This indicates that the NGOs2 is less reliable than the NGOs3, which provide more consistent results with the original findings. The NGOs3 variable is not statistical significant, the same as the result provided by Mosley and Uno (2007). A negative result is however considered by Mosley and Uno (2007: 939) to be due to higher levels of reporting rather than actual violations. Although they do not expect it is possible to remove all bias from their measure of labor rights, they seem to imply that the NGO variable has a function of "bias control" in the model.[15] The correlation matrix in appendix 4, shows that there is a high correlation between NGOs and democracy and NGOs and population. This makes sense, as larger populated areas need to be represented by larger amount of NGOs, and they are more welcomed in countries of more democratic rule. As the coefficient is negative when controlling for population and democracy, if the result should be interpreted as due to higher levels of reporting rather than violations, the function of NGOs as "data collectors", gathering information about the severity of problems, may be a success. However, a statistical significant relationship is absent in both the original and replicated study. If one consider the coefficients of the two models, a bias seem less present in the replicated model as the coefficient is lower than in the result of Mosley and Uno (2007). The result is statistical significant though, for the period 1991 to 1996. Due to extrapolating and more interpolated estimates during the latter period (1996 to 2002), the NGO variable is less valid than during other periods. A positive coefficient is during this period is thus not necessarily reliable.

The replication confirms the expected positive relationship between democracy and labor rights, although the OLS including a lagged dependent variable shows no significant relationship. The positive and significant relationship is present only during 1991-1996 (confirmed both by Newey-West estimates and OLS). This implies that the relationship between democracy and labor rights has changed throughout time and that the minimalistic measure of democracy, participation and competition, has lost its effect on collective labor rights. Civil war in the replicated study shows a rather positive impact on collective labor

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[14] For 1996-2002, the OLS estimate shows a coefficient=0.11, standard error=0.05. The Newey-West coefficient is 0.19 and standard error=0.07 for the same period. The PCSE approach, however, shows no statistically significant relationship.

[15] Assessments of violations are drawn by Mosley and Uno (2007: 929) from three sources; U.S. State Department Annual Reports on Human Rights Practices; International Labor Organization Committee of Exports on the Applications of Conventions and Recommendations, and Committee on Freedom of Association reports; and the International Confederation of Free Trade Unions (ICFTU) reports.

rights, although the result is not statistically significant. However, the MEPV data only includes only internal civil conflict and not international war as in the original study. International war and internal conflict are not caused by the same initial problems, and may thus have different impacts on repression of workers.

To sum up some findings from this replication, it seems as the results by Mosley and Uno (2007) provide robust findings across most cases except FDI flows, which is highly sensitive to measures, and basically seem to be significantly related to labor rights due to underestimation in 2002. The replicated model confirms the results of Mosley and Uno (2007) in all cases except for three. The first one is the relationship between FDI flows and labor rights, as mentioned. Second, growth is no longer statistically significant in the replicated model. Third, the relationship between civil war and labor rights has become positive, although not significant. Across estimation techniques, the results from the replicated model lack robustness for some relationships as well. Newey-West provides significant results for both trade and FDI stocks. OLS does not provide significant results for democracy. These inconsistencies may be due to the fact that these relationships are not reliable across time, and that their lack of robustness for level of significance may be due to the non-linearity of the relationships. Most results on economic globalization variables` impact on labor rights lack consistency across time. Their impact on labor rights seem to be related only to the last years of the study, implying that inconsistent results may be due to various samples of countries that have not reached certain levels of economic "openness" or "penetration" of economic globalization for effects to be visible. The non-linear nature of these relationships imply that inconsistent findings in research may be due to their samples of countries and years, as there are differences in countries` levels of "openness" to economic globalization. Different estimation techniques provide different results and only confirm the fragile relationships between these variables, which may be due to inclusion of a large time span with cycles of various associations between the variables. Typically, time periods of 20-40 years include a few cycles in political economy (Beck and Katz 2009: 13). In cases of few waves of data, we often err on the side of parsimony and postulate a simple linear model (Singer and Willett 2003: 49). However, these analyses show that results are of little robustness across estimation techniques, and that one cannot generalize from the results on the whole sample of years included. This has important impact for the developing countries, as they may wait a long time before witnessing any positive effect from FDI.

6: Discussion

The research question posed in this paper is how FDI affect labor rights in developing countries. Through a replication analysis of Mosley and Uno (2007), the conclusion that FDI increases collective labor rights is confirmed. However, the original study shows a significant relationship with FDI flows and not FDI stock. Although their conclusion is confirmed, this replication questions the internal and external validity of these findings. The replication shows no significant relationship between FDI flows and labor rights. This may be due to an underestimation of FDI flows in 2002 by the World Bank (when considering older data less reliable due to the accumulative nature of research), as well as this relationship was sensitive to changes in variables as well. As the result from the original study was highly sensitive to minor changes in the model, the non-significant finding in the replication seem probable.

Initially, the replication confirms the finding of a positive although non-significant result between FDI stock and labor rights. However, a positive and significant relationship is present during only the latter years in the sample. As FDI flow and stock is actually the same thing once a country open its borders to foreign investment, positive spill-over effects from capital penetration can be seen only as this penetration has reached a certain level of threshold. The rational for FDI flows is according to Letnes (2008: 58), to capture short-term effects, while stock capture long-term effects. The non significant result of FDI stock in the original model is due to a sample years which consider the relationship before FDI has managed to penetrate a country at a certain level, thus making long-term effects less likely. FDI stock is significantly related to labor rights the latter years of the sample in both the original and the replicated model. If considering the significant relationship between FDI stock and collective labor rights during the last period, the coefficient show 0.03 which is the same estimate as the Newey-West model provide during the whole period. The long-term effect is small however, and would imply that increasing FDI stocks one percent relative to GDP increase collective labor rights 0.03 and is of little practical use for labor today.

FDI flows *could* show that the relationship is far more direct and short-term. However, it may as well show the opposite side of causation; the motivations and strategies of MNCs and TNCs in investment decisions. The replication shows no relationship between FDI flows and collective labor rights, and disconfirms the finding of the original study. Thus, this replication is rather in agreement with Letnes` (2004: 265) argument that a host county`s scores on rights are more likely to come from indirect effects of TNC activity. In this case, long-term effects. FDI flow show signs of a rather negative relationship with labor rights the

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latter years. Li and Reuveny (2003) find a similar result on democracy. They argue that FDI inflows have positive effects on democracy, but that FDI inflows affect democracy negatively over time. It may as well imply that when FDI has penetrated an economy at a certain level, foreign investment goes to countries with fewer rights. The risk associated with more repression may be considered lower if the economy already is dependent upon FDI at a certain point. However, this relationship is not statistically significant. The results from the replication imply that the more direct consequences of investment decisions have little to do with collective labor rights.

The non-linearity of the results when considering time periods suggest that contradictions in research may be due to their difference in inclusion of years in the sample. As any consequence of the presence of MNCs and TNCs are due to how integrated they are into a country and how dependent developing countries are upon foreign investment, the topic at hand needs to be considered when developing countries have opened themselves to a certain point. Foreign investment is not likely to have an impact on developing countries before they have penetrated the economy at a certain level.

The Race to the Bottom hypothesis predict what happens *before* investment is made. Governments` perception or not, the replication confirms Mosley and Uno`s (2007) that a "Race to the Bottom" occurs within regions. This analysis is consistent with the original study that regional peer`s practices is positively and statistically related to labor rights. This positive relationship shows that developing countries do make decisions based on what other countries are doing (Simmons et al. 2006: 782). This relationship is present only to countries within the same region, as the replication provide external validation of Mosley and Uno`s (2007) finding of no significant relationship between economic peer`s practices and labor rights. If regional practices influence a country`s score on labor rights due to competition to attract FDI is another matter. One may further disaggregate geographical regions to less size, as transportation costs are likely to influence investment decisions.

A negative relationship between trade and labor rights is present in the replication. However, only Newey-West and OLS estimates provide statistical significant results. The PCSE approach shows a negative, but not statistically significant relationship with labor rights and does not confirm the significant result by Mosley and Uno (2007). However, a statistically negative relationship is present during the latter years of the sample. Thus the validity of this finding seems as well to rest on which years are included in the sample. As trade is highly correlated with FDI flows (r= 0.40) and stock (r= 0.49), any negative effects of MNCs and TRCs may be considered. As MNCs and TNCs engage in trade, governments may

lower labor rights for domestic firms to provide low costs and be able to compete with foreign firms. Buthe and Milner (2008) argue that FDI and trade are complements for developing countries, most FDI are vertical and connected to trade. As measures of FDI do not include the use of subcontractors, any negative effect from higher levels of subcontracting is not present and not a part of the effects of FDI. This replication study is thus in agreement with Mosley and Uno`s (2007: 939) argument that the competitive pressures from participating in global production networks is associated with lower levels of rights.

The replication provides confirming results of other variables` association with labor rights. Debt is not related to labor rights, although debt has a positive impact during the last years (1996-2002) when considering time periods. Extra money does not seem however, to have positive effects on rights. The replication study confirms that higher levels of income are related to lower levels of rights. As well, growth is positively associated with labor rights, but the relationship is not statistically significant.

An update and new estimates of the number of human rights NGOs involved in developing countries, provide the same results as in the original study. A negative relationship is present, although not statistically significant. The lack of a statistical significant result of a positive finding between democracy and labor rights when including a lagged dependent variable as a covariant, may imply that a minimalistic definition of democracy not necessarily has as much relevance to collective labor rights as initially considered. The dual nature of the dependent variable, laws and practice, may be of relevance. As Caraway (2009) argues, stronger laws do not necessarily provide better de facto rights. Democracies provide better laws than non-democracies, while enforcement of laws is related more to levels of income. However, as democracy is statistically significant only during 1991-1996, this result may be consistent with Cingranelli and Richards (1999). They argue that human rights improvements resulting from democratization after the cold war was short term manipulation by illiberal democracies, with no further intention of commitments to improving rights of citizens. As such, competition and participation as a form of democracy may not contribute to increased rights as much as expected.

Civil war is not significantly related to collective labor rights in the replication and is thus not in agreement with the original study. The coefficient rather shows a positive relationship. This contradiction is likely however, to be due to different measures of civil war. The MEPV data is based entirely upon internal conflict, leading civil war far less destructive than when taking international war into account as the original study does.

This replication is in agreement with Mosley and Uno`s (2007) argument that globalization on labor rights depend on the precise ways in which a country participates in global production networks. To address Mosley and Uno`s (2007) overall value, they provide robust findings in most cases except on the issue of FDI. Their conclusion of the positive case is confirmed, however, as they rather seem to view flows and stocks complementary rather than distinct measures of FDI. The replication shows that external validity of their findings is largely dependent upon the years included in the sample. The non-linear nature of the relationships between explanatory variables and collective labor rights may mean that contradictions in research are due to periods included in the sample. Mosley and Uno (2007) argue that labor rights are dependent on the overall level of economic openness. Their results however, lack robustness as the model includes years before a certain level of openness has been achieved. Further, on the issue of economic globalization, differences in samples of countries may cause different results as developing countries are not engaged in global production networks in similar ways and at similar levels.

I suggest for future research to update the dependent variable to more current years, and reevaluate these results on more current data. Second, I suggest considering other explanatory variables as well in the model. Neumayer and de Soysa (2006) control for ratification of ILO Conventions 87 and 98. They find no effect of ratifications on collective labor rights. However, controlling for the variable and reevaluate this result is vital to future considerations on making capitalism more human in developing countries. Second, Mosley (2008) finds a mediating effect of ideology between trade and collective labor rights, thus measuring party orientation on a left-right scale on economic policies may be of importance. Third, I recommend a careful selection of sample of years, in fewer waves, to deal with problems of linearity in pooled time series analysis, or to move to more dynamic models. In this way, results may be more robust across estimation techniques and time.

7: Conclusion

In strict replication of Mosley and Uno `s (2007) analysis of economic globalization and collective labor rights, this paper tries to provide further explanations to the relationship between FDI and labor rights in developing countries. The original study includes TSCS data for 90 developing from 1986 to 2002. The replication includes 84 countries from the same time period. Mosley and Uno (2007) provide two measures of FDI; FDI flows and FDI stocks. The replication study is in disagreement with their conclusion of a significantly positive relationship between FDI flows and collective labor rights. As well as suggesting this result was initially based on underestimation of FDI flows during 2002 and the inclusion of a large number of cases, the results is highly sensitive to measurements of control variables as well. Further, the external validity of their results is largely dependent upon the years included in the sample. Their result of a positive although non-significant result of FDI stocks and collective labor rights is initially confirmed in the replicated model. Two other estimation techniques, OLS including a lagged dependent variable and regression with Newey-West standard errors, show a significant positive relationship. As the result from the original study lacked external validity when checking these results within time periods of the sample, the replication study as well confirm that FDI stocks are significantly and positively related to collective labor rights only during the last years of the sample, when FDI has reached as certain level of penetration. However, the improvements of rights due to high levels of FDI penetration are small. Only 0.3 labor rights (at best), on a possible scale from 0 to 76.5, is increased for each percent of FDI stock relative to GDP. As Mosley and Uno (2007) conclude that FDI increases labor rights, this replication is in agreement with their results as such, however for different reasons. As FDI stock needs to reach a certain level of penetration, only long term indirect effects are considered essential. If taking years into consideration, the short term or direct effects of FDI flows seem rather negatively related to labor rights when these countries have reached a certain level of penetration. However, this result is not significant, although this might suggest that the relationship between FDI is not as straight forward and that when countries have become dependent upon FDI, repressive countries is not necessarily considered as risky and FDI might start flowing to countries of fewer rights.

The replication further shows the non-linear relationships with many of the variables included. Trade is negatively, but not significantly related to labor rights until these last years of the sample, suggesting that increased presence of MNCs and TNCs provide governments incentives to lower labor rights to either provide low costs through subcontracting, or for

domestic firms the potential to compete in trading business. The non-linear relationships of several of the confirmed findings suggest that contradictions in research may be due to samples of countries and years which find themselves at different levels of dependence, inclusion and penetration by economic globalization. This replication is in agreement with their hypothesis that the impact of economic globalization on labor rights depends on level of economic openness, and the precise ways countries engage in global production networks. It is just that these relationships have been considered before actual openness or penetration has taken place. The positive case of economic globalization, FDI, comes from a small increase during the latter years of the sample, when FDI has reached a certain level of penetration. No direct consequence from FDI flows is present in the replication. So, even though FDI can be considered the positive case of economic globalization, this impact is very small and not present before countries have been receiving large levels of FDI. Workers in developing countries, have to wait a long time before the positive indirect effects of FDI provide them with the possibility to engage more in bargaining with their employers.

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Appendices

Appendix 1: Countries included in sample. 90 countries in original study; 84 in replicated study (countries in italics are not included in the replication analysis).

1.Algeria, 2. Angola, 3. Argentina, 4. Bangladesh, 5. Benin, 6. Bolivia. 7. Botswana, 8. Brazil, 9. Burkina Faso, 10. Burundi, 11. Cambodia, 12. Cameroon, 13. Central African Rep., 14. Chad, 15. Chile, 16, China, 17. Colombia, 18. Comoros, 19. Congo (Brazzaville) 20. Congo Dem. Rep, 21. Costa Rica, 22. Cote d`Ivoire, 23. Djibouti, 24. Dominican Rep., 25. Ecuador, 26. Egypt, 27. El. Salvador, 28. Eritrea, 29. Ethiopia, 30. Fiji, 31. Gabon, 32. The Gambia, 33. Ghana, 34. Guatemala, 35. Guinea, 36. Guinea-Bissau, 37. Guyana, 38. *Haiti**, 39. Honduras, 40. India, 41. *Indonesia**, 42. Iran, 43. Jamaica, 44. Jordan, 45. Kenya, 46. Laos, 47. *Lebanon**, 48. Lesotho, 49. Madagascar, 50. Malawi, 51. Malaysia, 52. Mali, 53. Mauritania, 54. Mauritius, 55. Mexico, 56. Mongolia, 57. Morocco, 58. Mozambique, 59. Nepal, 60. Nicaragua, 61. Niger, 62. Nigeria, 63. *Oman**, 64. Pakistan, 65. Panama, 66. Papua New Guinea, 67. Paraguay, 68. Peru, 69. Philippines, 70. Rwanda, 71. Senegal, 72. Sierra Leone, 73. South Africa, 74. Sri Lanka, 75. Sudan, 76. Swaziland, 77. Syria, 78. Tanzania, 79. Thailand, 80. Togo, 81. *Trinidad and Tobago**, 82. Tunisia, 83. Turkey, 84. Uganda, 85. Uruguay, 86. Venezuela, 87. Vietnam, **88**. Yemen Rep , 89. Zambia, 90. *Zimbabwe*.*

*Indonesia, Haiti, Lebanon, Oman, Trinidad and Tobago, and Zimbabwe are not included in the replication analysis.
Note: Yemen Republic also named Yemen AR, Yemen North or Yemen when dealing with data.

Appendix 2: Regional peers. Countries included in original dataset 1986-2002, by regions (140 countries).

North Africa and Middle East	SubSaharanAfrica	Latin America	Caribbean	Asia and Pacific
Afghanistan, Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, Turkey, United Arab Emirates, West Bank and Gaza, Yemen Rep, Yemen South	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Dem Rep, Congo Rep, Cote d`Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychellers, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe	Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, Venezuela RB	Antigua and Barbuda, Bahamas, Barbados, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago	Bangladesh, Bhutan, Brunei, Cambodia, China, Fiji, Hong Kong (China), India, Indonesia, Kiribati, Korea Dem Rep, Korea Rep, Laos, Macao (China), Malaysia, Maldives, Marshall Islands, Micronesia Fed Sts., Mongolia, Myanmar, Nauru, Nepal, Pakistan, Palau, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Tahiti, Taiwan, Thailand, Tonga, Tuvalu, Vanuatu, Vietnam, Western Samoa

Appendix 3:
Economic peers by income. Mean labor right scores are calculated from countries in bold (countries included in the original dataset by Mosley and Uno (2007)). None of the countries in the analysis belong to decile 9 or 10.

Income Decile	Countries listed from lowest to highest income	Income GDP per capita. Current International dollars
1	**Burundi, Congo Dem Rep, Mozambique, Liberia, Ethiopia, Sierra Leone, Niger, Uganda, Malawi, Rwanda, Mali, Afghanistan, Central African Republic, Bangladesh, Eritrea, Chad, Nepal, Togo**	326-634 dollars
2	**Burkina Faso, Guinea**, Timor-Leste, **Tanzania, Madagascar, Ghana, Cambodia, Lesotho, Gambia, Laos, Zambia, Sudan, Comoros, Guinea-Bissau, Benin, Haiti, Vietnam, Kenya**	642-1045 dollars
3	**Sao Tome and Principe, Nigeria, Senegal, India, Mauritania,** Uzbekistan, Kyrgyz Republic, Tajikistan, **Pakistan, Cote d`Ivoire, China, Cape Verde, Cameroon, Nicaragua, Yemen Rep, Papua New Guinea, Mongolia, Guyana**	1096-1614 dollars
4	**Kiribati, Djibouti, Bhutan**, Armenia, Moldova, **Philippines, Sri Lanka, Indonesia, Solomon Islands, Angola,** Georgia, Turkmenistan, **Honduras, Morocco, Micronesia Fed Sts**, Samoa, Azerbaijan, **Bolivia**	1617-2484dollars
5	**Congo Rep., Tonga, Egypt, Syrian Arab Republic, Vanuatu, Maldives, Swaziland, Jordan, Guatemala, Fiji**, Albania, **Paraguay**, Bosnia and Herzegovina, **Namibia, El Salvador, Iraq, Dominican Republic, Tunisia**	2610-3638 dollars
6	**Belize, Thailand, Equatorial Guinea, St. Vincent and the Grenadines, Suriname, Peru**, Ukraine, **Grenada, Ecuador,** Kazakhstan, Belarus, **Algeria, Dominica, Jamaica, Colombia,** Macedonia FYR, Romania, **Iran**	3719-5485 dollars
7	Bulgaria, **Costa Rica, Turkey, Panama, Mauritius, St. Lucia**, Serbia, **Brazil, South Africa, Botswana**, Montenegro, **Lebanon, Uruguay, Malaysia**, Russian Federation, **Chile, Latvia, Mexico**	5486-7143 dollars
8	**Argentina,** Estonia, **Venezuela**, Lithuania, **St. Kitts and Nevis**, Poland, Slovak Republic, Croatia, **Trinidad and Tobago**, Hungary, **Antigua and Barbuda, Libya, Gabon, Korea Rep., Seychelles**, Malta, **Oman**, Czech Republic	7418-13096 dollars
9	Portugal, Slovenia, Cyprus, Greece, Saudi Arabia, Israel, Spain, Bahrain, New Zealand, Macao SAR (China), Ireland, Finland, United Kingdom, France, Italy, Australia, Hong Kong SAR (China), Germany	13289-21295 dollars
10	Japan, Netherlands, Belgium, Sweden, Denmark, Canada, Austria, Singapore, Iceland, Norway, Kuwait, Switzerland, United States, United Arab Emirates, Luxembourg, Brunei Darussalam, Quatar	21314-55827 dollars

Appendix 4: Correlation matrix of variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Labor Rights	FDI flow2	FDI Stock2	Debt 2	Trade 2	Reg. Prac.2	Ec. Peer2	NGOs 2	NGOs 3	Fdi2x Ngo2	Fdi2x Ngo3	Inc.2	Growth2	Growth 3	Pop2	Dem Pol2	Dem Vanh.	Freed. House	Civ. war	ME PV
1	1.00																			
2	-0.03	1.00																		
3	0.01	0.50	1.00																	
4	0.16	0.08	0.14	1.00																
5	0.07	0.40	0.49	0.20	1.00															
6	0.35	-0.11	-0.14	0.06	-0.05	1.00														
7	0.19	-0.20	-0.27	0.12	-0.28	0.54	1.00													
8	-0.27	-0.03	-0.04	-0.11	-0.20	-0.32	-0.20	1.00												
9	-0.34	0.04	-0.03	-0.16	-0.16	-0.30	-0.20	0.79	1.00											
10	-0.19	0.71	0.38	0.03	0.25	-0.30	-0.26	0.32	0.27	1.00										
11	-0.11	0.84	0.38	0.02	0.30	-0.19	-0.19	0.16	0.31	0.86	1.00									
12	-0.25	0.08	0.21	-0.26	0.24	-0.43	-0.38	0.11	0.24	0.20	0.11	1.00								
13	-0.02	0.11	0.02	-0.13	0.05	-0.03	-0.02	0.03	0.05	0.12	0.12	0.04	1.00							
14	-0.04	0.13	0.04	-0.14	0.07	-0.06	-0.06	0.05	0.08	0.15	0.14	0.10	0.98	1.00						
15	-0.39	-0.09	-0.19	-0.23	-0.51	-0.15	0.06	0.43	0.53	0.04	0.05	-0.06	0.10	0.11	1.00					
16	-0.06	0.12	0.09	-0.14	0.07	-0.21	-0.32	0.29	0.41	0.26	0.18	0.38	0.02	0.08	0.02	1.00				
17	-0.02	0.08	0.05	-0.13	0.07	-0.29	-0.32	0.31	0.40	0.24	0.16	0.48	0.05	0.11	0.01	0.76	1.00			
18	0.13	0.09	0.15	-0.14	0.13	-0.04	-0.16	0.10	0.17	0.19	0.12	0.35	0.04	0.09	-0.10	0.59	0.56	1.00		
19	-0.16	-0.04	-0.16	0.01	-0.24	-0.00	0.12	0.08	0.12	-0.12	-0.05	-0.10	-0.04	-0.02	0.31	-0.05	-0.04	-0.16	1.00	
20	0.02	0.03	-0.00	0.13	-0.03	0.03	0.10	-0.02	-0.06	-0.10	-0.03	-0.10	-0.06	-0.05	0.10	-0.11	-0.11	-0.09	0.46	1.00

Appendix 5: Figures of differences in original and updated estimates.

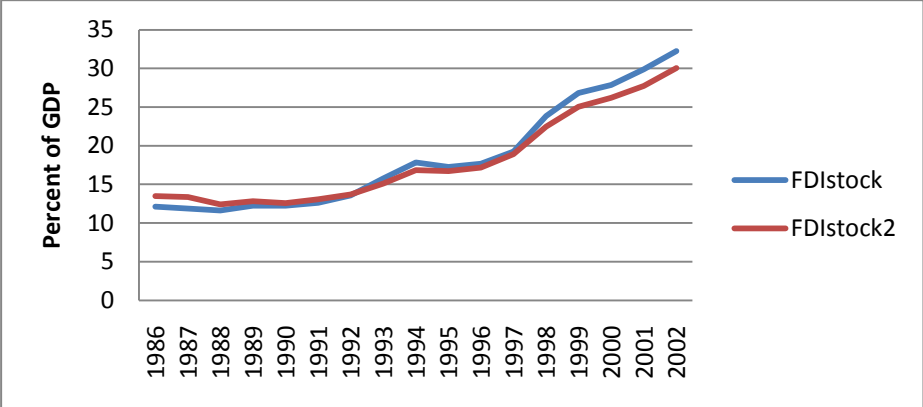Figure 1: FDI stock and FDI stock2 as a percentage of GDP

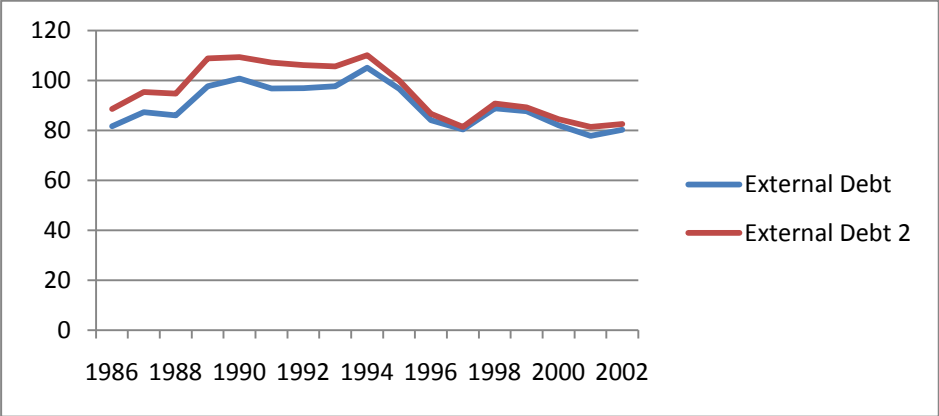Figure 2: External debt and external debt 2

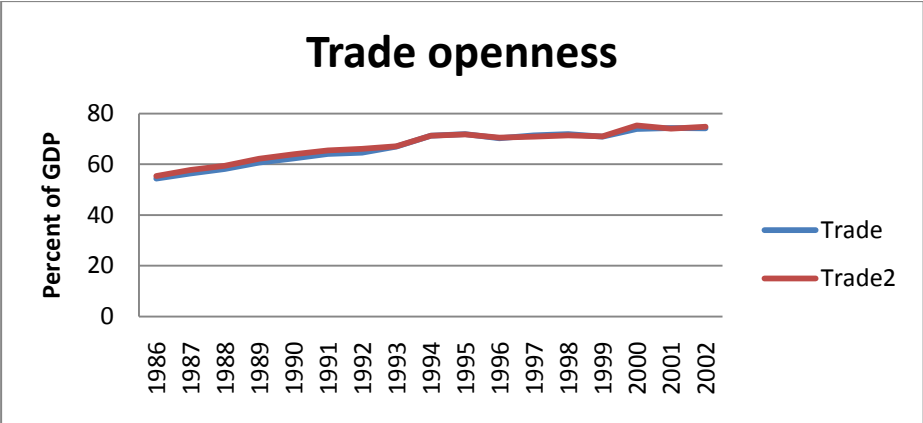Figure 3: Trade and Trade 2, as a percentage of GDP

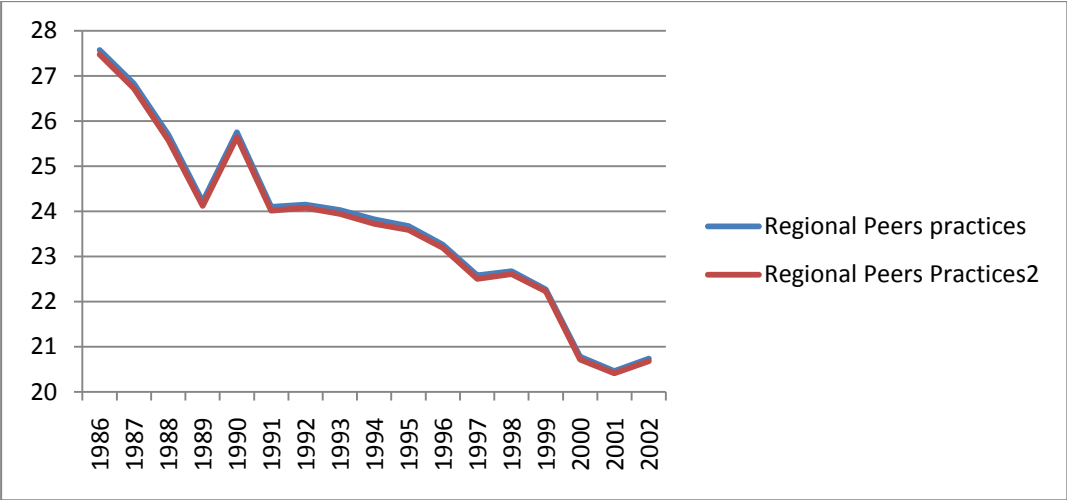Figure 4: Regional Peers Labor Rights Practices (original and recalculated).

Figure 5: Mean labor right scores of economic peers; Ec. Peers Practices and Ec. Peers Practices 2 (updated variable).
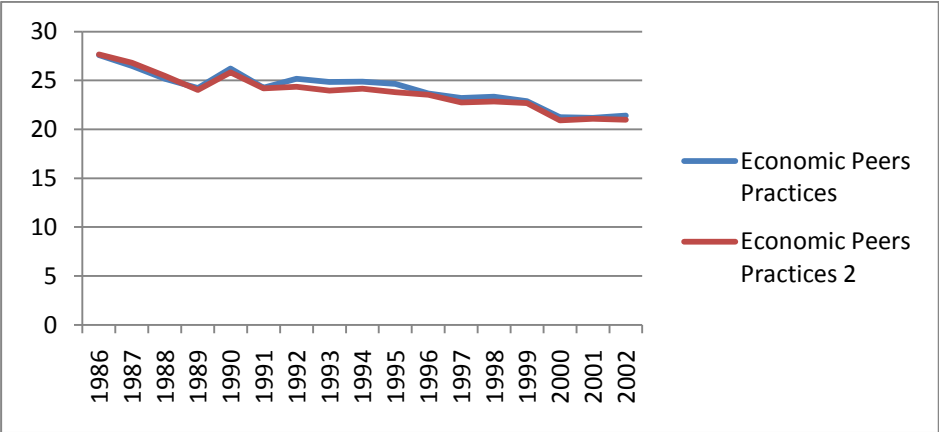

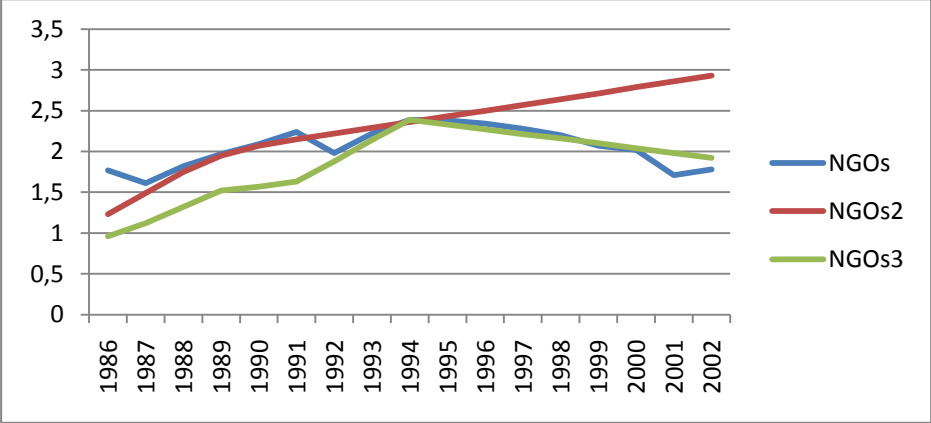Figure 6: NGOs, NGOs2 and NGOs3; natural logarithm.

Figure 7: Income (GDP per capita) and Income 2 (GDP per capita); natural logarithm.
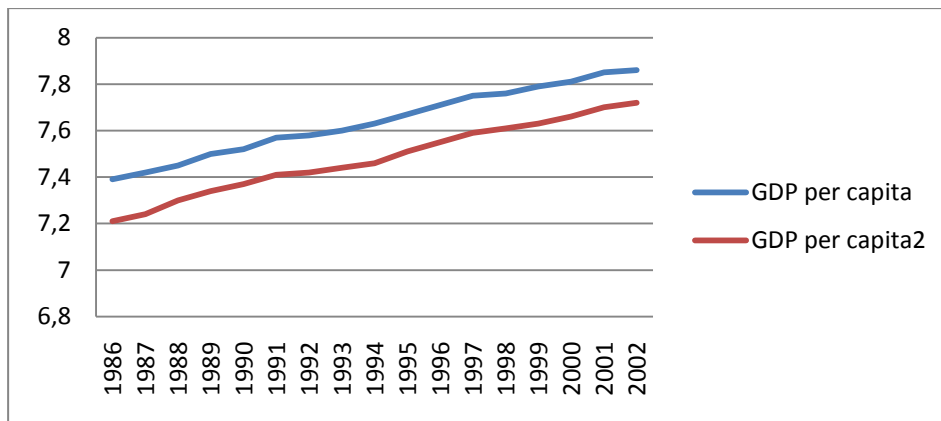

Figure 8: Annual percent of Growth, Growth 2 (GDP growth) and Growth 3 (GDP per capita growth).
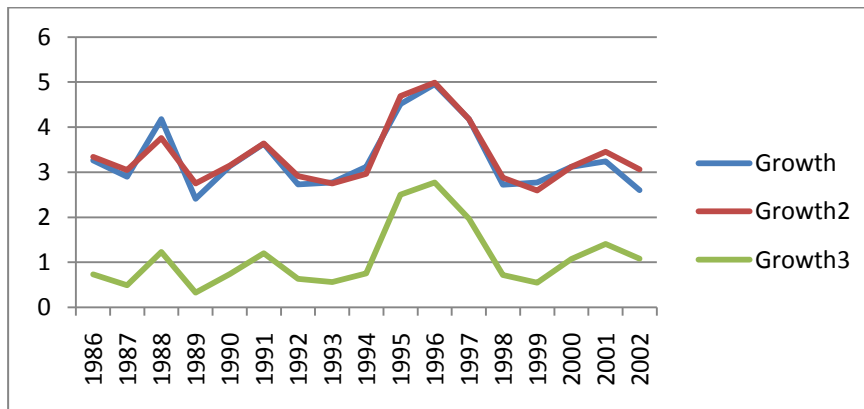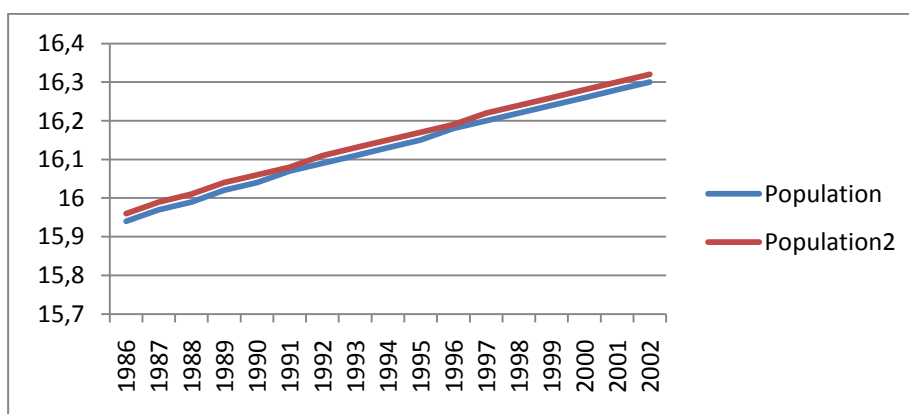

Figure 9: Population and Population2; natural logarithm

Appendix 6: Differences in descriptive statistics of original variables and updated variables included in dataset.

Dependent variable	Obs.	Mean	Std.Dev	Min	Max
Labor rights	1530	22.36	7.56	0	34.50
Independent variables					
Lagged labor rights	1440	22.58	7.54	0	34.50
FDI Flows	1492	2.03	3.76	-28.62	44.99
FDI Flows2	1450	2.09	3.94	-28.62	46.49
FDI Stock	1496	18.57	18.63	0.01	119.95
FDI Stock2	1476	18.16	19.87	0.01	127.45
External Debt	1492	89.80	83.81	0.52	1064.41
External Debt2	1416	95.23	99.34	2.94	1210.06
Trade	1482	67.00	37.20	8.96	282.40
Trade2	1490	67.67	38.39	10.83	280.36
Regional Practices	1530	23.68	3.41	15.21	33.27
Regional Practices 2	1530	23.60	3.39	15.21	33.27
Economic Peers Practices 2	1494	24.10	2.55	16.47	30.65
Economic Peers Practices 2	1481	23.78	2.43	16.58	32.02
NGOs	1410	2.07	1.31	-2.20	5.45
NGOs2	1158	2.29	1.59	-2.11	12.86
NGOs3	1530	1.85	1.32	-1.10	5.45
FDINGOs	1376	4.42	7.97	-26.82	112.78
FDINGOs2	1142	4.70	7.62	-33.30	74.80
FDINGOs3	1492	4.05	7.59	-33.30	86.15
FDI2xNGOs2	1110	4.60	7.21	-33.30	74.81
FDI2xNGOs3	1450	4.14	7.88	-33.30	89.02
Income	1494	7.64	0.83	5.83	9.51
Income2	1481	7.48	0.98	5.25	9.77
Growth rate	1501	3.31	5.24	-50.25	38.85
Growth2 (GDP %)	1492	3.37	5.28	-50.25	38.2
Growth (GDP per capita %)	1490	1.11	5.21	-46.89	37.84
Population	1530	16.13	1.55	12.82	20.97
Population 2	1530	16.15	1.55	12.88	20.97
Democracy	1507	0.68	6.61	-10	10
Dem Polity2	1508	11.58	6.53	1	21
Democracy Vanhanen	1338	8.57	9.12	0	42.5
Freedom House	1523	0.22	0.42	0	1
Civil war	1521	0.21	0.41	0	1
Civil war MEPV	1523	0.36	1.21	0	6

Note: variables in cursive are variables from Mosley and Uno (2007) dataset.

Appendix 7: Time periods in replicated main model, PCSE models.

Independent variables	1986-1991	1991-1996	1996-2002
FDIflows2	0.0554	0.0612	-0.1500
	(0.1139)	(0.1235)	(0.1166)
FDIStock2	0.0006	0.0046	0.0314*
	(0.0265)	(0.0217)	(0.0169)
Debt2	0.0011	0.0018	0.0145***
	(0.0037)	(0.0050)	(0.0050)
Trade2	-0.0055	-0.0140	-0.0264**
	(0.0168)	(0.0145)	(0.0108)
Reg. Peers. Pr.2	0.6532***	0.3844***	0.5064***
	(0.1672)	(0.0962)	(0.0873)
Ec. Peers. Pr2	0.0940	-0.2610	-0.1269
	(0.1524)	(0.2352)	(0.1797)
NGOs3	-0.0586	-0.6418**	0.5363
	(0.2929)	(0.3234)	(0.6275)
FDI2xNGOs3	-0.0337	-0.0442	0.0581
	(0.1100)	(0.0623)	(0.0542)
Income2	-0.8687	-1.5934***	-0.8313**
	(0.5318)	(0.5195)	(0.3343)
Growth3	-0.0175	0.0352	0.0974
	(0.0535)	(0.0426)	(0.0627)
Population2	-1.0829***	-1.3991***	-2.2326***
	(0.2206)	(0.3759)	(0.3767)
DemocracyPol2	0.0475	0.1666*	0.0189
	(0.0713)	(0.0896)	(0.0633)
CiwilWarMEPV	0.0133	0.2976	0.2634
	(0.2582)	(0.2168)	(0.3099)
Constant	29.2779***	54.2608***	53.3316***
	(8.9630)	(8.1616)	(8.0297)
N	424	469	568
Countries	77	83	84
rho	0.45	0.51	0.56
R^2	0.47	0.42	0.42
Wald	6725.61	275.42	331.90

Note: *p<0.1, **p<0.05, ***p<0.01