Chapter 5 Does Aid Buy (Economic) Freedom?

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1 Introduction

Consider Tanzania. In the period from 1960 to 1980, donors supported Tanzania's inward-oriented policy stance with substantial amounts of aid. According to Edwards, "aid agencies were heavily involved in supporting (and even helping design) [Tanzanian President] Nyerere's *ujamaa* Socialism economic policies" (2012: 3). In the early 1980s, the donor community changed gears. As the Tanzanian government did not agree on more market-friendly policies, aid amounts were substantially reduced in the period from 1981 to 1985. In the following years, "the international community continued to use development assistance as a tool to induce change and guide policy. When the reforms stalled, the donors would withhold aid flows" (Edwards 2012: 4). In the mid-1980s, the government finally gave in and implemented more market-friendly economic policies that led to a substantial increase in development aid.

Anecdotes like these on the role of foreign aid in restricting or promoting market-liberal reforms abound, often with contradictory conclusions.[1] Does aid buy freedom? Alternatively, does it restrict freedom? While anecdotes can provide illustrative examples, evidence that is more systematic is needed to gauge the roles of aid in affecting economic freedom. Such evidence is scarcer, but exists. Boockmann and Dreher (2003) report that the number of World Bank projects increases economic freedom, while the effect of the amount of World Bank credits on economic freedom appears to be negative. They find no clear relationship between loans and programs of the IMF and economic freedom. Regarding bilateral aid, Heckelman and Knack (2008) find that aid reduces freedom, but only up until the 1990s.

Building on these first empirical tests, a number of additional papers investigated the role of aid in changing (economic) freedom. The hypotheses tested stress the effect of money being disbursed, the conditionality of aid, moral hazard, and the

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1 See Hodler and Dreher, 2012 for further examples.

potential for donors to be used as scapegoats.[2] The literature, however, does not converge to a unique (or conclusive) answer as to whether aid does affect economic freedom, and to what extent. Authors come to opposing conclusions, sometimes using similar data and methods, sometimes deviating from the previous literature without setting their results in the perspective of previous work. This chapter evaluates the evolving empirical literature on foreign aid and economic freedom.

Before turning to the evidence, we discuss the hypotheses proposed in the previous literature. Our evaluation of the empirical evidence tries to gauge whether the literature has, overall, established the role of foreign aid in promoting or preventing economic freedom. Arguably, this is an important question. First, economic freedom could be considered a value in itself. Second, economic freedom contributes directly to important aims that donors want to achieve when they give aid. Economic freedom increases economic growth (De Haan et al., 2006; Berggren, 2003; Carlsson and Lundström, 2002; De Haan and Sturm, 2000), investment rates (Dawson, 2003), improves health and prevents disease (Stroup, 2007), leads to higher ranks on the Human Development Index (Norton, 1998; Goldsmith, 1997) and higher subjective well-being (Gehring, 2012). Even if aid does not directly increase economic growth, it could contribute to growth indirectly via the positive effect of increased economic freedom on growth.[3]

The literature does not provide strong support for this hypothesis. It shows that aid promotes freedom only in certain areas. Moreover, the effect of aid is more positive since the end of the Cold War-period. The aim of this chapter is to highlight the main areas of difficulty in assessing this impact to guide future research in its attempts to answer this question. We argue that a well-defined framework for assessment needs to be constructed, tested, and consistently used in order to make comparisons between research in this area easier and more conclusive.

2 The hypotheses

Foreign aid may influence the recipient country's economic freedom in a number of ways. First, there is the direct impact of the aid money. The availability of foreign aid for public investment projects ensures that the investment (or any other expenditure) can be carried out without the need to raise taxes (Vasquez, 1998), in effect increasing economic freedom directly if funding the investment would otherwise require an increase in tax revenue. Aid going to governments can however

2 These aspects apply to donors to different degrees. Prior to 1990, aid was largely used for strategic purposes. US aid aimed to develop military relationships, the British and French governments tried to maintain their influence on former colonies, and German and Japanese aid aimed to promote economic interests (Lancaster, 2007). These strategic interests have not disappeared with the end of the Cold War, but their importance might be smaller (Bermeo, 2008). Some but not all countries tie their aid to formal conditions. Since the Maastricht Treaty, provision of aid by the European Union and its member states is conditional on the presence of human rights, democracy, and low military expenditures. Since 1990, the United States' USAID has made its aid conditional on democratic and governance reforms (Crawford, 2001). Many bilateral donors also make their aid disbursements on the condition that World Bank or IMF conditions have been met (White and Dijkstra, 2003). Koeberle, 2004 gives an overview of conditions included in World Bank lending; see Dreher, 2009 on the IMF; and Oehler et al., 2012 on the United States' Millennium Challenge Corporation.

3 On the effect of aid on growth, see Doucouliagos and Paldam, 2009 and Nowak-Lehmann et al., 2012, among many others.

strengthen their role relative to the private sector (Friedman, 1958). It might contribute to increased central planning, forced collectivization, and the public takeover of foreign enterprises instead of encouraging private entrepreneurship (Bauer, 1991). The money available to governments can also deteriorate the quality of legal security and regulation by making rent-seeking more attractive and increasing corruption (Svensson, 2000). Foreign aid thus can also reduce economic freedom.

A second channel is conditionality, where donors directly tie the disbursement of money to certain conditions. Aid might be "remarkably effective if it induces governments to adopt growth-inducing and poverty-reducing policies. This is indeed the core of what conditionality is supposedly about—aid buys reform" (Collier, 1997). In this context, the effect of aid on freedom depends on whether donors condition their aid on changes in economic freedom and the extent to which recipients implement these conditions. Most of the literature concludes, however, that conditionality has failed.[4] But, even if there is no immediate success and recipients do not implement all conditions as negotiated, aid programs may still affect policies over time. Recipients need to implement some conditions to get access to the aid money, and governments in need of continuous support might be reluctant to overturn such changes after they received the money. In the longer run, the introduction of reforms might create enough support for their maintenance. Interest groups representing the net beneficiaries might defend those reforms even in the absence of further conditionality.[5]

Besides the direct "carrot-and-stick" effect of money and conditionality, there are also more informal channels through which a donor may influence policies in recipient countries (Boockmann and Dreher, 2003). The inclusion of conditionality may start a process of negotiations between the donor and national actors during the period of aid transfers, especially if some slippage from agreed targets occurs. On one hand, negotiations may turn the balance in favor of reformers in the domestic political game (Haggard and Webb, 1994). On the other hand, the donors' programs may increase awareness of the relevance of economic imbalances and, therefore, help to bring about a different approach to policy. They may also make the necessity of reaching consensus over the measures demanded by conditionality obvious to otherwise opposing social groups (Drake, 1998; Ratnam, 1996). Consequently, the donor may reinforce a liberal consensus in the recipient countries.

The impact of the donor on domestic policies may even come about without formal conditionality at all (Boockmann and Dreher, 2003). Policy advice may strengthen reformers within the recipient countries. If the interests of governments and interest groups are heterogeneous in the recipient country, a donor can provide leverage by changing the incentives of the government in a way that affects what interest groups offer in the bargaining process (Dreher, 2009). Moreover, because of a lack of expertise in economic policy areas, some countries lack the capacity to implement comprehensive market-liberal reforms. In this case, aid programs negotiated with the donor may not actually impose unwanted conditionality but rather provide welcome advice.

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4 See Oehler et al., 2012 for a short summary.

5 This assumes an asymmetry in the lobbying capacity of interest groups in introducing reforms and in defending them: "For the initiator [of a new system] has the enmity of all who would profit by the preservation of the old institution and merely lukewarm defenders in those who would gain by the new ones," Machiavelli, *The Prince* (1513); cited in Feinberg, 2006.

The transfer of knowledge may take very different routes that are only loosely connected with specific instruments of the donor (Boockmann and Dreher, 2003). One example of leverage of a donor on national policies is the influence of senior officials who were educated in the universities of donor countries or have been staff members of donor aid agencies. These officials may have the ability to contribute to changing attitudes and steering policy change. In almost all developing countries, several senior economic officials have spent time as staff members of the IMF, the World Bank, or a regional development bank. Conversely, there may also be a transfer of knowledge from recipient countries to the donor. Higher involvement could help the donor learn more about conditions in the particular country. Consequently, aid relationships improve. Therefore, money disbursed by the donors may, in the long run, be less important than training and socialization, which can change the attitudes of political actors and influence the domestic debate regarding adjustment policies.

When conditions (and less formal channels of influence) fail to produce the desired results, subsidized credits may give rise to moral hazard. They may soften the need for reforms during economic crises and enable inefficient structures to survive. If donors are perceived as disbursing aid according to financing needs, potential recipients have an incentive to appear needy. They might reduce domestic investment or purposely delay reform in order to remain eligible for aid (Harms and Lutz, 2004; Easterly, 2002; Vaubel, 1990). Even if governments are unlikely to provoke a crisis deliberately, they might reduce precautionary measures if they are eligible for donor support. Furthermore, if foreign aid can be interpreted as income insurance against adverse shocks, it might induce the potential recipients to lower their precautions against such damages (Dreher and Vaubel, 2004).

In a wider sense, moral hazard might result in an incentive to abuse aid disbursements after a crisis occurs. This kind of behavior is not necessarily prevented by the donor's (*ex post*) conditionality (Dreher and Vaubel, 2004).[6] Governments may agree only formally to the attached conditions and circumvent the program's spirit with countervailing measures not covered under the program (Heckelman and Knack, 2008). In addition, turning the argument concerning the checks and balances in domestic politics upside down, the government's increased leeway may result in an inability to persuade pressure groups as to the necessity of fiscal stringency.

In summary, there is a diversity of channels for the possible effects of aid on freedom and it seems difficult to find equivalents for them in terms of observable variables. According to the arguments above, the number of aid programs or projects in operation increases the pressure for reforms. This is due either to the direct effect of conditionality on policies, or to the transfer of knowledge and advice, which increases with the number of contacts between a recipient country and the donor (Boockmann and Dreher, 2003). Contacts should be measured directly in order to distinguish between conditionality, transfer of knowledge, and other informal effects, but as yet the data to do so do not exist.

6 Note that the terms *ex ante* and *ex post* conditionality are used in the literature in different ways. In the Public Choice literature, *ex ante* refers to the time before a country turns to international institutions, notably the IMF, for financial assistance (e.g., Vaubel, 1991; Meltzer, 2006). Typical *ex ante* conditions suggested in the literature include responsible fiscal and monetary policies and sound financial systems. *Ex post* conditionality refers to conditions negotiated after a country has turned to the IMF. Examples are reductions in the government's deficit or in the rate of monetary expansion.

Capturing the softening of the budget constraint and other adverse effects requires the inclusion of financial variables. To ensure that the variable containing the financial flows from the donor to the country reflects the softening of the budget constraint and, hence, reduced pressure on the government for reform, net credit amounts should be used to test for the effect of this channel. In principle, the amount of aid a country receives may also be a proxy for the direct effect of conditionality on national policies (Boockmann and Dreher, 2003). However, conditions and credit volumes need not be proportional, and some conditions are included in almost all programs. Thus, the number of arrangements concluded may be a better measure for donor conditionality than the flow of finances. Controlling for the programs in operation, the amount of credit could increase economic freedom (if it finances required public goods and supports reform-oriented groups), have no measurable effect, or reduce reform efforts (if the effect of a softening of the budget constraint or increased rent-seeking prevails).

3 Empirical evidence

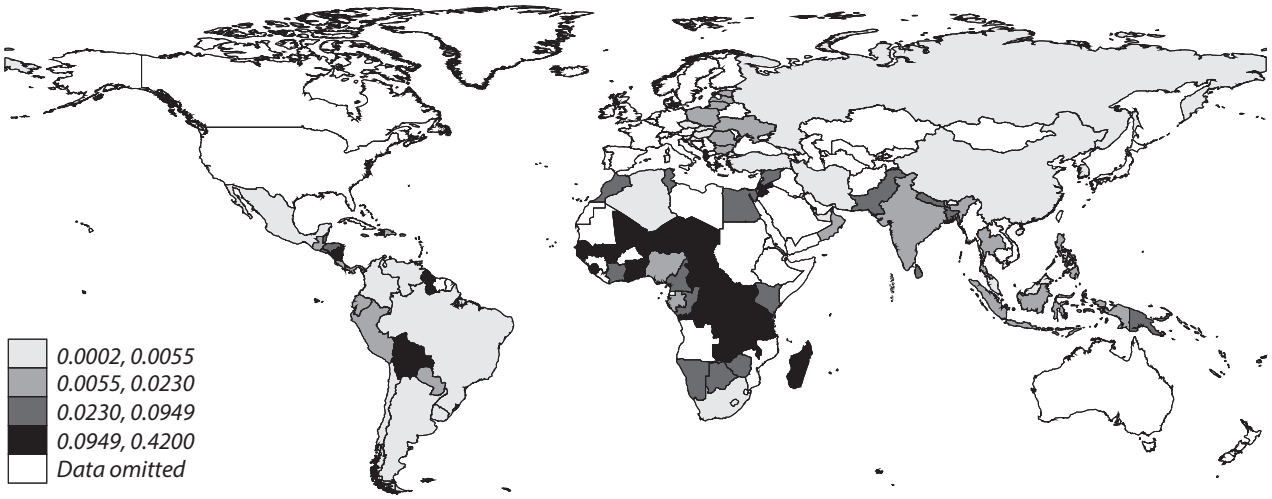
Figure 5.1 shows average yearly Official Development Aid (ODA) disbursements in constant 2009 US$ over the period from 1980 to 2008.[7] Figure 5.2 shows changes in economic freedom over the same period derived from *Economic Freedom of the World: 2010 Annual Report* (Gwartney et al., 2010). Darker colors indicate higher levels of aid received and more positive changes in economic freedom. To ensure clarity we only display the changes in economic freedom for those countries receiving aid.

It is not surprising that aid disbursements have been largest in Africa and Latin America, but they have also been sizable in Asia and Eastern Europe. Improvements in economic freedom roughly display the same pattern. There is, however, no obvious relation between the two. Take Bolivia as an example. Bolivia received large amounts of aid while its economic freedom has improved substantially. By contrast, Chile received little aid but also experienced a large increase in freedom. In Africa, some major aid recipients like Zimbabwe, Mali, or Niger experienced reduced freedom. In other examples, large inflows of aid were associated with large increases in economic freedom (for instance, Madagascar, Uganda, and Zambia).

Figures 5.3 and 5.4 restrict the sample to the period after the Cold War. The end of the Cold War arguably had a large impact on economic freedom and the way foreign aid was allocated (Alesina and Dollar, 2000). In the 1980s, the import-substitution paradigm was replaced by the Washington consensus, which emphasized free trade and liberalization. Hodler and Dreher (2012) show that donors allocate more money to countries that follow the prevailing aid paradigms. Openness as measured by the Sachs-Warner Index reduces aid over the period from 1960 to 1970 (significant at the 10% level), and has a negative but marginally insignificant effect from 1970 to 1980. From 1980 to 1990 the effect is not significant at conventional levels, while over the period from 1990 to 2000 openness increases aid receipts on average, significant at the 5% level. Hence, the change in donors' aid allocation policies reflects the change in paradigms.

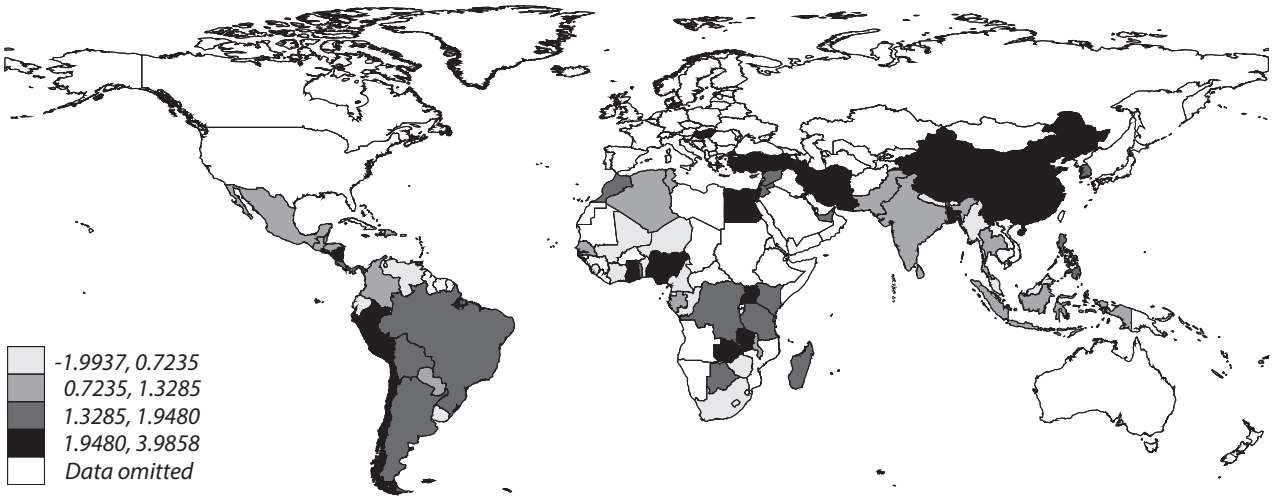
7 The OECD's Development Assistance Committee (DAC) collects these data from the donors. The DAC defines aid as net financial flows to countries on its list of ODA recipients and to certain multilateral institutions and NGOs, including technical cooperation. The DAC only includes aid that is concessional—that is, consists of grants or loans with a grant share of at least 25%— and excludes military aid. ODA excludes most IMF lending and about two thirds of the World Bank's loans (Heckelman and Knack, 2008).

Figure 5.1: Average yearly aid/GDP disbursements, 1980–2008



Source: OECD DAC statistics, 1960-2010, DAC2a ODA Disbursements, downloaded as ready-made file from <http://stats.oecd.org/Index.aspx?DataSetCode=TABLE2A>, as of February 2012.

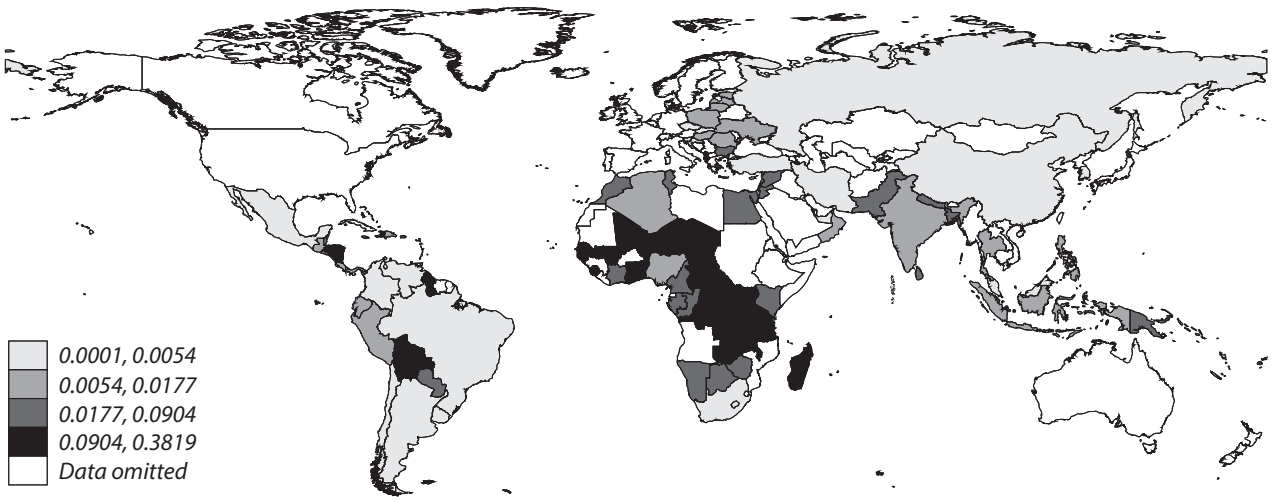
Figure 5.2: Changes in economic freedom, 1980–2008



Source: Gwartney et al., 2010 (*Economic Freedom of the World: 2010 Annual Report*).

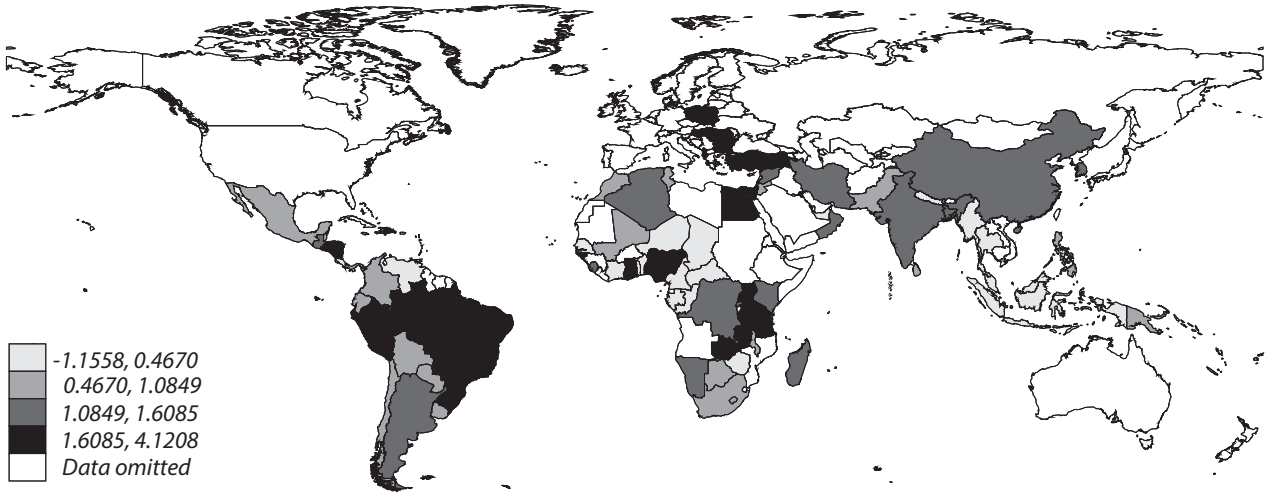
If donors used aid to promote economic freedom starting in the 1980s only, there is no reason to expect a positive correlation between the two in the Cold War period. The figures, however, show no clear pattern for the period after the Cold War either. For example, out of the major aid recipients in Africa in the post-Cold-War period, Niger, the Central African Republic, Togo, and Senegal, all exhibit large declines in economic freedom while others like Zambia, Tanzania, and Uganda showed strong improvements. Clearly, aid is only one factor among many that can influence changes in economic freedom. Correlations between aid and freedom could suggest a relationship between these two but do not imply causality. For example, donors can allocate aid specifically to reward economically free countries, or give it to countries with decreasing freedom because these are most in need of aid. In order to investigate the causal effect of aid on freedom (or changes in freedom)

Figure 5.3: Average yearly aid/GDP disbursements, 1990–2008



Source: OECD DAC statistics, 1960-2010, DAC2a ODA Disbursements, downloaded as ready-made file from <http://stats.oecd.org/Index.aspx?DataSetCode=TABLE2A>, as of February 2012.

Figure 5.4: Changes in economic freedom, 1990–2008



Source: Gwartney et al., 2010 (*Economic Freedom of the World: 2010 Annual Report*).

we need to account for the endogeneity of aid and control for other potentially influential variables. The following section reviews the existing empirical literature, first focusing on the effect of aid on overall economic freedom and then looking at individual components of economic freedom. The Appendix (pg. 271 ff.) summarizes the results.[8]

8 The Appendix covers studies that use economic freedom as a dependent variable. That includes the overall index, but also individual dimensions like the rule of law or size of government. While corruption and other dimensions of governance can also be considered measures of economic freedom, the relation is less direct. We discuss selected studies using such variables but the survey is not exhaustive and we do not cover these studies in the Appendix. We admit that this choice can sometimes appear arbitrary.

3.1 The effect of aid on overall economic freedom

When investigating the impact of aid on economic freedom, researchers need to address a number of critical choices. Most obviously, economic freedom needs to be measured and quantified. To do so, researchers can choose between two aggregate indices and various indicators focusing on individual dimensions of economic freedom. The Heritage Foundation has published its *Index of Economic Freedom* on an annual basis since 1995 (*Miller and Holmes, 2011*). Given the comparably short time-frame covered and the interest of economists in longer-term analyses, this index is not widely used. The indicator of choice in the bulk of the literature is the Fraser Institute's index published in *Economic Freedom of the World* by Gwartney et al. (1996–2011).[9] For both indices, the time lag between the data collection and the year indicated in the published index differs across countries (Cummings, 2000) and, therefore, interpreting short-term changes from one year to the next is difficult. Overall, the index from the Fraser Institute's *Economic Freedom of the World* (EFW index) has several advantages over the Heritage's *Index of Economic Freedom* (IEF index), including the practical advantage of its wider availability; it has been available in five-year intervals since 1970 and on an annual basis since 2000. A second important advantage of the EFW index is the transparency regarding its calculation and the data sources used for calculating the index. Because the methodology is made public and can easily be replicated, manipulations (for example, for ideological reasons) are unlikely (Paldam, 2003). Third, the EFW index uses reliable and widely used data sources like the World Bank and the IMF, and relies on objective data instead of subjective judgments whenever possible. When objective judgments are impossible—on perceptions of judicial independence, for example—the EFW index is transparent about the origin of surveys and questions used therein. As has been pointed out in the literature, Heritage's *Index of Economic Freedom* lacks transparency, theoretical foundation, and frequently changes the method underlying its index (Quinn et al., 2011; Cummings, 2000). Nevertheless, the two indices are highly correlated (e.g., rho ≈ 0.8 in Gehring, 2012).

The Fraser Institute's index of economic freedom can be decomposed into its components to get a more nuanced view of specific changes. Included are several indicators from other institutions that can be used to proxy the individual items. Important data sources include the World Bank, the International Monetary Fund, the World Trade Organization, the World Economic Forum, and the International Country Risk Guide (ICRG). Obviously, there are also other indicators, which are not part of the Fraser Institute's EFW index, but may still provide important information. Morley et al. (2003), for instance, provide indicators about structural reform specifically for Latin America. Plenty of indicators are available to measure the freedom of flows of capital and trade (Rose, 2004; Quinn et al., 2011). Generally, using individual dimensions enables researchers to derive more specific policy implications rather than focusing on aggregate indices. While investigating the effect of aid on overall economic freedom is important, in order to identify individual transmission channels, more precise and specific indicators or components are preferable. Some of the individual indicators are available on a yearly basis for a longer time period than the overall index. For instance, regarding the freedom to invest, indicators based on the IMF's *Annual Report on Exchange Arrangements and*

9 See the Publishing History of *Economic Freedom of the World* on page 309 for a full list of preparatory studies and annual reports.

Exchange Restrictions are available on a yearly basis since 1965 (*de jure* indicators) and 1970 (*de facto* indicators) (Quinn et al., 2011), providing researchers with the opportunity to look at long-term developments.

While most of the earlier literature investigates the level of economic freedom, using first differences might be preferable. Investigating whether aid triggers economic reform is better captured by looking at how it affects changes in freedom in subsequent periods. As past levels determine subsequent levels of freedom (Coviello, 2006), regression-toward-the-mean effects are likely. Moreover, high freedom in one period could lead to large improvements in subsequent periods. Conversely, if economic reforms are politically costly, achieving further reforms might be less likely when countries have already achieved a high level of economic freedom (Bearce and Tirone, 2010; Heckelman and Knack, 2008). To capture these effects, regression equations that want to measure the effect of aid on freedom have to include the initial level of economic freedom also.

Of similar importance in choosing how to measure economic freedom is the choice of the type of aid to be investigated. Aid can be classified by its source, that is, the type of donor, which could be either bilateral or multilateral; official or private; or all donors of one category rather than selected donors only. Different donors pursue different (aid) policies. Some donors grant aid mainly for political reasons (see Dreher et al., 2009a; Dreher et al., 2009b; Kilby, 2011), and the motive for granting aid can influence the effect of the aid given (Kilby and Dreher, 2010). Some donors put more emphasis on economic freedom than others. For example, the United States and the World Bank are strong supporters of market-liberal policies (Hodler and Dreher, 2012), and condition their aid on them. Other donors are arguably more reluctant to support economic freedom, in particular non-traditional donors granting aid outside the Development Assistance Committee (DAC), like China.[10]

Researchers also face the decision whether to measure aid in terms of commitments or disbursements. Commitments are usually disbursed in the recipient country over several years. Hence, they measure when and how much aid is assigned, and might be more suitable in investigating the determinants of governments' aid allocation decisions (given that disbursements depend on factors beyond the control of the governments and are determined by commitments made over an extended period before aid is actually given, so timing is more difficult to measure). Disbursements capture the flows that eventually reach the recipient country and are, therefore, the variable of choice to assess the effects of aid on them. Roodman (2007) suggests Effective Development Assistance (EDA) as an alternative to Official Development Aid (ODA). EDA contains the sum of grants and the grant element of the loans rather than all loans with a certain grant element, and excludes technical assistance (Coviello, 2006). This measure thus captures the net aid resources that actually flow into the recipient country more accurately.[11] Because of some limitations on the data, EDA has only been available since 1975. It is important to note that ODA excludes most IMF lending and about two-thirds of the World Bank's loans (Heckelman and Knack, 2008). The aid measure typically used in the literature also excludes aid by non-DAC countries, which can be

10 See Dreher and Fuchs, 2011 for an investigation of China's aid policies and Fuchs and Vadlamannati, 2012 on India. Dreher et al., 2011 covers a large sample of "new" donors.

11 On the other hand, the non-grant element of a loan can also be consequential for economic freedom.

substantial for some countries. Given that aid by new donors, for example, could be given to counteract the effects of DAC aid in buying reforms, omitting them potentially biases the results.

The specific type of aid delivery can also influence the effect of aid on economic freedom. Program aid is used more often than other forms of aid to encourage reforms (Heckelman and Knack, 2008) and thus, potentially, has a greater influence on economic freedom. Project aid is less likely to have such effects. The effects of short- and long-term aid might also differ (Clemens et al., 2012), and aid given for specific areas, or with different type of concessionality (i.e., the degree to which the terms are more favorable than commercial terms), might be more effective in targeting freedom than others. These possible differences in effects are largely ignored by the existing literature.

Finally, the researcher has to decide on the period of study, the choice of control variables, and the strategy to deal with the obvious problem of endogeneity. Regarding the period of study, choices are mostly driven by the availability of data. However, the end of the Cold War marks an obvious turning point. Consequently, some studies analyze the post-Cold-War period separately. Given the variability of the prevailing aid paradigm, and the associated changes in donors' aid policies over time (Hodler and Dreher, 2012), one can hardly expect a meaningful result when investigating the period from 1975 to 2005 in total, for example.[12] Therefore, choosing a shorter period of time, defined by the prevailing aid paradigm, would arguably lead to clearer results.

The choice of control variables when there is no underlying theoretical model poses particular difficulties. Ad-hoc choices can affect the results and raise doubts regarding the reliability of the results. The Appendix shows that, while GDP and GDP growth are included in all studies, there is considerable disagreement over the additional control variables. Only those results that turn out to be robust regarding reasonable changes in the set of control variables contribute to our level of knowledge. Finally, and obviously, simply regressing freedom on aid, even controlling for some confounding factors, is not likely to produce meaningful results. The potential endogeneity or simultaneity of aid needs to be taken into account.

Bilateral aid

While some papers investigating the effect of aid on economic freedom are careful in addressing the choices outlined above, the results of some others can be questioned. For instance, Powell and Ryan (2006) investigate the period from 1970 to 2000, using overall aid (ODA) as their variable of interest. Their specification does not show robust results. Given the large variations in policies across donors and over time, this result is not surprising. The overall (insignificant) effect could be the result of a negative effect during the import-substitution development paradigm of the 1970s and a positive effect during the period of the Washington consensus thereafter. It could also be confounded by the opposing effects of donors with a greater focus on freedom compared to donors who do not condition aid at all, or even supported more inward-looking policies. Powell and Ryan do not use instruments for aid, so reversed causality and omitted variable bias could affect their correlations.

Heckelman and Knack (2008) improve the analysis on several fronts. They use a larger set of control variables, instruments for aid to explain the change in economic freedom over the period from 1980 to 2000, investigate several types of aid, and

12 The prevailing development paradigm of the 1970s was the import-substitution paradigm with its associated inward-looking policies.

investigate the period after the Cold War separately. Their results show that economic freedom decreases with aid overall, and also when separately investigating project aid, program aid, and technical assistance. As instruments for aid, they use initial levels of life expectancy, sectorial composition of the economy, and population size. The first two components proxy recipient countries' need. Aid per capita decreases with population if donors want to spread their aid across many recipients to increase their national prestige. Empirically, this motivation can be questioned, as there are quite a few countries that focus their aid on specific countries, for example, on former colonies (Lancaster, 2007), rather than spreading it across a large number of countries. While Heckelman and Knack (2008) report that all instruments are individually significant at conventional levels and together explain almost half of the variance in aid, they do not report more specific tests for the quality of their instruments. Theoretically, it is possible that these instruments in themselves cause changes in economic freedom directly. They use lower life expectancy to proxy need but low life expectancy could also affect the need for reforms. Sectorial composition is measured by the share of the economy made up by the agriculture and manufacturing sectors. This is argued to be relevant as both groups might lobby for protectionist measures, but one might be more successful in restricting economic freedom in its favor than the other group. In this case, the size of each sector's respective share of GDP also has a direct influence on the probability of changes in economic freedom. Farmers, for instance, might form effective lobbying groups as they have rather homogenous interests with concentrated benefits (Olson, 1965). Regarding population, it could be argued that smaller countries have been exposed to comparatively larger competitive pressure in the third wave of globalization since 1980. Because of a lack of domestic economies of scale, smaller countries have had to liberalize more to grow (Alesina, 2003).

Heckelman and Knack (2008) investigate the 1980s and 1990s separately. While freedom decreases with aid in the 1980s, aid does not significantly affect economic freedom in the 1990s. This is what one would expect given that the bulk of donors supported an inward-looking development paradigm until the early- to mid-1980s (Hodler and Dreher, 2012). Jointly investigating aid by donors in support of liberal policies with donors more in favor of inward-looking policies (or those who do not tie aid to policy reform) makes it difficult to identify significant results.

Knedlik and Kronthaler (2007) and Bearce and Tirone (2010) investigate what affects changes in freedom. Bearce and Tirone's panel data analysis uses lagged flows of aid to investigate subsequent changes in economic freedom. They find that aid had no effect in the period from 1975 to 1990, at conventional levels of significance. In the period after the Cold War, they find that freedom increased with aid. In an attempt to alleviate the potential endogeneity problem, Bearce and Tirone replicate the analysis exclusively focusing on countries that did not introduce reforms in the previous period, confirming their results. Knedlik and Kronthaler estimate similar models for the period from 1995 to 2004, but investigate the contemporaneous rather than the lagged effect of ODA. They measure economic freedom using the Heritage Foundation's *Index of Economic Freedom* (IEF index) rather than the EFW index from the Fraser Institute's *Economic Freedom of the World* and do not find an effect at conventional levels of significance.[13]

13 Dreher and Rupprecht (2007) include an overall aid measure in their analysis of IMF programs on economic reforms and find that overall aid does not have an effect on changes in economic freedom, at conventional levels of significance.

Taken together, these studies provide some preliminary evidence that aid increases economic freedom in the post-Cold-War period when freedom is measured by the EFW index (but not when it is measured by the IEF index). Whether these differences in results are indeed due to the different measures of freedom, the different set of variables the studies control for, the assumed timing of how aid affects freedom, or the specific periods the studies investigate, is an interesting question that cannot conclusively be answered by the existing literature. Furthermore, the literature does not attempt to shed light on the different potential channels by which aid could affect freedom. Hence, its usefulness for deriving specific implications for policy is limited.

Multilateral aid

Turning to multilateral aid, Boockmann and Dreher (2003) provide a starting point. They try to separate the channels by which aid could affect freedom with respect to IMF and World Bank loans. They suggest including the flow of funds and the number of programs negotiated with the IMF and the World Bank at the same time. The flow of monetary resources is measured with the change in the stock of outstanding IMF and World Bank loans. They use net rather than gross flows because payments and repayments both affect the government's budget constraint. If the variable containing the financial flows from international financial institutions to the country is to reflect the softening of the budget constraint and, hence, the reduced pressure on the government to implement reforms, net amounts are preferable. Boockmann and Dreher use the number of programs that were active over at least five months in a given calendar year.[14]

The results in Boockmann and Dreher (2003) suggest that the activities of the World Bank affect the level of economic freedom, while those of the IMF do not. Economic freedom increases with the number of World Bank projects and decreases with the volume of credits. Controlled for the number of projects, the sum of World Bank credits measures the average size of the projects in a particular country and year. Taken together, World Bank projects seem productive of "good" economic policies unless they become too large. As outlined above, a positive effect of aid could occur via information transmission, training, and supporting reformers. These positive effects can turn negative if the adverse incentives created by continuously providing large sums of money to recipient governments prevail.

Overall, the analysis suggests a differentiated picture, where the total effect of aid depends on whether aid is given by the World Bank or the IMF, and the specific combination of the number of projects and amounts of aid. Rather than investigating the period after the end of the Cold War separately, Boockmann and Dreher include a dummy for it. It is, thus, not possible to see whether the effect of aid has changed with the end of the Cold War. They also investigate levels, rather than changes in economic freedom and do not use external instruments. Their instrumentation strategy is based on internal instruments in a difference GMM estimation setup (following Arellano and Bond, 1991). This estimator however frequently produces instable results. There is little theoretical guidance on how to choose the matrix of instruments, and the results frequently depend on this choice.

14 For the World Bank, part of these data were lacking so they use the number of programs and projects negotiated instead.

Dreher and Rupprecht (2007) and Knedlik and Kronthaler (2007) focus on changes in economic freedom as the dependent variable but do not try to separate different channels of influence by donors and only investigate the IMF. Both studies find that IMF involvement reduces economic freedom. While Dreher and Rupprecht show that IMF programs reduce economic freedom, Knedlik and Kronthaler report similar results for IMF disbursements using changes in the Heritage Foundation's IEF index rather than the Fraser Institute's EFW index. The estimated effect of the IMF in Dreher and Rupprecht is sizable: over a five-year period, one IMF program reduces the EFW index by 0.22 to 0.83 points, on average. Given the average yearly change of 0.2 points across the sample, this is a substantial impact, which could result from the softening of the budget constraint due to support from the IMF.

Overall, there is some evidence in support of the claim that the IMF reduces economic freedom. According to Knedlik and Kronthaler (2007), however, the effect is not significant when a comprehensive set of control variables is included. Moreover, Knedlik and Kronthaler do not attempt to use instruments for aid to correct for the possibility of endogeneity. They use the Heritage Institute's IEF index, which has the advantage of being available annually since 1995. Still, it is methodologically unwise to focus on yearly changes of freedom: the effect of aid on freedom can hardly be expected to be immediate and the underlying data used to construct the indices do not sharply refer to one particular year. Dreher and Rupprecht (2007) alleviate this problem by using 5-year instead of 1-year intervals. They do not, however, control for the size of programs. Therefore, a more detailed assessment of the channels through which aid reduces economic freedom is not possible with the existing studies.

3.2 The effect of aid on individual dimensions of economic freedom

A number of studies investigate the effect of aid on individual dimensions of economic freedom. The Fraser Institute's EFW index covers the size of government and taxation, private property and the rule of law, soundness of money, trade regulation and tariffs, regulation of business, and labor and capital markets. The Heritage Foundation's IEF index examines freedom in ten categories: business, trade, fiscal burden, government spending, monetary policy, investment, finance, labor, as well as secure property rights and absence of corruption. When investigating individual dimensions of freedom, some researchers use the sub-indices provided in the EFW and IEF indexes, while others investigate the effect of aid focusing on selected variables taken from their original sources.[15]

The following section begins with a discussion of the evidence regarding the effects of bilateral aid on economic freedom, including its effects on governance, the size of specific sectors of the economy, corruption, the size of government, and the costs of trade. Thereafter, we turn to the effects of multilateral aid.

Bilateral aid

Bräutigam (2000) investigates the effect of aid on governance. She uses the quality-of-governance index from the International Country Risk Guide (ICRG) for the period from 1982 to 1995 and finds a negative relation to bilateral aid. This finding

15 We do not cover studies investigating the effect of aid on democracy, which can be considered as one aspect of economic freedom, but predominantly belongs to the area of political freedom.

is supported by Knack (2001) and Bräutigam and Knack (2004), who also use the ICRG data and find that higher ODA is associated with larger declines in the quality of governance. Rajan and Subramanian (2007) show that governance-dependent industries grow more slowly in countries that receive large amounts of aid. Busse and Gröning (2009) use a composite governance indicator, computed with ICRG data. Using system GMM and a panel that consists of 106 countries for the period from 1984 to 2004, the effect of ODA on governance is robustly negative throughout their regressions.

More directly related to economic freedom is Rajan and Subramanian (2011). They argue that manufacturing industries, particularly the traded-goods sector, are subject to high international competitive pressure. Hence, this sector is a strong political force pushing governments to pursue liberal economic policies. If aid is supposed to increase economic freedom, it should come with an increase in the share that these industries have in the economy. Their results show, however, that aid reduces the share of manufacturing. One reason they suggest for this is Dutch Disease, according to which inflows of aid cause a real exchange-rate appreciation through rising wages in the affected sectors. Rajan and Subramanian (2011) show that ODA reduces the share of labor-intensive and tradable industries compared to other industries, which are less likely to be affected by aid inflows. Nevertheless, the relation of these industries to economic freedom is not entirely clear. Industries under competitive pressure might also push for supporting measures like export subsidies, which undermine economic freedom.

Corruption can be more directly related to decreases in economic freedom. In the Fraser Institute's EFW index, it affects the legal-structure component, the security of property rights, and parts of business regulation. The literature on aid and corruption has not converged to a commonly accepted result. Tavares (2003) uses the ICRG indicator of perceived corruption for a panel of non-OECD recipients with 200 observations and finds that bilateral aid significantly decreases corruption, at the 5% level. The effect is larger when he uses the inverse of the bilateral distance to the donor and three dummy variables for common land border, same majority religion, and same official language as instruments for aid. The result is in line with Alesina and Weder (2002), who suggest that increases in aid tend to be associated with an increase in corruption. Svensson (2000) presents similar results for ethnically diverse recipient countries in which social groups compete over common-pool resources.

More recently, Okada and Samreth (2012) support this finding for a sample of 120 developing countries for the period from 1995 to 2009. Okada and Samreth measure corruption using the *Worldwide Governance Indicators* (Kaufmann, Kraay, and Mastruzzi, 2009) that capture perceptions of how much public power is exercised for private gains. This study concludes that aid reduces corruption overall, significant at the 1% level, an effect that is stronger in countries with already lower levels of corruption. The effect of aid on corruption, however, depends on the donor. For example, Japanese aid was shown to reduce corruption, while aid from the United Kingdom and the United States increased corruption. These results point to the importance of disaggregated analyses. Clearly, countries differ in the degree to which they provide aid for strategic purposes or attach conditions to their aid. Empirically, it seems hard to justify pooling all donors and restricting the coefficient of aid on freedom to be the same. These findings thus highlight the importance of a more nuanced look at the origin of aid in future research.

In addition to the origin of aid, its destination also seems to matter. Asongu (2012) focuses on Africa, where the negative effect of ODA on corruption does not hold, based on regressions for 52 countries in the period from 1996 to 2010. His dependent variables are the "control of corruption" index from the World Bank and the "corruption perception" index from Transparency International. He uses contemporaneous rather than lagged values of aid and levels instead of changes in economic freedom. His use of yearly data instead of longer-term averages makes the results prone to short-term economic fluctuations. Asongu employs the system GMM estimator to address the endogeneity of aid and alternatively uses legal origin, income levels, and religious denominations as external instruments. These variables could well be directly related to corruption levels, however. Both sets of regressions show similar results: When the sample is restricted to sub-Saharan Africa, ODA increases corruption.

Another important component of economic freedom is the size of government. Using data from the World Development Indicators for the period from 1970 to 1999, Remmer (2004) finds that bilateral aid increases government spending as a share of GDP, significant at the 5% level. He does not address the potential endogeneity of aid. The robustness of the positive relation between aid and government spending is supported by the results of an Extreme Bound Analysis (EBA), which tests for the sensitivity of the impact of aid towards changes in the set of control variables. With the data in Remmer (2004), it is not possible to distinguish government spending on infrastructure from those on consumption, whose effects on economic freedom might arguably differ. Boone (1996) separates the two. He finds that aid increases government consumption, but not investment. His sample, however, only extends until 1990, the end of the Cold War.

Regarding freedom to trade, Cali and te Velde (2011) assess the effect of bilateral aid on the costs of trade, taken from the World Bank's "Doing Business Indicators." Rather than looking at aggregate measures, Cali and te Velde focus on the effect of a particular type of aid (aid for trade) on a particular area of economic freedom (freedom to trade). Their fixed-effects estimations include a time trend, which captures country-specific trends in trade costs. As instruments for aid, they use political proximity measured by the voting similarity between donor and recipient in the United Nations General Assembly (UNGA) and the degree of civil liberties. Their results suggest that this type of aid reduces trading costs. The data refer to a comparably short period of time (2005–2009), however, and the use of 1-year periods does not allow them to evaluate the more interesting medium- to long-term consequences of aid. Still, if at least parts of aid are not fungible, their approach of looking at specific types of aid rather than all aid, and linking it to a specific outcome might more easily allow detecting causal effects, which might be blurred when using more aggregate measures.

The effect of bilateral aid on regulation was examined in Kilby (2005), using the respective component of the Fraser Institute's EFW index for the period from 1975 to 1995. Kilby uses the levels of the regulation component and finds that EDA reduces the regulatory burden. He uses contemporaneous values of aid and levels of aid and regulation. The recipient's population size is used as an instrument for aid; the time dimension of the data is not accounted for. His results are disputed by Coviello and Islam (2006), who show that the level and changes in ODA as a percentage of GDP reduce legal security and property rights (at the 10% level) and increase regulation (at the 1% level) in the period from 1970 to

2000. They address potential endogeneity by using the system GMM estimator and alternatively use a comprehensive set of external instruments following Rajan and Subramanian (2005).

Coviello and Islam (2006) show that other dimensions of economic freedom—bureaucratic quality, law and order, risk of expropriation, repudiation risk, and corruption (taken from the ICRG)—are not robustly affected by aid. The robust relationship of aid on regulation might imply that aid enables governments to enlarge their influence on the economy. Legal security can be negatively affected if large amounts of aid encourage rent seeking and criminal activities.

Ear (2007) also focuses on regulatory quality (and political stability). He finds that ODA reduces regulatory quality and political stability in the period from 1996 to 2004, significant at the 5% level. More aid can increase the probability of military coups and civil wars, as it makes holding government more attractive (de Ree and Nillesen, 2009). While the effect of aid on regulation and stability prevails in a cross-sectional analysis only, the negative effect of aid on the rule of law remains significant at the 10% level in a fixed-effects panel specification, using infant mortality as an instrument for aid. As Ear (2007) describes for the case of Cambodia, ill-suited legal advice by foreign experts without detailed knowledge about the recipient country might deteriorate the rule of law. Existing traditional land-use systems could, for example, be replaced by more complicated laws. This can provide an opportunity for the well-informed and better-connected to exploit the poor who cannot afford legal advice.

Multilateral aid

In assessing the effects of multilateral aid on economic freedom, Boockmann and Dreher (2003) examine each component of the Fraser Institute's EFW index in isolation. Their motivation is that the World Bank and the IMF only include some of the components of the overall index as conditions for granting new loans, while other components are never made a condition. In relation to the composite freedom index, the absence of an effect of IMF involvement, for instance, may simply mean that the EFW index does not appropriately represent the policy goals of the IMF, rather than being evidence for the ineffectiveness of the Fund. Hence, there might be an effect on some areas of economic freedom but not on others. Boockmann and Dreher's results for the components, however, are similar to the findings for the composite index. In cases where the effects are significant, World Bank credit is in most cases negatively correlated with economic freedom, the only exception being the use of non-tariff restraints. World Bank credit was shown to have a significantly negative effect on three sub-indexes for the whole period and on eleven sub-indexes after 1990. It appears that World Bank money induces countries to have less private ownership of banks, and a higher level and standard deviation of inflation. For the IMF, Dreher (2005) found arrangements under the IMF Standby and Extended Fund Facility to have a strong negative effect on the rate of monetary growth for the pre-1990 period. Such a decline in monetary growth is usually followed by lower inflation, which effectively increases economic freedom. When Boockmann and Dreher (2003) look at the post-1990 period separately, policies concerning the freedom to own currency accounts abroad, the black-market premium, private ownership rights, enforcement of contracts, as well as policies concerning the financial system are all influenced in the "wrong" direction by the amount of World Bank credit.

The number of World Bank programs, however, increases economic freedom, in particular for the category of variables relating to the legal system (only in the 1990s).[16] These topics are frequently covered under the Bank's structural conditionality. The number of programs are also found to increase the difference between the official and the black-market exchange rate. Although the Bank does not directly condition its loans on exchange-rate devaluations, some adjustment programs aim at liberalizing the exchange rate. Consequently, overvalued currencies may devalue, which decreases the black market premium (and increases economic freedom ratings). The World Bank's activities are also related to the use of conscripts in national defense forces (which is rather surprising), and interest-rate controls (only for the 1990s). Hence, the overall effect of a World Bank presence in a country negatively depends on the amount of credit, and positively depends on the number of programs. Arguably, the number of programs can increase the extent of conditionality and the amount of contact between donors and recipients, and thus aid the transfer of knowledge.

Dreher and Rupprecht (2008) focus on changes in economic freedom and the average number of IMF programs in the previous five-year period. According to their results, the number of programs has no significant impact on the size of government and access to sound money. This might be due to the potential positive effects that are achieved by privatization and other conditions, which are curbed by adverse effects like the softening of the budget constraint. IMF programs, however, significantly prevent reforms of the legal structure and security of property rights, with a coefficient significant at least at the 5% level. When the endogeneity of IMF programs is taken into account (via system GMM estimation), IMF programs also delay reforms of exchanges with foreigners, at the 5% level of significance. As for regulation of credit, labor, and business, the negative coefficient is marginally insignificant once controlled for economic growth and significant at the 5% level otherwise (estimated with Feasible GLS). In other words, according to Dreher and Rupprecht the overall effect of the IMF on economic freedom is negative in some important areas.

Mukherjee and Singer (2010), report a positive effect of IMF loans on capital account liberalization, measured by a continuous index derived from four indicators reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*. They use a Heckman selection model to correct for selection bias. The model takes into account that a country is more likely to liberalize its capital account when its neighbors do the same. In their second stage regression, they regress capital account liberalization on IMF loan volumes, an interaction between IMF loans and welfare spending and a number of control variables. They argue that liberal reforms are politically costly and more likely when the potential losers are somehow compensated. Governments in favor of capital account liberalization, but lacking political bargaining power, can use the IMF's conditions as political cover to implement these reforms. Their regressions for a panel of 87 countries over the period from 1975 to 2002 yield a significant positive interaction effect (at the 1% level). The marginal effect of IMF loans is positive and significant at the 5% level for all levels of welfare spending. Therefore, IMF loans seem to ease the implementation of reforms if the money is at least partly used to compensate potential losers.

16 In line with this, Okada and Samreth (2012) show that aid from multilateral organizations reduces corruption.

Biglaiser and DeRouen (2011) focus on Latin America. They find that participation in an IMF program increases trade and promotes capital-market reforms, at the 1% level of significance (for 12 countries over the period from 1980 to 2003). IMF conditions in that period often pushed free trade. Governments can blame the IMF as a scapegoat for these reforms, which decreases their political costs of implementing the reform. On the other hand, IMF programs often aim to foster privatization in an attempt to increase productivity. The results show that in Latin America IMF programs reduced privatization efforts. This is in line with the hypothesis that inefficient structures are more likely to survive with IMF credit because the pressure to reform is reduced (Dreher and Rupprecht, 2007). Therefore, the IMF can be seen as having a negative effect on economic freedom in most areas, while enhancing freedom in some (mostly capital markets and sometimes freedom to trade). However, the lack of a common framework makes it impossible to know whether the differences in results arise from the different dimensions of economic freedom under consideration or differences in samples and methods.

4 Conclusion

Does aid buy economic freedom? The literature does not provide a clear answer. The majority of studies have focused on individual dimensions of economic freedom. Most of the studies that examined individual dimensions did not look at the pre- and post-Cold-War period separately, even though development paradigms changed fundamentally during the 1980s (Hodler and Dreher, 2012). There is, however, evidence that Official Development Aid in general leads to a deteriorating quality of governance. The effect on perceived corruption differs among donors. Bilateral aid seems to have negative effects on measures of legal quality, regulatory quality, and government spending. It has been suggested that most of this increase in spending is targeted towards consumption, an effect that is yet to be verified for the post-Cold-War period. Aid given to strengthen trade decreases the costs of trading, which effectively increases economic freedom. Given the large differences in the choice of control variables and persistent problems with the endogeneity of aid, however, these results can only be preliminary.

For multilateral aid, the empirical results suggest that international financial organizations can increase freedom. This positive effect most likely comes from conditionality and the information transmission between donor and recipient. This effect was found to diminish or even turn negative with increases in loan amounts. The international financial institutions' influence differs across areas of economic freedom. The IMF is more successful in promoting trade or capital reform than in promoting privatization, at least in Latin America. There is some evidence that the Fund provides recipient governments with the necessary political bargaining power to implement liberal capital-account reforms, increasing economic freedom.

The effect of aid on overall economic freedom measured by composite indices remains disputed. In the post-Cold-War era, economic freedom tends to increase with aid, while the effect of aid on freedom tends to be negative during the Cold War. This is in line with the observation that the bulk of donors supported an inward-looking development paradigm until the mid-1980s (Hodler and Dreher, 2012). Moreover, some studies reveal the importance of looking at different donor countries and recipient regions separately.

Overall, the lack of a unified framework is obvious. There have been attempts to control for the endogeneity of aid, with instrumental variable estimators (e.g.,

Heckelman and Knack, 2008) or by using the System GMM estimator (e.g., Dreher and Rupprecht, 2007; Coviello and Islam, 2006). Most studies have tested for the sensitivity of their results with regard to some dimensions: the choice of the aid variable and time period (e.g., Bearce and Tirone, 2010), the choice of estimation method (Ear, 2007) or the choice of control variables (Remmer, 2004). Given the different periods under investigation, methods of estimation, and sets of control and instrumental variables, it is impossible to know what drives the differences in results. Ideally, a unified framework should be thoroughly assessed by separately varying each of these components, and comparing the results.

First, future studies should start with a clear theory establishing which donor is likely to promote or restrict a specific component of economic freedom at which period in time, and with which aid instrument. Clearly, some donors are more likely to target economic freedom than others, and are more likely to do so at certain times than at others. Donors might also differ in their effectiveness in achieving recipient cooperation. On the recipient side, distinguishing between recipient regions might also reveal differing effects of aid inflows. Additional research on the different channels by which aid can affect freedom is needed. The theoretical literature has identified the direct effect of money and conditions, and indirect effects like moral hazard and scapegoat effects as potential channels. Their proper identification is difficult given the data at hand.

Second, future studies should take the existing set of control variables as a starting point to ensure comparability. An important avenue for improvement is a careful test for robustness. The literature applies Extreme Bounds Analysis or Bayesian Averaging of Classical Estimates to test for the robustness of particular variables in similar settings (e.g., Lamla, 2009; Gassebner et al., 2011). These methods could easily be applied to the impact of aid on economic freedom.

Finally, properly controlling for the potential endogeneity of aid to freedom provides an important avenue for additional research. The existing literature on aid and growth can provide useful guidance in this respect. Many instruments that are exogenous to economic growth might be exogenous to economic policies as well. Rajan and Subramanian (2005), for example, who model the supply side of aid, could be used as a starting point for the choice of instruments. They suggest the relative size of the donor compared to the recipient as a proxy for donor influence and colonial origin for the existence of a common history. Political variables like temporary membership in the United Nations Security Council (Kuziemko and Werker, 2006; Dreher et al., 2009a, 2009b) or voting in line with donors in the United Nations General Assembly (Carter and Stone, 2010) might also prove useful.

Overall, future research should address the problems prevailing in the literature, and try to provide a more nuanced view of the effects of aid on economic freedom. Considering that the current way of providing and conditioning aid seems to have (at least partly) adverse effects on economic freedom, this is an important endeavor. Researchers need to begin with a clear definition of each of the components involved, including the type of aid given and the component of economic freedom to be assessed. Moreover, they need to be aware of the problems in assessing the effect of aid across different time periods due to changing aid paradigms. Only with a unified framework that takes account of the issues outlined above is it possible to derive practical policy implications and augment the existing knowledge on whether or not aid affects economic freedom.

Appendix: Selected studies on the relationship between aid and economic freedom

This Appendix covers studies that use economic freedom as a dependent variable. That includes the overall index, but also individual dimensions like the rule of law or size of government. While corruption and other dimensions of governance can also be considered measures of economic freedom, the relation is less direct and we do not cover these studies in the Appendix. We admit that this choice can sometimes appear arbitrary.

Data	Dependent variable	Independent variables	Results
Biglaiser and DeRouen Jr. (2011)			
15 Latin American countries 1980–2003 (annual data) 353 observations ML treatment effects regression	Trade index Financial reform index Privatization index Tax reform index Capital account index (changes, indexes from Morley et al., 2003)	Binary IMF SBA-program participation dummy Affinity with US on UN votes SBA * affinity with US on UN votes Government ideology GDP p.c. GDP p.c. growth rate Democracy from Polity IV data Age of regime, chief executive party tenure Number of years since last election Total reserves Inflation measured by CPI Country and time fixed effects Instrument for participation: Number of years country is under IMF program	In a two-stage model, IMF programs have a positive effect on trade and capital reform, but a negative effect on privatization. With OLS, IMF programs positively affect trade reform. Affinity with the US influences the effect of the program on reform. The "honeymoon effect," i.e., the number of years since the last election, has a positive effect on reform implementation. Leftist governments are less likely to introduce capital liberalization and privatization measures.
Bearce and Tirone (2010)			
1975–2000 (5-year intervals) 181–408 observations OLS	Economic freedom (Fraser Inst.), change Other variables not shown	Net amount of bi- and multilateral development assistance from Western countries (t-1), change Initial economic freedom GDP and GDP p.c. Population growth Democratic transition dummy (Polity IV) External and internal military conflict dummy Regional and time fixed effects	Regards aid as a "bribe" to the recipient government to encourage economic reforms. Aid was unrelated to economic freedom before 1990, but positively related in the post-1990 period. A possible reason is that, after the end of the Cold-War era, Western donor governments can more credibly threaten to stop aid when conditions are not fulfilled.
Heckelman and Knack (2008)			
50–91 countries 1980–2000, (20-year intervals) Cross-section, OLS, and 2SLS	Economic freedom (Fraser Inst.), individual components, change	ODA/GNI or ODA p.c. (20 year average) Initial economic freedom Initial GDP p.c. and av. GDP p.c. growth Linguistic fractionalization Democracy Initial level and change in democracy (Freedom House) Instruments for aid: Life expectancy Sectorial composition of economy Population size	With OLS, average aid/GDP for the years 1980–2000 negatively and mostly sig. affects economic freedom; aid for the years 1990–2000 has no sig. effect. With 2SLS, the coefficients are similar but larger, and exhibit higher significance levels. The effect is larger for Sub-Saharan and high-aid countries; not sig. for low-aid countries. Aid Type did not play a role. The only single, negative coefficient was for government size. The results seem to be influenced by extreme values. Moreover, there are signs that the effect of aid is non-linear.

Data	Dependent variable	Independent variables	Results
Knedlik and Kronthaler (2007)			
104 countries 1995–2004 Random-effects model	Economic freedom (Heritage), change	(ODA) p.c. or official aid (OA) p.c. IMF disbursements, p.c. GDP p.c. growth rate Terms of trade Political rights Percent of fuel exports School enrolment	In all regressions, the IMF disbursements sign. decrease economic freedom. It is mainly fiscal burden and trade policy that deteriorate, as taxes are increased instead of expenditures cut. Aid in general increases economic freedom in 7 out of 8 regressions. However, it is insig. when all control variables are included and for a Sub-Saharan subsample.
Dreher and Rupprecht (2008)			
106–109 countries 1970–2000 446–523 observations (5-year intervals) FGLS and GMM	Economic freedom (Fraser Inst.), individual components, change	Number of IMF programs (t-1) Initial economic freedom GDP p.c. growth Linguistic fractionalization Civil liberties (initial and change) Aid/GDP	IMF programs reduce economic freedom with FGSL and GMM. There is a negative impact of IMF programs on legal security and property rights and freedom to trade. Regulation of credit, labor, and business is negatively affected when using FGLS and not controlling for growth. Other aid has no effect with GMM and is negative with FGSL only if not controlling for GDP p.c. growth.
Ear (2007)			
155 countries, 1996–2004 (2-year intervals) 750 observations OLS, 2SLS, fixed- and random-effects model	Voice and accountability Political stability Government effectiveness Regulatory quality Rule of law Control of corruption (from Kaufmann et al., 2005)	Net ODA plus OA/ GNI (t-1, 5-year average) GNI Initial dependent variable Population Instruments for aid: Infant mortality in 1980 Log (initial GDP) and log (initial population) Franc zone and Central America dummy	In a cross-section analysis, aid reduces government effectiveness and control of corruption. When being instrumented with 2SLS, rule of law, regulatory quality, and political stability are also reduced by aid. With a fixed-effects panel model, aid reduces regulatory quality and rule of law if it is not instrumented. When looking at technical assistance and aid separately, both reduce the rule of law.
Coviello and Islam (2006)			
104–176 countries 1970–2002 (5-year intervals) 602–1500 observations, OLS, 2SLS, Difference and System GMM	Regulation and legal security & property rights (part of economic freedom, Fraser Inst.), change Bureaucratic quality, law and order, expropriation risk, repudiation risk and corruption (ICRG, 1984–2002 annually), change Financial assets kept in the banking system, change	EDA/GDP, level and change Initial level of dependent variable Initial or current level of GDP Legal origin Latitude Settler mortality rates Ethnic fractionalization Openness to trade Population Time fixed effects Instruments for aid: Lag of GDP p.c. and log of population Ex-colonies and regional dummies	With OLS, the most robust empirical relationship is between higher aid and more regulation. Legal security and property rights are also negatively affected by aid, but only when aid is not instrumented. All other indicators are not robust to different specifications or change when there is a large set of control variables. The past level of institutional quality had the largest influence on the change in, and the current, institutional quality. With a 1- or 2-step difference-GMM estimator, there was no sign. connection between aid and the institutional dependent variables.

Data	Dependent variable	Independent variables	Results
Kilby (2005)			
71 countries 1975–1995 235–306 observations (5-year intervals) Cross-section, OLS and 2SLS	Regulation area of economic freedom (Fraser Inst.), level	EDA/ GDP, level Initial level of dependent variable Initial level of GDP per capita Ethno-linguistic fractionalization in 1960 Share of imports that is military equipment Franc zone dummy Regional dummies Instrument for aid: Population	Higher aid levels are related to lower levels of regulation, both if aid is being instrumented and if not. Excluding all potential outliers, there is no significant effect. There is some evidence that aid is targeted towards more regulated economies.
Powell and Ryan (2005)			
79 countries 1970–2000 173–476 observations (5- and 10-year intervals) Fixed-effects estimations	Economic freedom (Fraser Inst.), level Economic freedom (Fraser Inst.), change Economic freedom (Fraser Inst.), change	Specification 1 and 2: ODA/GNI or ODA/government expenditure (previous 5- or 10-year averages), level Ex-communist dummy GNI p.c. Specification 3: Changes in Aid/GNI or aid/government expenditure (previous 5- or 10-year averages), changes Ex-communist dummy GNI p.c., changes	In specification 1, both measures of aid had significant and negative coefficients. In specification 2, aid was mainly insig., but three times sign. and positive for the 10-year average Aid/GNI measure. With specification 3, the aid measures have negative but insignificant coefficients. The authors conclude that improvements in economic freedom have no effect on aid in the subsequent period when controlling for GDP.
Boockmann and Dreher (2003)			
85 countries 1970–1997 192–404 observations (5-year intervals) Fixed-effects and Aranello-Bond GMM	Economic freedom (Fraser Inst.), level	Sum of credits and number of projects World Bank and IMF (t-1) Military rule dummy Exports into industrial countries Technical assistance Secondary-school enrollment Radios per capita Post-1990 dummy	The number of World Bank (WB) projects increases economic freedom, but the sum of WB credit decreases economic freedom. The sum of IMF loans has on average no significant effect. The effects of both IMF and World Bank vary for different components of economic freedom, and the sign. positive and negative effects are mainly after 1990.
Boone (1996)			
1971–1990 96 countries (10-year average), countries with aid share ≤15% of GNP; excludes OPEC countries and Israel	Government consumption Black-market premium Indirect taxes/GNP Inflation tax rate (change in GDP deflator/100)	Net ODA/ GNP (t-1) GNP p.c. and GNP p.c. growth rate Regional dummies Instruments for aid: Political proxies: friend of US, of OPEC, of France Log of population	There is a significant positive effect of foreign aid on government consumption. There is no sign. effect on the black market premium, the share of indirect taxes or the change in the GDP deflator.

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