Does the World Bank cause moral hazard and political business cycles? Evidence from panel data

Axel Dreher

Fakultät für Volkswirtschaftslehre
Universität Mannheim
D – 68131 Mannheim
Germany

e-mail: mail@axel-dreher.de

May 2001

Abstract

Using panel data, this paper tries to explain the amount of loans granted by the IBRD and it analyzes their effect on monetary and fiscal policies in the recipient countries. To check for political business cycles, the influence of elections on IBRD loans is examined. The results obtained support the hypothesis that net flows are higher prior to elections. With respect to moral hazard it is shown that a country's rate of monetary expansion and its government budget deficit is higher the more loans it has received from the IBRD. Moreover, the budget deficit is shown to be larger the higher the interest rate subsidy offered by the Bank. The paper concludes with proposals for reform.[1]

Keywords: World Bank lending, political business cycles, moral hazard
JEL classifications: D72, F33, F34

[1] This analysis draws heavily on previous work by Dreher and Vaubel (2001) about the lending behaviour of the International Monetary Fund.

1. Introduction

The International Bank for Reconstruction and Development (IBRD) has been criticised by the International Financial Institutions Advisory Commission (IFIAC) of U.S. Congress. It has been shown to be a provider of aid to many emerging market economies enjoying easy access to private capital markets. These countries received 70% of the IBRD's resources between 1990 and 1999. With respect to outcome, institutional development impact and sustainability, 30 to 40% of these projects are judged to be failures (IFIAC). Still worse is the Bank's performance in the poorest countries: it's projects had a failure rate between 65 and 70%. Beyond the failure rate, the World Bank uses three additional criteria to judge its own performance: project identification, project appraisal and project supervision. Judged on these criteria, more than 40% of all projects between 1990 and 1999 failed. So even in the World Bank's own evaluations, there is a wide gap between rhetoric and achievement (IFIAC, 1999).

Still more critical is the trend that more and more resources are devoted to countries enjoying access to the international bond market. In 1999 more than 99% of all resources – compared to 60% in 1993 – were given to such countries.

According to IFIAC calculations, the costs to tax payers in the industrial countries amount to $14.58 billion a year.[1]

Like Dreher and Vaubel (2001) for the International Monetary Fund, this paper tests for the validity of two additional criticisms of IBRD policy. Both criticisms are derived from public-choice theory, and both imply that the availability of subsidized IBRD loans has undesirable incentive effects on the governments which are eligible for these loans.

[1] These calculations are for the whole World Bank Group.

The first of these criticisms is the "moral-hazard hypothesis" originally proposed in Vaubel (1983) with respect to the IMF. It may also apply to the IBRD. Its loans may be interpreted as a (subsidized) income insurance against adverse shocks (and bad policy). The insurance cover induces recipients of World Bank resources to lower their precautions against such events. In testing for moral hazard, this paper enquires whether policies likely to cause crises are at least partially due to the existence of the IBRD. More specifically, it tries to explain fiscal and monetary policy of the member countries by the amount of Bank loans received.

The second criticism to be tested is that IBRD loans facilitate political business cycles in the recipient countries.[2] To generate a pre-election boom, both monetary and fiscal policy can be used. This is even true if the exchange rate is immutably fixed. The rate of monetary expansion compatible with a given exchange rate parity is higher, the larger the central bank's sales of foreign exchange.[3] In other words, foreign exchange interventions financed with loans from the IBRD permit a higher rate of monetary expansion at a given exchange rate. Fiscal expansion, in an open economy, tends to induce a real appreciation because the increase in the budget deficit raises the real interest rate, attracts foreign capital and thereby shifts demand from foreign to domestic goods. Thus, a combination of monetary and fiscal expansion is possible even under fixed exchange rates. Loans from the IBRD set free resources which can be used to finance the central bank's sales of foreign exchange and the government's budget deficit.

The hypothesis is that IBRD lending is larger before elections than otherwise.

After the election, policy conditions attached to the IBRD's Structural Adjustment Loans may serve as a scapegoat for unpopular corrective measures.[4] Moreover, the Bank's

[2] This hypothesis, too, has been suggested by Vaubel with respect to the IMF (Vaubel 1991: 213).
[3] This is also true if the reserve currency country sterilizes the intervention. For a verbal explanation see Vaubel (1991: 212f.).
[4] This part of the hypothesis has recently been tested for the IMF (Vreeland 2000). It was found that the conclusion of an IMF program is significantly more likely in a post-election year.

project loans are usually disbursed over a long period. Thus, part of the loans agreed upon before an election may be paid out after the election. This part of the hypotheses is tested by checking whether new IBRD loans are larger than usual after the election.

The paper starts with a short outline of the IBRD. Section 3 test for moral hazard. The political business cycle hypothesis is investigated in Section 4. Finally, Section 5 draws conclusions for a reform.

2. A short outline of the IBRD

The International Bank for Reconstruction and Development was founded in 1945. It is a global organisation which is owned by its 181 member countries, all of them also members of the IMF.

A country's share in the Bank's capital – which determines its share of the votes – depends on the size of the country's economy relative to the world economy. Taken together, the largest industrial countries have about 45 percent of these shares. 17 percent are owned by the United States alone, so they can veto any changes in the Bank's capital base and Articles of Agreement.[5] Almost all other matters – including the approval of loans – can be decided by simple majority. However, since consensus is preferred, voting is rare.

The Bank is headed by the Board of Governors, consisting of one governor and one alternate for each member. However, responsible for the conduct of the Bank's general operations are the Executive Directors. Of those 24 directors, 5 are appointed directly by the member countries with the largest number of shares, 19 are elected by the other members every two years. Head of the Board of Directors is the World Bank's president – currently James D. Wolfensohn. He is also head of the Bank's staff.

The original purposes of the IBRD were postulated in an environment of a gold-based international monetary standard, capital controls in almost all countries, trade barriers, and underdeveloped financial markets. These purposes laid down in the Bank's articles of agreement were:

(i) To assist in the reconstruction and development of territories of members by facilitating the investment of capital for productive purposes, including the restoration of economies

[5] For such changes, 85% of the shares are needed.

destroyed or disrupted by war, the re-conversion of productive facilities to peacetime needs and the encouragement of the development of productive facilities and resources in less developed countries.

(ii) To promote private foreign investment by means of guarantees or participations in loans and other investments made by private investors; and when private capital is not available on reasonable terms, to supplement private investment by providing, on suitable conditions, finance for productive purposes out of its own capital, funds raised by it and its other resources.

(iii) To promote the long-range balanced growth of international trade and the maintenance of equilibrium in balances of payments by encouraging international investment for the development of the productive resources of members, thereby assisting in raising productivity, the standard of living and conditions of labour in their territories.

(iv) To arrange the loans made or guaranteed by it in relation to international loans through other channels so that the more useful and urgent projects, large and small alike, will be dealt with first.

(v) To conduct its operations with due regard to the effect of international investment on business conditions in the territories of members and, in the immediate postwar years, to assist in bringing about a smooth transition from a wartime to a peacetime economy.

Article I, Articles of Agreement

According to the Bank's articles, only developing countries can get loans – and only for specific projects or programs with high priority for a country's economic development. Bank financed projects must be so promising that a ten percent return in excess of the interest payments can be expected.

The IBRD grants loans to developing countries because – in the words of the Bank – they need capital, technical assistance, and policy advice. However, most countries obtaining loans from the Bank have easy access to private capital markets. Due to the lower borrowing costs, they receive substantial subsidies on the Bank's loans. These lower costs accrue because industrialized members of the Bank supply resources and their prime loan ranking to

enable the Bank to gather money in the financial markets and redistribute this money as loans to developing members. The money for those loans comes from investors around the world, who buy bonds issued by the World Bank. The Bank charges it's borrowers 0.5 percent above her own capital costs. Maturity is usually 10 to 12 years, whereas in the first 3 to 5 years no repayment is due. Under the Bank's specific investment lending, loans are granted for accurately defined projects, e.g. investment or re-investment in new productive capacity. These loans comprise about 60 percent of the Bank's portfolio. Sector operations consist of sector investment and maintenance loans, financial intermediary loans and sector adjustment loans. Sector investment and maintenance loans are provided to enlarge, sustain or modernize whole sectors like agriculture or the manufacturing industry. Loans to private enterprises are provided through financial intermediary loans: public authorities get the resources from the Bank and forward them to the private sector. Sector adjustment loans aim to finance structural adjustment in sectors negatively affected by a change in economic policy. Since 1980, the IBRD grants loans for structural current account deficits, formerly the domain of the International Monetary Fund. Contrary to the IMF, the Bank provides long-term loans to facilitate structural adjustment in large parts of a country's economy. Moreover, the Bank provides technical assistance loans, emergency reconstruction loans and, since 1991, loans under the Global Environment Facility. The IBRD provides only sovereign loans – either directly to the government or for private sector enterprises with a government guarantee.

In 1999, loans approved by the IBRD amounted to about US$ 22 billion. For the first time, adjustment lending exceeded project lending. Now, according to the IFIAC (1999), about 60% of the Bank's operations concern adjustment lending and large-volume pure public-sector loans. Since the fungibility of money makes monitoring of these loan appropriations difficult, resources lastly provided by tax payers from industrial countries can be abused to facilitate political business cycles and are likely to cause moral hazard.

3. The moral hazard of IBRD lending

The following regression is a pooled time-series cross-section analysis (panel data). The annual data cover the years 1971-96 and extend to 76 countries. All those countries received loans from the IBRD in the respective time period.[6] Since some of the data are not available for all countries or years, the data are unbalanced. A test for fixed country and time effects was conducted. Since the time effects are not significant, only country dummies are included. However, their coefficients are not reported in the tables. Since there is significant cross-section heteroscedasticity, the regressions are estimated using generalized least squares with cross-section weights. To account for still existing heteroscedasticity of unknown form, White's heteroscedasticity-consistent standard errors and covariances are used. To avoid simultaneity bias, all explanatory variables are lagged one year. All variables, their precise definitions and data sources are listed in the appendix.

First, the effect of IBRD lending on the budget deficits[7] of the recipient countries is examined. The results are shown in *Table 1*. Here, column 1, regresses the budget deficit relative to GDP on variables that are not suspected to provoke moral hazard. Then, to check for moral hazard, columns 2 and 3 add LIBOR and new net IBRD loans as a percent of GDP, respectively. Since the risk premium of IBRD borrowers is likely to rise with LIBOR, the difference between the market rate of interest and the interest rate charged by the IBRD, i.e., the interest rate subsidy, increases. However, an increase of LIBOR may also raise the borrower's budget deficit because the debt service on the existing stock of debt is augmented. Moreover, LIBOR varies only over time and not over countries. It may therefore to some extent reflect time specific effects. The term "moral hazard" is also sometimes used in a wider sense describing an incentive to abuse the claim to an indemnity once the accident has occurred or an incentive

[6] In theory, the availability of subsidized IBRD loans could also have caused moral hazard with non-borrowing countries. In practice however, such effects are likely to be negligible.

to abuse a loan which ought to be, but may not be, repaid. To allow for the possibility of such abuse, the budget deficit is also regressed on the amount of new net loans (net of repayment) which the country has received from the IBRD. In the narrow sense of moral hazard, countries take higher risks now because under certain conditions they expect support in the future. To check for this narrower sense of moral hazard Dreher and Vaubel (2001) used the exhaustion of a country's quota with the IMF. With respect to the World Bank, it is not possible to measure the amount a country expects to be eligible for. As a consequence, this paper is confined to test for moral hazard in a broader sense: Since the borrowing governments do not have to fear effective sanctions when they fail to comply with agreed policy requirements they are encouraged to accept programmes and loans without being willing to implement the attached conditions (Hermes, Schilder, 1997). In fact, World Bank programs are almost never cancelled – even if non-compliance is evident (Dollar and Svensson 1998: 4, Nash 1993: 24, Mosley et al. 1991: 166).

To allow for partial adjustment, the regression includes the lagged endogenous variable. In addition, the following independent variables (all quantitative variables lagged by one year) are taken into account:

- the rate of real GDP growth,
- the external strength of the currency (as measured by the ratio of the fixed official parity and the market exchange rate),
- the sum of exports and imports relative to GDP,
- the change in a country's terms of trade,
- a "war dummy" which is equal to one if there was a war in the previous year and
- a dummy for democratic regimes as classified by Alvarez et al. (1996).

In testing for electoral effects three time dummies are included in the regression: one dummy for pre-election years, one for election years and one for post-election years.

[7] If there is a deficit, the dependent variable has a positive value.

The results indicate that the budget deficit is larger in election years.[8] In the year before and after the election, however, there are no significant effects on the budget deficit. This result is invariable to the inclusion of the moral hazard variables. The coefficients of the change in the country's terms of trade, its real GDP growth and the dummy for war years are insignificant. However, with the inclusion of LIBOR and net IBRD loans the coefficients of the latter two variables become significant. Since higher growth leads to increased government revenues, the positive coefficient of GDP growth seems surprising. However, it is only marginally significant. The coefficient of the dummy for war years is significant at the five percent level in column two and improves even further after the inclusion of new net IBRD loans. In times of war, government's deficits are higher because military expenditure increase while, at the same time, its revenues shrink.

All other coefficients are significant at the one percent level and easy to explain:

- Appreciation of the currency reduces the budget deficit. This may be because there is no need for fiscal policy to provide for a real appreciation if the currency is strong or because appreciation reduces the budgetary cost of servicing the foreign debt.
- The more open a country as measured by the sum of exports and imports relative to GDP the smaller is the government's budget deficit. The government of a relatively open country is more exposed to a foreign financing constraint and international political competition.[9]
- The more democratic countries have lower budget deficits – probably because democracy is correlated with the level of development.
- The coefficient of the lagged endogenous variable indicates that in the first year 65 percent of the desired adjustment takes place.

[8] This is in line with Schuknecht (1996, 2000).
[9] Note, that the high correlation could be due to the fact that, as the dependent variable, foreign trade is measured relative to GDP. However, the coefficient remains significant if rates of change are used instead.

In column 2, the inclusion of LIBOR increases the adjusted R^2. Its positive coefficient is highly significant. As LIBOR rises, the difference between the market rate of interest and the interest rate charged by the Bank, i.e. the interest rate subsidy, increases. However, since LIBOR varies only over time and is the same for all countries, it may to some extent reflect time specific effects. Moreover, an increase of LIBOR may also raise the borrower's budget deficit because the debt service on the existing stock of debt is augmented.

Finally, the inclusion of net IBRD loans further increases the adjusted R^2. Its positive coefficient indicates moral hazard. Once the borrower has received money from the Bank, there is an incentive to abuse the loan which ought to be, but may not be, repaid.[10]

The whole regression explains 63 percent of the variance of the budget deficit (unweighted statistics).

Table 2, especially Column 3, replicates the analysis of Dreher and Vaubel (2001) for the IMF. Monetary policy is measured by the rate of monetary expansion (money and quasi money). In addition, a dummy for democratic regimes and the change in a country's terms of trade are included. Column 1 shows the results without the moral hazard variables. As can be seen, the rate of monetary growth is significantly higher in and before election years. One year after the election, monetary expansion is reduced, probably to combat inflationary pressure. As expected, the rate of monetary growth rises in times of war, whereas faster economic growth leads to slower monetary expansion. A country's openness, however, has no significant effect on the rate of monetary expansion. An improvement in the terms of trade leads to lower monetary expansion – probably because the government's dependence on seigniorage is reduced.

[10] Dreher and Vaubel (2001) show that the same is true for net new IMF credit. This may be because borrowing from the IMF and the World Bank may enable the recipient government to obtain (more) loans in the world capital market. However, most studies of this issue (e.g. Hajivassiliou 1987; Taylor 1988; Faini et al. 1991; Killick 1995; Bird, Rowlands 1997) show that IMF and World Bank lending does not serve as a catalyst for private lending.

In column 2, LIBOR is added. In the case of monetary policy, LIBOR does not only reflect the interest subsidy provided by the Bank but also the external monetary constraint, i.e., monetary conditions in the dollar area. A tightening of monetary conditions in the dollar area significantly reduces monetary expansion elsewhere. As is the case for the budget deficit, monetary expansion is higher when IBRD loans have been granted (column 3). Moreover, the inclusion of the (potential) moral hazard variables raises the adjusted R^2. So, the evidence is consistent with the hypothesis of moral hazard. However, the regression explains only about 18 percent of the variance of monetary expansion (unweighted R^2).

To summarize, there is evidence that the Bank's lending generates moral hazard in monetary and fiscal policy. To some extent, such moral hazard may be optimal because insurance can be less costly than precautions against damage. However, moral hazard is unlikely to be optimal if the insurance cover is subsidized as is the case with the Bank.

4. Does the IBRD facilitate political business cycles in countries receiving its loans?

This paragraph follows our analysis for the IMF (Dreher, Vaubel 2001) as closely as possible. Again, the regressions are pooled time-series cross-section analyses (panel data). The annual data cover the years 1971-96. The analysis extends to 106 developing countries that have obtained loans from the IBRD in this period. Since some of the data are not available for all countries or years, an unbalanced panel is estimated and the number of observations depend on the choice of explanatory variables. The regressions are estimated using the same method as in the previous section. Again, only country dummies are included.

In column 1 of *Table 3*, new net IBRD loans relative to GDP[11] are regressed on three election dummies alone: one dummy for pre-election years, one for election years and one for post-election years. As can be seen, all dummies have positive coefficients which are significant at the one percent level. However, without additional explanatory variables, the adjusted R^2 is quite low.

The election effects on new net IBRD loans can be interpreted in the following way. One year before an election, the member governments try to stimulate the economy in order to be re-elected. For this purpose, it is not necessary to conclude new arrangements. Since, under the Bank's project lending, eligible countries – given compliance with loan conditions – may decide themselves when to draw, they can draw loans under existing arrangements in the election year. Since the introduction of Structural and Sectoral Adjustment Loans (SAL and SECAL, respectively) at the beginning of the 80s, the Bank has no longer been confined to project lending. Structural Adjustment Loans are paid out directly to the governments, if certain pre-conditions are met. Thus, the incumbent governments can easily use the foreign currency loans for election purposes.

With respect to project lending, to gain votes before an upcoming election the government can also apply for investment projects to be financed with IBRD money. These investments may induce marginal voter groups to vote in favour of the government.

Even though the increased lending at election time is likely to be driven by demand, most other explanatory variables cannot be identified as demand or supply variables. Almost all of the additional regressors may be interpreted at the same time as determinants of the governments' loan demand and as criteria by which the Bank judges the creditworthiness of its applicants. Thus, a meaningful simultaneous or two-stage estimation is not feasible. However, in order to check for the robustness of the election effects, a reduced-form estimate is sufficient.

[11] Note that this variable may also be negative because IBRD loans are measured net of repayments.

In column 2, a dummy for democratic regimes as classified by Alvarez et al. (1996) is added. On average, as can be seen, the more democratic countries receive a smaller amount of loans from the IBRD. A conceivable explanation is that more democratic countries are usually more developed than those subject to more authoritarian regimes. This would confirm the Bank's claim to be – first of all – a lender to less developed countries. However, as mentioned, the IFIAC (1999) reports that 70 percent of the Bank's non-aid resources flow to countries with easy access to private capital. Since these countries are usually the more developed ones, the democratic regime dummy's negative coefficient seems surprising.

In column 3, two additional (lagged) macroeconomic policy variables are added: the rate of monetary expansion and the overall budget deficit relative to GDP.[12] Both variables can closely be controlled by the economic policy makers of the countries receiving the loans. As can be seen, higher deficits and lower rates of monetary expansion lead to increased net lending. This can easily be explained. Before granting a loan, the IBRD evaluates the applicant's economic situation. Since high monetary growth is a sign of bad policy, the Bank may be less willing to provide resources to that country. Also, the resulting high seigniorage may reduce the demand for loans. With respect to the budget deficit, the demand effect seems to dominate. This result for the government's budget deficit is robust to the inclusion of additional variables. However, the rate of monetary expansion will turn insignificant as more control variables are added. Due to missing data, the number of observations is reduced by almost 800.

Column 4 includes five additional (lagged) macroeconomic variables which are not current policy instruments but clearly affected by them:

– the rate of real GDP growth,

– the inflation rate,

[12] To be compatible with Dreher and Vaubel (2001), general government consumption relative to GDP was also tried. Since it's coefficient was absolutely insignificant in all equations it was dropped in the final version.

– changes in net reserves as a percent of GDP[13],

– the net inflow of foreign direct investment relative to GDP and

– the current account balance as a percent of GDP.[14]

Except for the change in net reserves, all additional coefficients are highly significant and easy to explain[15]:

– An acceleration of real GDP growth reduces the demand for, and supply of, IBRD loans because real growth serves as an indicator of need.

– An acceleration of inflation reduces the supply of IBRD loans because high inflation destabilizes the economy.

– An increase in the inward flow of foreign direct investment reduces the demand for IBRD loans.

– Since current account deficits raise supply of and demand for IBRD resources, loans rise with higher deficits.

Note that after the inclusion of these additional variables, the only significant election-dummy is that for pre-election years.

In column 5, three additional variables are included which are not, or hardly, affected by current domestic monetary and fiscal policy:

– LIBOR,

– the share of exports to countries currently supported by the IMF and

– a dummy that indicates the end of a war.[16]

[13] Since the IBRD deals in the first place with structural weaknesses in the balance of payments, the inclusion of a reserve variable seems not clear a priori. However, the Bank's loans are granted in international currency that can be used to replenish diminishing reserves. So the demand for loans may depend on a country's reserve position. Moreover, loss in international reserves is a criterion by which the Bank judges the need for loans.

[14] As in Dreher and Vaubel (2001) a country's share of foreign short-term private debt in total foreign debt was also tried. Since its coefficient was completely insignificant this variable was dropped.

[15] Since after the inclusion of additional explanatory variables the coefficient of the changes in net reserves turns significant, it is kept in the regression.

[16] In Dreher and Vaubel (2001) we also included a time dummy for years in which IMF quotas were under review. However, the IBRD does not have periodic reviews.

The results can be explained in the following way:

– A tightening of foreign monetary conditions as measured by LIBOR raises the demand for, and supply of, IBRD loans because it puts pressure on the exchange rate. Moreover, the interest subsidy on Bank loans rises with a higher LIBOR.

– If a large share of exports goes to countries which are in crisis and supported by the IMF, the country is exposed to contagion. Moreover, the Fund's policy conditions usually aim at import reduction. This hits the exports of their trading partners. As a consequence, the country turns to the Bank.

– Since one of the World Bank's tasks is to finance reconstruction efforts after wars, IBRD loans are expected to rise once a war is over. However, after a war, a country's administrative systems are destroyed, so it is not possible to make plans for a long-run reconstruction and requests for loans are reduced (IBRD 1946: p. 5).

The inclusion of the additional variables raises the coefficients and significance level of the pre-electoral dummy. The rates of inflation and real growth remain marginally significant, whereas the changes in reserves become significant at the 0.05 level. As can be seen, there is a negative relationship between changes in reserves and new loans. This is probably due to a shift in demand. The supply effect, on the other hand, is likely to be positive: inflowing reserves signal a more sustainable environment which is a pre-condition for the Bank's loans (Deutsche Bundesbank 1997: p. 92).

Finally, column 6 adds the lagged endogenous variable to check for partial adjustment. With the inclusion of the lagged endogenous variable, real GDP growth, inflation and changes in international reserves drop to insignificance. The influence of elections is almost unchanged. The coefficient of the lagged endogenous variable indicates that 43 percent of the desired adjustment takes place within the first year.[17]

[17] Some of the correlation between the dependent variable and some explanatory variables may be because they are both expressed as a share of GDP. However, the coefficients keep their significance when I use change rates instead.

To summarize, there is strong evidence that IBRD lending depends on the date of elections and contributes to political business cycles in the borrowing countries. Since interest on IBRD loans is lower than what the borrowing governments would have to pay in the private capital market (if they have access at all), the availability of subsidized IBRD loans reduces the opportunity cost of over-expansionary macroeconomic policies and government transfers to marginal voters prior to elections.

In which countries is the election effect on net IBRD loans significant? To answer this question, time-series regressions have been estimated for all countries for which at least ten observations are available. Since the samples are much smaller than the panel data, only five explanatory variables are used: the dummies for the pre-election, election and post-election year and the two quantitative variables which took the most significant regression coefficients in the complete panel analysis (column 5), i.e., the current account balance and the overall budget deficit. The analysis tests for integration and cointegration.[18] Table 4 lists the 18 countries for which data are available and significant election effects were found.[19]

5. Proposals for reform

The moral hazard of IBRD lending and its role in facilitating political business cycles calls for a reform of the Bank as an international financial institution. Moral hazard in the narrow sense could be reduced, first, by establishing conditionality on an ex-ante basis.[20] For example, all member states in which monetary expansion exceeds an n-year moving average

[18] It was also tested for deterministic trends and serial correlation in the error terms. In those cases where a Lagrange Multiplier test indicated serial correlation at the 0.05 level of significance, the error structure was modelled using autoregressive terms. Series with significant deterministic trends were detrended. In the presence of stochastic trends, first differences were used of those series which were found to be integrated of order one but were not cointegrated. Cointegrated series were used in levels. In testing for unit roots, the procedure proposed by Enders (1995), chapter 4, was utilized.

[19] Owing to the small sample size, these results are merely suggestive. Since, in several cases, we do not know the precise election date, we are unable to conduct a quarterly analysis.

[20] This was suggested for the IMF by Vaubel (1991) and the International Financial Institutions Advisory Commission (1999).

of real GDP growth by more than x percent could be excluded from the Bank's loans. With respect to fiscal policy, a limit for the budget deficit relative to GDP could be set.

While these solutions are relatively straight-forward, it is much more difficult to prevent the Bank from contributing to moral hazard in the broader sense and to political business cycles. This is because past performance is not a reliable guide to the future. Ex-ante conditionality can prevent incumbent governments from turning to the Bank after having embarked on overexpansionary policies before the election. But ex-ante conditionality does not prevent governments that have behaved well in the past from obtaining IBRD loans and then spending the proceeds to finance a pre-election boom. The conditions have to relate to the subsequent use of the loan, prohibiting a future increase of monetary expansion and the budget deficit. Governments which violate these conditions, notably prior to their reelection might be excluded, as far as possible, from development aid for at least one term of office. In this respect, cooperation between the IMF and the World Bank, the regional development agencies and the members of the Official Development Aid Committee at the OECD may have to be strengthened and formalized. In the long run, of course, countries which have repeatedly abused IBRD loans to finance pre-election spending in the past (Table 4), could be excluded from future Bank lending. However, as the results show, the Bank has increased lending when the budget deficit had increased in the previous year.

Another possibility to reduce the abuse of IBRD resources would be to strengthen , especially lending to private investors in the developing countries.

Definitions and data sources

Section 3:

"Monetary Expansion", International Bank for Reconstruction and Development (1999): Average annual growth rate in money and quasi money. Money and quasi money comprise the sum of currency outside banks, demand deposits other than those of the central government, and the time, savings, and foreign currency deposits of resident sectors other than the central government. The change in the money supply is measured as the difference in end-of-year totals relative to the level of M2 in the preceding year.

"Overall Budget Deficit in percent of GDP", International Bank for Reconstruction and Development (1999): Overall budget deficit is total expenditure and lending minus repayments less current and capital revenue and official grants received. Data are for central government only.

"New IBRD loans in percent of GDP", International Bank for Reconstruction and Development (1998): Public and publicly guaranteed debt disbursed minus principal repayments from the International Bank for Reconstruction and Development (IBRD) are nonconcessional loans excluding loans with an original grant element of 25 percent or more.

Election years, Gorvan (1989) and Journal of Democracy (various years)

"Real GDP growth", International Bank for Reconstruction and Development (1999): Annual percentage growth rate of GDP at market prices based on constant local currency.

"LIBOR", International Bank for Reconstruction and Development (1999): The average three-month London interbank offer rate on U.S. dollar deposits.

"External strength of the currency", International Bank for Reconstruction and Development (1999), Pick (various years), Currency Data & Intelligence (various years): Ratio of fixed official exchange rate to parallel market exchange rate, each per unit of foreign currency. The ratio of official to parallel exchange rate measures the inverse of the premium people must pay, relative to the official exchange rate, to exchange the domestic currency for dollars in the black market.

War years, The Almanac of World Military Power (1995), Bruno, Easterly (1996), Sivard (1980): The Dummy takes a value of one if there was a war in that year with at least 1000 people killed.

"Sum of Exports and Imports in percent of GDP", International Bank for Reconstruction and Development (1999)

"Change of Terms of Trade", International Bank for Reconstruction and Development (1999): Measures the change in a country's terms of trade compared to the previous year.

"Dummy for democratic regime", Alvarez et al. (1996): Dummy which takes the value of one, if a country is classified as democratic in that year. A country is not classified as democratic when its chief executive and legislature were not elected and there are not at least two political parties.

"Changes in Net Reserves in percent of GDP", International Bank for Reconstruction and Development (1999): Measures the net change in a country's holdings of international reserves resulting from transactions on the current, capital, and financial accounts.

Section 4 (additional variables):

"Inflation", International Bank for Reconstruction and Development (1999): Consumer price index in percent.

"Net inflow of foreign direct investment in percent of GDP", International Bank for Reconstruction and Development (1999): Net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments.

"Current account balance in percent of GDP", International Bank for Reconstruction and Development (1999)

"Share of exports to IMF supported countries", United Nations: International Trade Statistics Yearbook (various years): Share of a country's exports to countries with an IMF program in that year.

"End of a War", The Almanac of World Military Power (1995), Bruno, Easterly (1996), Sivard (1980): The Dummy takes a value of one if a war has ended in that year with at least 1000 people killed during the war.

References

Alvarez, Mike et al. (1996), "Classifying political regimes", Studies in Comparative International Development 31, 2: 2-36.

Bird, Graham, Rowlands, Dane (1997), "The Catalytic Effect of Lending by the International Financial Institutions", World Economy 20: 967-991.

Bruno, M., Easterly, William: Inflation Crises and Long-Run Growth, National Bureau of Economic Research, Working Paper 5209.

Currency Data & Intelligence (various years), World Currency Yearbook, Brooklyn, NY.

Deutsche Bundesbank (1997), Weltweite Organisationen und Gremien im Bereich von Währung und Wirtschaft, Frankfurt a.M.

Dollar, David, Svensson, Jakob (1998), What Explains the Success or Failure of Structural Adjustment Programs?, Policy Research Paper 1938, World Bank, Washington, D.C.

Dreher, Axel, Vaubel, Roland (2001), Does the IMF cause moral hazard and political business cycles? Evidence from panel data, Beiträge zur angewandten Wirtschaftsforschung, Institut für VWL und Statistik, Universität Mannheim: Discussion Paper 598-01, http://www.vwl.uni-mannheim.de/vaubel/vaubel/publikation.html.

Enders, Walter (1995), Applied Econometric Time Series, Wiley Series in Probability and Mathematical Statistics, New York.

Faini, R., de Melo, A., Senhadji-Semlali, A., Stanton, J. (1991), "Macro Performance Under Adjustment Lending", in: V. Thomas, A. Chibber, M. Dailami, J. de Melo (eds.), Restructuring Economies in Distress. Policy Reform and the World Bank, Washington, D.C.: 222-42.

Gorvin, Ian, (ed.) (1989), Elections since 1945: A Worldwide Reference Compendium, Longman, Essex.

Hajivassiliou, V. (1987), "The External Debt Repayment Problems of LDCs: An Econometric Model based on Panel Data", Journal of Econometrics, 36: 205-30.

Hermes, Niels, Schilder, Ard (1997), "Setting Priorities: The IMF and World Bank Structural Adjustment Programmes", in: Peter B. Boorsma, Kees Aarts, Albert E. Steenge (eds.), Public Priority Setting: Rules and Costs, Kluwer, London: 39-60.

International Bank for Reconstruction and Development (1946), First Annual Report by the Executive Directors, Washington, D.C.

International Bank for Reconstruction and Development (1998), Global Development Finance, CD-ROM, Washington, D.C.

International Bank for Reconstruction and Development (1999), World Development Indicators, CD-ROM, Washington, D.C.

International Financial Institutions Advisory Commission (1999), Report, http://phantom-x.gsia.cmu.edu/IFIAC/USMRPTDV.html, 1.9.2000.

Journal of Democracy (various editions), e.g. http://muse.jhu.edu/journals/journal _of_ democracy/election_watch/, 1.12.1999.

Killick, Tony (1995), IMF Programmes in Developing Countries: Design and Impact, Routledge/ODI, London.

Mosley, Paul, Harrigan, Jane, Toye, John (1991), Aid and Power - The World Bank & Policy-based Lending Vol.1, Routledge, New York.

Nash, John (1993), Implementation of Trade Reform in Sub-Saharan Africa - How much Heat and How Much Light?, Policy Research Working Paper 1218, World Bank.

Pick, F. (various years), Pick's Currency Yearbook, New York.

Romer, David (1993), "Openness and Inflation: Theory and Evidence", Quarterly Journal of Economics 108: 869-903.

Schuknecht, Ludger (1996), "Political Business Cycles and Fiscal Policies in Developing Countries", kyklos 49, 2: 155-170.

Schuknecht, Ludger (2000), "Fiscal Policy Cycles and Public Expenditure in Developing Countries", Public Choice 102: 115-130.

Sivard, Ruth L. (ed.) (1980), Entwicklung der Militär- und Sozialausgaben in 140 Ländern der Erde, Haag + Herchen, Frankfurt/Main.

Taylor, Lance (1988), Varieties of Stabilisation Experience: Towards sensible Macroeconomics in the Third World, Oxford University Press, Oxford.

The Almanac of World Military Power (1995), Bowker, New York.

United Nations (various years), International Trade Statistics Yearbook, New York.

Vaubel, Roland (1983), "The Moral Hazard of IMF Lending", in: Allan H. Meltzer (ed.), International Lending and the International Monetary Fund, Washington, D.C: 65-79.

Vaubel, Roland (1991), "The Political Economy of the International Monetary Fund: A Public Choice Approach", in: Roland Vaubel, Thomas D. Willett (eds.), The Political Economy of International Organizations, Boulder, Westview: 205-245.

Vreeland, James R. (2000), "The IMF: Lender of Last Resort or Scapegoat?", Yale University.

Table 1

Government budget deficit in percent of GDP[a]

(panel data, 76 countries, 1971-96, generalized least squares)

explanatory variables	(1)	(2)	(3)
lagged endogenous variable	0.342 (13.71*)	0.340 (15.54*)	0.348 (16.21*)
real GDP growth (t-1)	0.010 (1.15)	0.015 (1.86°)	0.014 (1.79°)
external strength of the currency (t-1)	-0.003 (-6.87*)	-0.003 (-9.49*)	-0.003 (-8.49*)
sum of exports and imports in percent of GDP (t-1)	-0.036 (-8.17*)	-0.032 (-8.90*)	-0.029 (-7.25*)
change of terms of trade (t-1)	1.45E-07 (1.42)	1.99E-08 (0.20)	1.63E-08 (0.17)
dummy for war year (t-1)	0.182 (1.05)	0.411 (2.37**)	0.488 (2.91*)
dummy for democratic regime	-0.900 (-7.08*)	-0.440 (-3.81*)	-0.344 (-3.21*)
dummy for pre-election years	0.087 (0.97)	0.115 (1.31)	0.052 (0.59)
dummy for election years	0.206 (2.16**)	0.280 (3.07*)	0.203 (2.27**)
dummy for post-election years	0.019 (0.20)	0.015 (0.15)	-0.051 (-0.53)
LIBOR (t-1)		0.156 (11.25*)	0.151 (11.06*)
new net IBRD loans in percent of GDP (t-1)			0.441 (4.13*)
R^2 (unweighted)	0.62	0.63	0.63
adjusted R^2 (unweighted)	0.58	0.59	0.60
no. of observations	837	837	837

Notes:

The coefficients of the country dummies are not reported.

[a] If there is a budget deficit, the dependent variable has a positive value.

t-statistics in parentheses:

[*]: significant at the 1 percent level

[**]: significant at the 5 percent level

[o]: significant at the 10 percent level

Table 2

Monetary expansion, money and quasi-money

(panel data, 76 countries, 1971-96, generalized least squares)

explanatory variables	(1)	(2)	(3)
lagged endogenous variable	0.376 (3.00*)	0.381 (2.93*)	0.386 (2.87*)
real GDP growth (t-1)	-0.353 (-11.14*)	-0.374 (-12.27*)	-0.364 (-11.56*)
sum of exports and imports in percent of GDP (t-1)	0.015 (0.57)	0.020 (0.72)	0.023 (0.81)
change of terms of trade (t-1)	-1.63E-05 (-12.17*)	-1.63E-05 (-11.32*)	-1.64E-05 (-11.36*)
dummy for war year (t-1)	6.507 (13.92*)	6.692 (13.41*)	7.419 (13.39*)
dummy for democratic regime	2.472 (6.93*)	2.034 (4.61*)	2.388 (4.63*)
dummy for pre-election years	1.006 (6.53*)	0.779 (4.85*)	0.505 (3.07*)
dummy for election years	0.521 (2.92*)	0.849 (4.79*)	0.511 (2.94*)
dummy for post-election years	-0.686 (-4.89*)	-1.005 (-5.95*)	-0.804 (-5.19*)
LIBOR (t-1)		-0.130 (-4.25*)	-0.188 (-5.12*)
new net IBRD loans in percent of GDP (t-1)			1.441 (8.27*)
R^2 (unweighted)	0.175	0.181	0.185
adjusted R^2 (unweighted)	0.112	0.117	0.121
no. of observations	1198	1198	1198

Notes:

The coefficients of the country dummies are not reported.

t-statistics in parentheses:

*: significant at the 1 percent level

Table 3

New net loans from the IBRD in percent of GDP

(panel data, 106 countries, 1971-97, generalized least squares)

explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)
dummy for pre-election year	0.0002 (2.74*)	0.006 (3.23*)	0.008 (2.42**)	0.019 (2.31**)	0.028 (2.99*)	0.018 (2.29**)
dummy for election year	0.0007 (5.68*)	0.009 (4.40*)	0.013 (2.01**)	-0.0005 (-0.06)	0.010 (1.04)	0.003 (0.43)
dummy for post-election year	0.0005 (3.92*)	0.005 (2.06**)	0.005 (0.86)	0.006 (1.44)	-0.001 (-0.16)	-0.001 (-0.20)
dummy for democratic regime		-0.044 (-11.49*)	-0.084 (-9.92*)	-0.172 (-10.63*)	-0.149 (-8.39*)	-0.082 (-7.65*)
monetary expansion (t-1)			-9.99[a] (-2.92*)	4.35[a] (1.11)	3.29[a] (0.72)	2.75[a] (0.61)
budget deficit in percent of GDP (t-1)			0.0003 (3.96*)	0.001 (6.91*)	0.001 (6.13*)	0.001 (2.85*)
real GDP growth (t-1)				-0.002 (-3.59*)	-0.002 (-1.68o)	-0.001 (-1.07)
inflation (t-1)				-0.0001 (-2.11**)	-9.41[b] (-1.70o)	-5.52[b] (-0.98)
changes in international reserves as a percent of GDP (t-1)				-0.002 (-1.12)	-0.006 (-2.35**)	-0.002 (-1.13)
net inflow of foreign direct investment in percent of GDP (t-1)				-0.010 (-3.91*)	-0.019 (-5.03*)	-0.029 (-11.08*)
current account balance in percent of GDP (t-1)				-0.008 (-6.66*)	-0.010 (-5.95*)	-0.006 (-5.14*)
LIBOR (t-1)					0.017 (12.27*)	0.007 (6.91*)

continued	(1)	(2)	(3)	(4)	(5)	(6)
share of exports to IMF supported countries (t-1)					0.002 (3.99*)	0.001 (3.44*)
dummy that indicates the end of a war (t-1)					-0.030 (-2.26**)	-0.039 (-5.69*)
lagged endogenous variable						0.567 (15.26*)
R^2 (unweighted)	0.111	0.111	0.204	0.290	0.330	0.399
R^2 adj. (unweighted)	0.063	0.066	0.148	0.227	0.266	0.341
No. of observations	2,084	1,885	1,093	877	826	826

Notes:

The coefficients of the country dummies are not reported.

t-statistics in parentheses:

*: significant at the 1 percent level

**: significant at the 5 percent level

o: significant at the 10 percent level

a: E-07

b: E-05

Table 4

New net loans from the IBRD in percent of GDP

(time series analysis)

country	pre-election year effect	election year effect	post-election year effect	AR-terms	$\bar{R}^2$	period
Argentina	0.132 (1.95^{o})	0.253 (2.65**)	-0.016 (-0.22)	4	0.31	1983-96
Bolivia	0.117 (4.04**)	0.089 (3.93**)	0.035 (1.32)	1	0.88	1988-96
Brasilia	0.117 (1.66)	0.196 (5.51*)	0.226 (4.61*)	4	0.83	1985-95
Barbados	0.104 (4.05*)	-0.125 (-2.40**)	0.195 (3.19**)	1,4	0.89	1977-90
Cameroon	0.209 (2.69**)	0.229 (2.31**)	0.045 (0.47)	1	0.70	1977-96
Costa Rica	0.366 (2.10**)	-0.043 (-0.20)	-0.098 (-0.53)	1,2	0.45	1975-96
Ghana	0.124 (1.60)	0.299 (2.26**)	0.238 (1.51)		0.66	1973-94
Indonesia	0.192 (3.24*)	0.201 (2.57**)	0.176 (2.24**)	3,4	0.22	1979-96
Kenya	0.220 (0.74)	0.313 (1.90^{o})	0.319 (1.14)	4	-0.17	1977-96
Lesotho	-0.123 (-0.271)	2.614 (8.27*)	1.160 (2.81**)	1	0.85	1976-95
Madagascar	-0.034 (-1.30)	0.020 (2.53**)	-0.0001 (-0.01)	1	0.93	1974-96
Mexico	0.204 (1.79^{o})	-0.001 (-0.02)	-0.027 (-0.37)	3	0.29	1976-96
Nicaragua	1.146 (2.63**)	1.553 (3.20**)	-0.599 (-1.12)	1	0.77	1979-96
Pakistan	0.309 (2.72**)	0.282 (1.60)	0.323 (2.09**)		0.45	1974-96
Panama	-1.002 (-2.13^{o})	0.691 (2.09^{o})	-0.101 (-0.30)	1,2	0.67	1983-96
Tunisia	0.389 (1.78^{o})	0.808 (3.26*)	0.610 (2.21**)	1	0.39	1978-96

Country	pre-election year effect	election year effect	post-election year effect	AR-terms	$\bar{R}^2$	period
Uruguay	0.351 (1.49)	0.456 (2.09**)	-0.104 (-0.58)	3	-0.05	1976-96
Zimbabwe	0.468 (1.96o)	0.082 (0.31)	0.040 (0.20)	1,2	0.45	1979-94

*: significant at the 1 percent level

**: significant at the 5 percent level

o: significant at the 10 percent level

The intercepts and the regression coefficients as well as the t-statistics of the two quantitative variables (overall budget deficit, current account balance) are not reported.