

# The Contribution of the IMF and the World Bank to Economic Freedom

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## Abstract

We analyse the effect of IMF and World Bank policies on the composite index of economic freedom by Gwartney et al. (2000) as well as its sub-indexes, using a panel of 85 countries observed between 1970 and 1997. With respect to the Bank, we find that the number of projects has a positive impact on overall economic freedom, while the effect of the amount of World Bank credits appears to be negative. These effects are stronger during the 1990s than in earlier periods. There is no clear relationship between credits and programmes of the IMF and economic freedom as measured by the index.

**Keywords:** Economic freedom, IMF, World Bank, structural adjustment policies

**JEL-Codes:** F33, F34, O57

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# 1 Introduction

Many countries have liberalised their economies over the past decade, but the driving forces which led to this process are still only poorly understood. In this paper, we investigate whether policies of the World Bank and International Monetary Fund (IMF) contribute to the development of economic freedom. As a dependent variable, we use the economic freedom indicator conceived by Gwartney et al. (2000). The Gwartney index is based on a number of quantifiable measures relating to the various dimensions of economic freedom. Seven subgroups of variables, relating to the size of government, the structure of the economy, the freedom to trade and others, are aggregated into the comprehensive index. The different components of the index are presented below.<sup>1</sup>

Economic freedom has frequently been used as an independent variable in order to explain country-specific growth rates (de Haan and Sturm 2000; Dawson 1998; de Haan and Sierman 1998; Heckelman and Stroup 2000; de Vanssay and Spindler 1994; Przeworski and Limongi 1993). A smaller number of papers attempt to explain the emergence of economic freedom. Lal (1987), Dawson (1998) and de Haan and Sturm (2001) investigate the political preconditions under which economic reforms become viable. There is some similarity to the question of which are the determinants of political liberty (see Feng and Zak 1999). Farr et al. (1998) explicitly address the issue of dual causality between economic well-being and economic freedom, using tests for Granger causality. So far, however, the impact of international organisations on economic freedom has not been addressed in this literature. This provides a main motivation of the paper.

The second strand of literature to which this paper contributes concerns the effects of the international financial institutions (IFIs) on the economies of the recipient countries. In spite of the long-term nature of adjustment lending, most existing studies on World Bank and IMF lending have focused on short term impacts and objectives not under the direct control of the authorities.<sup>2</sup> However, a more meaningful test of the influence of international

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<sup>1</sup> A detailed description can be found in Gwartney et al. (2000).

<sup>2</sup> For instance, Ergin (1999) reports that IMF programmes result in an (insignificant) reduction in the rate of real GDP growth and an improvement in the current account. Inflation and the overall balance of payments seem to be unaffected by the Fund. With respect to the World Bank, Harrigan and Mosley (1991: 83) report a weak influence of structural adjustment loans on GDP and no significant effect on export growth. Harrigan and Mosley employ dummies for structural adjustment loans lagged one and two years while Ergin uses only one year lags. Evrensel (2000), Doroodian (1993) and Khan (1990), among others, present similar studies.

organisations on creditors' economies has to focus on long-term developments. IMF and World Bank programmes, even if classified as failures with respect to their specific goals, may nevertheless be important in changing attitudes in developing countries. Advice of the international organisations is often discussed publicly and may influence politics in the longer run (Killick 1994: 156). According to Fischer (2001: 237), one of the IMF's main contributions to reforms is that it stands consistently for a particular approach to economic policy. Therefore, the long-run impact of the IFIs reaches beyond the immediate effects of conditions and finance.

The focus on policies rather than outcomes provides a third motivation for the paper. Rather than looking at economic variables such as the growth rate of GDP as a result of participation in programmes, we are comparing policies chosen by participating governments to the policies chosen by non-participants. While it may be over-ambitious to link international institutions and economic outcomes, it may be feasible to find a link between the former and the choice of policy instruments (Dhonte 1997: 13). Finally, a proper assessment of the IFI's effects on economic policies is also desirable in view of the ongoing debate on the future role of these institutions.

## **2 Channels for the impact of the IFIs on economic freedom**

There are a number of ways in which the programmes and policies of the IFIs may influence economic liberalisation. First, there is a direct impact of the IMF or the World Bank for the time a country participates in an adjustment programme. This is because countries are only eligible for (phased) credit tranches if they comply with the imposed conditions. These conditions often aim at privatisation, liberalisation and a reduction of inflation and government expenditure. Succeeding programmes may improve economic freedom over time even if most programmes are not implemented as negotiated and some of the money remains undrawn.<sup>3</sup>

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Exceptions to the short term focus are Barro and Lee (2001), Hutchinson (2001) and Przeworski and Vreeland (2000) who analyse the IMF's influence on long-term real GDP growth rates.

<sup>3</sup> Dreher (2003) finds that in about 60 per cent of past IMF programmes more than 25 per cent of the money agreed under the arrangement is not drawn as scheduled. This may be used as an indicator for non-compliance (Killick 1995: 58). Compliance with Bank conditionality is slightly higher. According to the World Bank (1988), about 60 per cent of the agreed policy changes are implemented. Similar levels of compliance were reported by Nash (1993).

Besides the direct „carrot-and-stick“ effect of conditionality, there are also more informal channels how the agreement of a credit programme may influence policies in recipient countries. The imposition of conditionality may start a process of negotiations between the IFIs and national actors during the period, especially if some slippage occurs. Negotiations may turn the balance in favour of reformers in the domestic political game. The IFIs' programmes may raise consciousness about the relevance of economic imbalances and therefore help to bring about a different policy approach (Stallings 1992: 88). They may also face social partners with the necessity to reach consensus over the measures demanded by conditionality (Venkata Ratnam 1996: 11). As a consequence, Fund and Bank may reinforce the liberal consensus in the recipient countries (Drake 1998: 78).

Indeed, the impact of the IFIs on domestic policies may come about even without formal conditionality at all. Policy advice given by these institutions may strengthen reformers within the recipient countries (Haggard and Webb 1994: 25). Moreover, due to the lack of know-how in economic policies some countries simply do not possess the capacity to reform. In this case, adjustment programmes negotiated with the IFIs may not impose unwanted conditionality but may rather provide welcome advice.

The transfer of knowledge may take very different routes which are only loosely connected with specific instruments of Bank and Fund. One example for the leverage of the IFIs on national policies is the influence of senior officials who were formerly staff members of the IFIs and who contribute to changing attitudes and steer policy towards liberalisation. As Nelson (1990: 330-31) points out, in almost all developing countries some senior economic officials have spent some 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 creditor countries to the IFIs. Higher involvement could help the IMF and the World Bank to learn more about conditions in the particular country (Kahler 1992: 125). As a consequence, programme design improves, leading to higher success rates. Therefore, money disbursed by the IFIs may, over the long-run, be less important than training and socialisation, which can change the attitudes of political actors and influence the domestic debate about adjustment policies (Haggard and Webb 1994: pp. 25-26).

Having said this, the most important way of generating a (potentially, at least) two-way learning process remains the negotiation and implementation of adjustment programmes, since every loan negotiated with the IFIs brings the recipient country into some degree of contact with these institutions. In Ghana, for instance, policies have largely been designed by the World Bank in the context of a formal adjustment programme concluded in 1987. Around

that time, over forty Bank missions visited the country (Stallings 1992: 76). The higher the intensity of negotiations, the higher the flow of information. Therefore, the number of programmes negotiated may be a suitable proxy variable for the unobservable flow of knowledge and advice.

Many authors have stressed that conditionality (and less formal channels of influence) may also fail to produce the desired results. In this case, subsidised credits may soften the need for economic liberalisation during economic crises and therefore enable inefficient structures to survive (Collier 2000: 313, Khan 1999: 25, Drake 1998: 151, Goldstein 1998, Heller et al. 1998: 151, Ranis 1996: 6, Bandow 1994: 27, Vaubel 1994: 38). Moreover, governments may purposely refrain from reforming their economies in order to stay eligible for subsidised credit (Vaubel 1991: 208). But even if governments do not aim to provoke a crisis, they might reduce precautionary measures if they are eligible for subsidised IMF and Bank support. In a wider sense, moral hazard may result in an incentive to abuse a loan after the crisis occurred. This kind of behaviour is not necessarily prevented by the IFI's conditionality. Governments may agree only formally to attached conditions and circumvent the programme's spirit with countervailing measures not covered under the programme. And, turning upside down the argument concerning the checks and balances in domestic policies, the government's increased financial leeway may result in its inability to persuade pressure groups from the necessity of fiscal stringency.

Rather than facilitate the political implementation of certain reform measures, IFI credits may, therefore, prevent adjustment. If this pattern dominates, the amount of money received should be negatively related to economic freedom and growth-oriented policies.<sup>4</sup> Argentina is a case in point. Since 1958, there have been only six years without IMF programmes. However, at the same time, economic freedom as measured by the Gwartney index has declined dramatically. Only when Menem became president in 1989, Argentina's policies turned more liberal. While the resulting transformation was supported by several IMF and Bank programmes, it was not conditionality that achieved these changes but the belief of

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<sup>4</sup> This is consistent with evidence provided by Burnside and Dollar (1997) who did not find any link from aid flows to policy reform. A possible objection is that, even if IMF and World Bank money is spent as negotiated, the primary effect on economic freedom as measured by the Gwartney index is negative. This is because the IFIs' money raises government consumption, which is part of the index. However, this describes only short-run changes. In the longer run, i.e. over a period of several years, the automatic influence should vanish because of possible changes in tax legislation, government expenditure and other measures. Excluding the respective policy areas from the index, our empirical results were largely unchanged.

Argentine politicians in the effectiveness of liberal policies (Financial Times 29.11.1991, No. 31621).

Summing up, we have quite a diversity of effects of IFI policies and it seems rather difficult to find equivalents for them in terms of observable variables. Several studies (Hutchinson 2001, Przeworski and Vreeland 2000, Khan 1990) have used only dummy variables for programme participation. According to our argument, the number of programmes in operation increases economic freedom due to either 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 IMF or World Bank. We would like to measure contacts directly in order to distinguish between conditionality, transfer of knowledge or other informal effects, but we are lacking the data to do so.

To capture the softening of the budget constraint, the inclusion of financial variables is necessary. As discussed below, net financial flows are more appropriate than gross flows to measure this effect. In principle, the amount of IMF or World Bank credit a country receives may also proxy the direct effect of conditionality on national policies. However, conditions and credit volumes need not be proportional, although some conditions are included in almost all programmes. Thus, the number of arrangements concluded may be a better measure for IFI conditionality than the flows of finances. Controlling for the programmes in operation, the amount of credit should be insignificant (if there is no effect of the softening of the budget constraint) or negative.

### **3 Empirical estimation of the IFIs' impact**

To assess the effect of international institutions on economic freedom empirically, we use a panel of 85 countries which are members of the IFIs but non-members of the OECD. In the estimations presented in the following, the dependent variable is the composite economic liberty index constructed by Gwartney et al. (2000). Our data cover the years 1970-97. Since the dependent variable is available in intervals of five years, the explanatory variables are averages over the five year period preceding the current year. Some of the data are not available for all countries or every year. Therefore, our panel data are unbalanced and the number of observations depends on the choice of explanatory variables.

In our estimations, we use four variables measuring the flow of funds and the number of programmes negotiated with the IMF and the World Bank, respectively.<sup>5</sup> The flow of monetary resources is measured by the change in the stock of outstanding IMF and World Bank credits for each country. The reason for using this concept instead of including gross financial flows is that both payments from the IFIs as well as repayments impact on the government's budget constraint.<sup>6</sup> If the variable containing the financial flows from the IFIs to the country is to reflect the softening of the budget constraint and, hence, the decrease of pressure for reform on the government, only net credit amounts should be used. For instance, if a country repays its debt, it either has to reduce its (primary) budget deficit or needs other sources of financing which it may only obtain if it chooses more liberal economic policies. If taxes are raised instead, the electorate will become more concerned about economic policies, which again increases pressure on the government (Collier 2000: 313).<sup>7</sup>

The number of programmes should ideally include only those arrangements that were under effect over much of the year in question. The IMF variable includes the number of programmes that were active over at least five months in a given calendar year. For the World Bank, however, part of this data was lacking. Hence, we use the number of programmes and projects negotiated in each year as our World Bank variable. This problem of measurement may result in a downward bias of the estimated coefficient. Therefore, the results should rather be interpreted as a lower bound for the true coefficients.

Column 1 of Table 1 contains results from a regression of the Gwartney economic freedom index on these four variables. To account for time-invariant unobservable heterogeneity potentially correlated with the regressors, we use a fixed effects specification. Initially, we also included a dummy for each of the five-year periods for which the index is available. However, using an F-test we found it sufficient to include a dummy for the period after the end of the cold war, i.e. from 1990 onward.

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<sup>5</sup> The data were obtained from various IMF and World Bank publications. Precise definitions can be found in the working paper version (Boockmann and Dreher, 2002). In that version, we also test for separate effect of the IFI's different facilities. We did not find any significant differences.

<sup>6</sup> We replicated all regressions using gross flows instead of net flows. While being less robust, the results are almost identical.

<sup>7</sup> In some cases it might occur that more successful policies enable countries to repay their debt ahead of schedule. This would result in smaller net flows. Conversely, poor policies could result in payment arrears or complete breakdowns (however, this is a very rare event). In both cases, causality is reversed. We deal with this problem by using instrumental variables, see below.

The regression results suggest that the World Bank has an impact on economic freedom, while no significant effect is found for the IMF. As expected, the number of World Bank projects has a positive impact on economic freedom. The volume of World Bank credits, by contrast, exerts a negative influence. Both coefficients are significantly different from zero at the one per cent level. Given the inclusion of the number of projects, the sum of World Bank credits controls for the average size of the projects in a year and particular country. The lesson seems to be that projects are productive in terms of “good” economic policies, but become counterproductive as their volume expands.<sup>8</sup> The signs of the IMF variable suggest a similar mechanism, but standard errors are relatively high and t-tests fail to reject the null hypothesis of zero impact even at the ten per cent level.

In the further columns of Table 1, we add control variables to account for time-varying observable heterogeneity. We included control variables to account for the following theoretical hypotheses.<sup>9</sup>

First, prosperity and growth create an interest in economic freedom. A prosperous middle class will press harder for the introduction and maintenance of economic freedom. Apart from being the product of economic freedom, a minimum level of wealth may also be its precondition.

Second, economic freedom is believed to depend on human capital – the degree to which people are educated and informed. Enrolment in schooling ratios and illiteracy rates may thus have a positive relation to economic freedom. Apart from education, means of information and communication may also prove important since they relay information about economic success in other countries (Drake 1998: 75).

Third, economic freedom will depend on the economic relations with foreign actors. The more a country participates in trade and factor movements, the higher is the need to liberalise in order to stay competitive. Foreign direct investment often comes along with management educated in industrial countries. Management may try to press for liberalisation directly, in order to improve the business environment and enhance profits. Moreover, foreign

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<sup>8</sup> The negative impact of World Bank lending on liberal policies is consistent with a number of empirical studies (Collier 1997, Dreher and Vaubel 2002, Haggard and Webb 1994: 27).

<sup>9</sup> With some of these variables, there is an obvious endogeneity problem: if economic freedom has a beneficial effect on growth, then GDP is endogenous to freedom. The same is true for exports and foreign direct investment, since the Gwartney index contains tariffs and openness to foreign capital as its components. Endogeneity may even be a problem for the involvement of the IFIs. In the framework of the Arellano-Bond estimation discussed below, the right-hand side variables can be instrumented and the validity of the exogeneity assumption can be tested.

direct investment creates new jobs in developing countries. Workers need to be trained and educated and may ultimately demand – and obtain – more economic freedom (Dawson 1998: 612). Exports – in particular, exports into industrialised countries – might affect economic freedom in a similar way. Exporters will lobby their governments to reduce barriers and duties on exports and imports. They will also press for the right to use the currency of their trading partners.

Fourth, apart from being the outcome of economic relations with abroad, economic freedom may be imposed by foreign actors. Development aid and technical cooperation grants may be given purposely in order to improve economic freedom. On the other hand, the same argument as the one made above for the IFIs' involvement applies here as well: the influence of aid on economic freedom could be negative because governments isolated from market forces feel less compelled to bring about reforms.

Fifth, there may also be internal political constellations under which calls for economic liberalisation are more successful than others. Even if there is a strong interest in economic freedom, citizens may lack the political resources to see it enforced. This is particularly true in oppressive political regimes. The ruling political party's ideology may also be important in this context.

Finally, there are idiosyncratic political and cultural factors which may influence the level of economic freedom. Some of them may be observable, such as colonial history, but most of them cannot be easily measured. As long as these factors do not vary over time, however, they are captured by the inclusion of fixed effects. Due to the fixed effects specification only coefficients of variables which vary over time can be estimated.

In the case of each of these factors, there is not one but there are several variables which could be used to measure its impact on economic freedom. From data sources commonly used in cross-country time-series estimation, we could obtain data for eighteen variables belonging to the groups just defined.<sup>10</sup> Since many of them are highly collinear, it

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<sup>10</sup> The following variables are included in the data set as potential explanatory variables: real GDP per capita and its growth rate (taken from the Penn Tables); enrolment in primary, secondary and tertiary education, the illiteracy rate and the number of radios per 1000 capita (all World Bank data); foreign direct investment and private capital flows in relation to GDP, the number of tourists relative to population, the standard openness measure (exports plus imports over GDP – all of the previous are again World Bank data) and exports into industrial countries over GDP (IMF direction of trade statistics); official development assistance and technical cooperation grants as per cent of GDP (World Bank); finally, the Freedom House political rights index, dummy variables indicating left party or military affiliation of the government chief executive, and a variable measuring

was impossible to include all of them in a single estimation. Our strategy was thus to form groups of variables, and select the variables with the most robust impact on economic freedom by iteratively replacing these variables with each other inside each of the groups. Our first step was to factor analyse the independent variables to recover the dimensionality of the data. It turned out that there are four important dimensions. The first can be interpreted as the education dimension, the second contains variables relating to external relations without trade, the third concerns trade, income and growth, and the fourth the political variables.<sup>11</sup> In the iterative replacement procedure, we started with a static specification (see below) with two variables from each of the groups, replacing them with other covariates from the groups and retaining those which had the highest number of statistically significant coefficients. We dropped variables which did not have a coefficient significant at the five per cent level in more than a third of the regressions run. We then re-ran the procedure using the dynamic model discussed below; in two cases, the variables chosen by the static and the dynamic model did not coincide. Ultimately, we let the dynamic model decide which of the variables to include. The procedure led to the choice of the following five control variables:

- ▶ a dummy variable for military dictatorship
- ▶ the share of exports into industrial countries in GDP
- ▶ the share of technical cooperation grants in GDP
- ▶ enrolment in secondary education
- ▶ the number of radios per 1000 capita.

In column 2 of Table 1, we present results of a regression on the first three of these variables. Independent variables similar to these three are used in a regression by de Haan and Sturm (2001). As can be seen, economic freedom is significantly related to exports into industrialised countries, with a positive sign. The other two variables are not significant. In column 3, we added the secondary schooling rate and the number of radios per capita. Both coefficients have the expected sign and are highly significant. With a coefficient significant at the ten per cent level, military leadership now appears to affect economic freedom negatively. As a result of the inclusion of the covariates, the coefficients of the World Bank variables become smaller in absolute values and fall slightly below the five per cent significance threshold. Again, the IMF variables appear to be completely unrelated to economic freedom. Taken as a whole, the IFI variables are jointly significant at the 5 per cent level (p-value =

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how long the chief executive's party has been in office (the last three variables were taken from Beck et al.). Means and standard deviations of the variables actually used are contained in Boockmann and Dreher (2002).

<sup>11</sup> We also regressed the Gwartney index on the four factors but this procedure left us with too few observations.

0.036). The net effect of the two World Bank variables taken together is negative, but of comparatively minor quantitative importance.<sup>12</sup>

The conflicting signs of the coefficients on the number of projects, on one hand, and credit amounts, on the other, may in part be due to correlation between the two. It is, therefore, instructive to see whether the coefficients concerning projects react to the exclusion of the credit amounts and vice versa. Results are contained in columns 4 and 5. Concerning the number of World Bank projects (column 5), there are little changes vis-à-vis column 3. The sum of World Bank credits, however, loses its significance once the number of projects is excluded (column 4). This is what one would expect: if projects are excluded, the credits variable takes over some of the positive impact of the number of projects on the dependent variable.<sup>13</sup> The resulting coefficient is thus a mixture of the positive effect of the number of programmes and the negative effect created by a larger size (in terms of credit volume) of the average project.

One explanation for the insignificance of the IMF's influence might be that Fund activity is dominated by those of the Bank. In order to test this hypothesis, columns 6 and 7 exclude the variables concerning Fund or Bank, respectively. As can be seen, however, the results remain completely unchanged. Even without variables accounting for the Bank's influence, there is no significant impact of the IMF on economic freedom in either way.

Column 8 contains a specification which interacts the IFI variables with the dummy for the post-1990 period. The idea is to check whether the IFIs' policies and impact have changed during the observation period. The interaction effects for the World Bank are found to be highly, and those for the Fund marginally, significant. This implies that there is a structural break in the response of economic freedom to IFI policies, and suggests that the signs of the coefficients reported earlier are mainly produced by behaviour in the 1990s. The

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<sup>12</sup> Since the dependent variable is an index which is scaled arbitrarily, it is not sensible to interpret the absolute magnitudes of the coefficients. However, one can assess the relative quantitative importance of the independent variable. Thus, from the results displayed in column 3, raising the secondary school enrolment ratio by 10 percentage points increases the index by 0.19 points, and raising the number of radios per 1,000 capita by 100 leads to the same increase of 0.19 index points. If the ratio of exports into industrialised countries to GDP increases by 10 percentage points, the index rises by 0.33 points. An additional World Bank project raises the index by 0.11 per cent, and an increase in World Bank loans by one per cent of GDP decreases the index by 0.13 points. With an average World Bank loan amounting to 1.2 per cent of GDP the net effect of an average project reduces the index by 0.046 points. This is a very small effect given the (within-groups) standard deviation of the dependent variable of 0.815.

<sup>13</sup> The same effect occurs if gross flows instead of net flows are used.

total coefficients for the 1990s (i.e., the sums of coefficients for the pre-1990 and post-1990 periods) are highly significant for the World Bank variables,<sup>14</sup> but they are again much less clearly determined for the IMF. Only the credits variable is marginally significant.<sup>15</sup> There is a marginally significant negative impact of the number of IMF projects in the period before 1990, but the coefficient is reversed for the 1990s. As in the previous specifications, the IFI variables are jointly significant (p-value = 0.0005).

Establishing economic freedom is most likely a process which evolves slowly, instead of being accomplished instantaneously. Therefore, we also estimated a dynamic model which includes the lagged dependent variable. Since the within groups estimator is inconsistent in the presence of a lagged dependent variable in a short panel (Nickell 1981), we applied the GMM estimator of Arellano and Bond (1991). This estimator consists in first-differencing the estimating equation and using lags of the dependent variable from at least two periods earlier as well as lags of the right-hand side variables as instruments. Since there are more instruments than right-hand side variables, the equations are over-identified and instruments must be weighted in an appropriate way. We present only results from the Arellano-Bond one-step GMM estimator, which uses the identity matrix as a weighting matrix. The two-step GMM estimator weighs the instruments asymptotically efficiently using the GMM1 estimates. However, in small samples like the one used here, standard errors tend to be under-estimated by the two-step estimator (Arellano and Bond 1991: 291).

Applying the Arellano-Bond estimator (columns 9 and 10) leads to a dramatic loss of observations, since information from two periods is discarded by differencing and instrumenting. Column 9 contains results from an estimation treating all the covariates as strictly exogenous. This results in generally lower t-statistics. In particular, both of the World Bank variables are no longer significant. However, if the standard error of the lagged dependent variable is taken at face value, one might also argue that the dynamic model is not supported by the data and the static specification should be preferred.

On the basis of the Arellano-Bond estimator, we can also conduct a Sargan test on the validity of the instruments used. This amounts to a test for the exogeneity of the covariates. As can be seen from column 9, the Sargan test accepts the over-identifying restrictions at the five per cent level, but rejects them at the ten per cent level. Since the test statistic is borderline, we performed estimations treating all right-hand side variables as predetermined.

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<sup>14</sup> t-statistics for the combined coefficients were 3.47 and 2.48 for WB credits and number of projects, respectively.

<sup>15</sup> t-statistic: 1.67.

Among the dynamic specifications, this is our preferred one. Coefficient estimates are contained in column 10. The amount of World Bank credit is now again significantly negative, and the number of World Bank programmes is significant at the ten per cent level. The Sargan test statistic now clearly accepts the over-identifying restrictions. The Arellano-Bond test of second order autocorrelation, which must not be present in the data in order for the estimator to be consistent, also accepts the specification.<sup>16</sup> One would also wish to try specification 8, including the time period interaction, in dynamic estimation, but since the estimator consumes several lags for first-differencing and instrumentation, this is not feasible given our data.

Summing up, there is some evidence that a dynamic model is preferable to a static specification. However, with a coefficient of 0.23 for the lagged dependent variable, the degree of inertia in the model is not large. Thus the choice of the static and the dynamic model is not obvious. With respect to the World Bank variables, however, there are no big differences between the static and dynamic specifications.

To provide more detailed information on the IFI's impact on economic freedom, we use single components of the Gwartney index instead of the composite index. The motivation is that the World Bank and the IMF only include some of the components of the overall index into the conditions for new credits, while others are never made a condition. For the composite freedom index, the absence of an IMF effect, for instance, may simply mean that the freedom index does not appropriately represent the policy goals of the IMF, rather than being evidence of the ineffectiveness of the organisation. Hence, we might find an effect in some areas of economic policy but not in others. Results are displayed in Table 2. We only report the signs of the coefficients for the four World Bank and IMF variables from the specification as in column 3 of Table 1 and indicate whether they are significant at least at the five (in brackets: ten) per cent level. Results from specification 3 are to the left and separate results for the post-1990 period (specification 8) are to the right of the hatched lines.

It is clear that many of these estimation equations, being a replication of our preferred specification for the composite index, are necessarily misspecified and suffer from omitted variable bias. Indeed, the  $R^2$  measure varies widely across the estimations for different sub-indexes (not reported). However, we do find the signs of the significant coefficients almost

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<sup>16</sup> We also replicated the specifications from columns 4 to 7 using the dynamic specification and the Arellano-Bond estimator. While the t-statistic for World Bank programmes drops to 1.57 in specification 5 (but is almost significant at the five per cent level in specification 6), World Bank credits are significantly negative at the five per cent level in specifications 4 and 6.

always to be the same as in the estimation of the composite index. If the effects are significant, World Bank credit is almost always negatively correlated with economic freedom, the only exception being the use of non-tariff restraints. World Bank projects have a significantly positive effect on two sub-indexes for the whole period and six sub-indexes after 1990. As before, the results are stronger for the period after 1990.

It appears that World Bank money induces countries to have a higher level and standard deviation of inflation, and less private ownership of banks. If the 1990s are looked at 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 World Bank credit.

The number of World Bank programmes, however, has a positive impact on several aspects of economic freedom, in particular for the fifth category of variables relating to the legal system (only 1990s). These topics are frequently covered under the Bank’s structural conditionality.<sup>17</sup> World Bank programmes are also found to have a significantly positive influence on the difference between the official and the black market exchange rate. Although the Bank does not directly force countries to devalue their currencies, some adjustment programmes aim at liberalising the exchange rate (Dreher 2002). As a consequence, overvalued currencies may devalue which decreases the black market premium. The Bank’s influence on the use of conscripts in national defence systems is also significant (which, however, is rather surprising), as well as the impact on interest rate controls (only for the 1990s).

IMF credits and programmes have fewer entries in the table, which once more corroborates the findings presented earlier. Programmes tend to reduce the volatility of the inflation rate and increase the per cent of deposits held in privately owned banks. Indeed, privatisation of banks is a condition often included in IMF programmes. On the other hand, IMF credits go along with increased taxes and a lower degree of freedom to own currency accounts outside the country.

Heckelman and Stroup (2000: 534) found that four of the Gwartney sub-indexes are positively correlated with growth: the standard deviation of inflation, the black market

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<sup>17</sup> Dreher (2002) gives an extensive overview of conditions covered under World Bank conditionality.

premium, taxes on international trade and actual size of trade sector.<sup>18</sup> It is noteworthy that, in our estimations, two of them are (at least at the 10 per cent level of significance) negatively correlated with the amount of World Bank credit provided. One of those variables – the black market premium – is (positively) influenced by World Bank projects. All of these findings are consistent with Harrigan and Mosley (1991: 83) who found a positive influence of compliance with World Bank conditionality on growth which is counterbalanced by the negative influence of financial flows.

## **4 Conclusions**

Our estimates suggest that the role of the IFIs on economic freedom is ambiguous. The number of World Bank projects increases economic freedom, while the volume of World Bank credits may actually reduce freedom. This finding applies not only to the composite freedom index, but also to the individual index components, in spite of the fact that the index components cover very different areas of economic policy, such as monetary or fiscal policy, the quality of the legal system, or barriers to trade. The results are stronger for the time after 1990 than for earlier periods. In our interpretation, the number of programmes increases freedom because it increases both the conditions imposed by the IFIs and the number of contacts between them and national politicians, which raises the transfer of knowledge. However, if the level of financing associated with the programmes rises, this eases policy constraints for governments, which has a negative impact on governments' willingness to undertake reforms.

As the results show, World Bank projects are more likely to improve economic freedom than do IMF programmes. Programmes of the latter institution have, according to our estimates, not led to changes in structural, growth-oriented policies as measured by the index, except in certain specific policy areas. This endorses recent criticism of the IMF demanding to scale back the mandate of the Fund in order to restrain its activities to key areas of expertise, providing short term balance of payments credits, and to let the World Bank deal with development goals (Meltzer and Sachs 2000, International Financial Institutions Advisory Commission 1999).

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<sup>18</sup> Heckelman and Stroup aggregate the single components of economic freedom using an alternative weighting methodology. While their analysis is useful in checking which economic freedoms contribute to growth, this weighting procedure seems to be seriously flawed (Sturm et al. 2001).

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**Table 1: Estimation results for the composite economic freedom index**

	1	2	3	4	5	6	7	8	9	10
sum of World Bank credit	-0.159 (2.63)	-0.100 (1.63)	-0.129 (1.93)	-0.088 (1.49)		-0.126 (1.95)		0.009 (0.13)	-0.076 (1.30)	-0.123 (2.03)
sum of IMF credit	-0.117 (1.58)	-0.130 (1.62)	-0.094 (1.21)	-0.090 (1.20)			-0.083 (1.07)	0.020 (0.17)	0.046 (0.78)	-0.042 (0.46)
number of World Bank projects	0.172 (3.88)	0.117 (2.40)	0.115 (1.89)		0.100 (1.67)	0.112 (1.85)		0.072 (1.30)	0.073 (1.49)	0.142 (1.73)
number of IMF projects	0.176 (1.37)	0.122 (0.86)	-0.021 (0.14)		-0.127 (0.93)		-0.013 (0.09)	-0.324 (1.67)	0.058 (0.46)	-0.135 (0.59)
military rule, dummy		-0.233 (1.28)	-0.340 (1.69)	-0.334 (1.66)	-0.337 (1.67)	-0.322 (1.58)	-0.346 (1.73)	-0.237 (1.30)	-0.105 (0.48)	-0.423 (1.59)
exports into industrial countries		2.213 (3.14)	3.316 (3.98)	3.241 (3.86)	3.319 (4.21)	3.328 (4.12)	3.303 (3.90)	2.642 (3.11)	1.827 (2.44)	3.230 (2.69)
technical assistance		0.026 (0.33)	0.068 (0.88)	0.078 (1.01)	0.048 (0.64)	0.073 (1.00)	0.050 (0.63)	0.165 (2.24)	0.168 (2.38)	0.169 (2.09)
secondary schooling enrolment			0.019 (2.57)	0.017 (2.38)	0.019 (2.45)	0.020 (2.58)	0.017 (2.29)	0.015 (2.05)	0.015 (1.81)	0.033 (2.79)
radios per capita			1.928 (3.02)	1.983 (2.82)	1.993 (2.88)	2.002 (2.97)	1.956 (2.78)	1.811 (3.05)	1.206 (6.54)	1.601 (1.96)
post-1990, dummy	1.022 (11.33)	0.912 (8.89)	0.618 (5.24)	0.629 (5.00)	0.682 (5.72)	0.622 (5.18)	0.663 (5.43)	0.472 (2.88)	0.618 (4.23)	0.619 (4.52)
sum of WB credit, post-1990								-0.263 (3.36)		
sum of IMF credit, post-1990								-0.217 (1.67)		

Table 1 (continued)	1	2	3	4	5	6	7	8	9	10
number of WB projects, post-1990								0.070 (2.64)		
number of IMF projects, post-1990								0.523 (1.84)		
lagged dependent variable									0.188 (1.47)	0.230 (2.74)
constant	4.456 (36.85)	4.240 (21.04)	3.044 (7.92)	3.391 (10.47)	2.987 (7.82)	2.969 (7.95)	3.353 (10.15)	3.239 (8.94)	0.016 (0.20)	-0.082 (1.05)
Number of countries	85	83	80	80	82	80	80	80	69	69
Number of observations	404	346	296	296	302	296	296	296	192	192
R <sup>2</sup> (adjusted)	0.798	0.735	0.745	0.739	0.682	0.745	0.736	0.764		
Sargan Test (p-level)									0.065	0.165
Arellano-Bond-Test (p-level)									0.441	0.507

Note: The dependent variable is the Economic Freedom index of Gwartney et al. The index ranges from 0 (not free) to 10 (free). Robust (White) t-statistics are shown in parentheses.

**Table 2: Results for WB and IMF variables from sub-index estimation**

Sub-index	WB credit, amount		IMF credit, amount		WB programmes		IMF programmes		obs
Ia: Government Consumption									302
Ib: Transfers and Subsidies									205
IIa: Government Enterprises and Investment									298
IIb: Price Controls									186
IIc: Top Marginal Tax Rate			-	(-)					215
IId: Use of Conscripts					+	+			298
IIIa: Growth rate of Money Supply									301
IIIb: Standard Deviation of Inflation	-	(-)					+		304
IIIc: Inflation, level	(-)	-							304
IVa: Freedom to own Currency Accounts Abroad		(-)	-	-					304
IVb: Black Market Premium		-	(-)		+	+			302
Va: Private ownership Rights		-				+			272
Vb: Viability of Contracts		-				+			272
Vc: Rule of Law							(+)		272
VIa(i): Taxes on International Trade									251
VIa(ii): Mean Tariff Rate		-							216
VIa(iii): Standard Deviation of Tariff Rate									109
VIb(i): Non-Tariff Trade restraints	(+)	(+)							177
VIb(ii): Actual Size of Trade Sector									304
VIIa: Private ownership of Banks	(-)	-					+	+	264
VIIb: Extension of Credit to Private Sector		-							277
VIIc: Interest Rate Controls		-				+			278
VIId: Capital Transactions with Foreigners		-							304

Dependent variables range from 0 (not free) to 10 (free). Signs to the left of the hatched lines refer to significant coefficients estimated for the whole observation period, signs to the right to significant coefficients for the period after 1990. Signs in brackets denote significance at the ten per cent level only, all others are at least significant at the five per cent level. Standard errors estimated robustly (White). Military rule, exports into industrial countries, technical assistance, secondary school enrolment and radios per capita included as independent variables, but coefficients not reported.