Too much consensus could be harmful: measuring the degree of implementation of the Washington consensus and its impact on economic growth

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Maîtres de Conférences – CED / IFReDE-GRES – Université Montesquieu-Bordeaux IV
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Résumé :


Abstract :

In this paper, we construct a unique quantitative measure of the depth and pace of all aspects of IFI programs — the Washington consensus index (WCI) —, and we investigate their whole impact on economic growth. Two main conclusions emerge. Firstly, among observed countries, those who come up to Consensus expectations maintain a relatively high degree of government involvement. Secondly, when combined with usual explanatory variables, WCI presents a significant non-linear relation with the probability of getting a higher growth than others get. Thus, it seems that a “too fast” and/or a “too far” implementation of IFI programs, especially in regard of deregulation and monetary orthodoxy, can harm growth in developing countries.

JEL classification : O11 ; O19
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1. Introduction

The International Monetary Fund’s (IMF) and the World Bank’s approach of tying aid to the implementation of stabilization and structural policies has been a reality for numerous developing countries since the early 1980’s. Such policy programs are designed as a “one size fits all” strategy and they generally conform to the “three-pronged approach” (Knight and Santaella, 1997; Mussa and Savastano, 2000; Krueger, 2003; Butkiewicz and Yanikkaya, 2005): firstly, inflows of multilateral loans compensate for the lack of external sources of lending during a monetary or a financial crisis; secondly, macroeconomic stabilization policies such as public consumption reduction or monetary restrictions are carried out to reduce domestic absorption and to restore external equilibrium; thirdly, structural reforms towards liberalization and market regulation are undertaken in order to cement the stabilization policies and to increase the potential of economic expansion.

Even if it proceeds from what Williamson (1990) has called the Washington consensus, this policy program which developing countries have actually implemented is quite different from the former version that Williamson coined when he listed at the end of the 1980’s the ten central areas of policy reform that most people in Washington thought were needed in Latin American countries. The differences occur mainly in the definition of a competitive exchange rate and in the desired degree of capital account liberalization. Thus, Williamson (2004a, p.200) claims that a competitive exchange rate “necessarily implies an intermediate regime, because either fixed or floating rates can easily become over-valued”, while on the contrary, “the Bretton Woods institutions increasingly came to espouse the so-called bipolar doctrine toward exchange rate (...)”, according to which countries should either float their exchange rate “cleanly”, or else fix it firmly by adopting some institutional device such as a currency board”. Moreover, he observes that “the Bretton Woods institutions, or at least the IMF, came in the mid-1990s to urge countries to liberalize their capital accounts, whereas (...) [his] version had deliberately limited the call for liberalization of capital flows to FDI”.

Does this “alternative Consensus”, advocated by international financial institutions (IFIs) as necessary reforms towards higher growth and development, work or not? Do its policies work whatever the way they are implemented by developing countries? There have been debates about the best criteria one can use to judge the effectiveness of the policy programs supported by IFIs. Their general objective is to achieve sustainable growth together with stable prices and a balanced external position. However, Mussa and Savastano (2000) claim that since growth or inflation outcomes are not central in IMF’s objectives, they can not be used to evaluate the programs it promotes. However, to the extent that sustained growth is a critical outcome for highly indebted poor or middle-income countries, the IMF itself has been devoting explicit attention to it since the early 1990’s. Thus, studies have tried to measure the macroeconomic impact of the implementation of the Washington consensus policies, generally by appraising the effects of IMF agreed-upon programs on the growth and inflation rates or on the deficits of the balance of payments. Nevertheless, they fail to deliver anything but blurred evidence. Firstly, general assessments are undermined by the fact that the likely positive effects on the balance of payments or on inflation rates can be opposed to the likely adverse effects on growth. Secondly, the heterogeneity and the limits of methodologies used to assess these effects seriously impede any attempt at comparison or generalization. Thirdly, if the global macroeconomic

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1 Namely short-run Standby Arrangements (SBA) and medium-run Extended Fund Facilities (EFF).
2 For Davidson (2004, p.210), “the only analytical difference between Williamson and ideological market fundamentalists is the question of the length of time required for a free market to achieve a social optimum”. Then “all ten reform of the Washington Consensus are founded on classical economic theory that supports the laissez-faire doctrine as necessary to solve all our economic problems — at least in the long run”.
3 “Our primary objective is growth. In my view, there is no longer any ambiguity about this. It is toward growth that our programs and their conditionality are aimed. It is with a view toward growth that we carry out our special responsibility of helping to correct of payments disequilibria and, more generally, to eliminate obstructive macroeconomic imbalances.” Michel Camdessus, IMF Managing Director, Statement before the United Nations Economic and Social Council in Geneva, July 11, 1990 from Przeworski and Vreeland (2000, p.385).
The effects of these programs are non-linear and vary across time as supposed by Killick (1995) or Conway (1994), then the usual linear models do not capture this. In addition, it is also possible that these studies do not adequately measure the actual policy changes associated with each national program implementation or that they do not sufficiently control for the impact of differentiated degrees of implementation of the policy set. Consequently, evidence on the global macroeconomic effect of IFI programs is dramatically mismatched, whatever the methodology that is used.

As regards growth, the evidence is equally unclear. Country studies by Taylor (1988) or more recently by Zaki (2001) show that IMF policies can actually have an adverse impact on growth in particular contexts. However, counterfactual and cross-section studies give a more general picture of the way stabilization and structural reforms do, on average, impact on growth. What they show is that during the reform process, growth rates tend to be depressed in the short-run and to be triggered in the medium or long-run. They finally claim that the effects of such programs are rather limited. There are several ways of understanding this poor evidence. Firstly, “one size fits all” policy sets can be inadequately designed (Rodrik, 2003) and they “structurally” fail to foster growth and sustained macroeconomic performance every time. Fischer (1997), Mussa (1997) or Mussa and Savastano (2000) have questioned the “rightness” of the policy-set under consensus. Secondly, programs are non effective because they are generally too poorly implemented to raise sufficiently positive outcomes. Thirdly, empiric methods can be inadequate to assess the joint effect of the policy set on growth because it acts as a “catalytic factor” that fosters direct factors of growth such as accumulation or increases in total factor productivity. In this paper, we address the above-mentioned problems and we suggest that the extent to which such policies affect long-run income growth depends on both the degree and the pace of reform implementation. We also argue that the relationship between policy implementation and growth is non linear. With these intentions, we propose an index measuring the degree of implementation of the IFI program called the Washington Consensus Index (WCI) that can be easily processed into growth equations. Thus, we suppose that IFI policies act as a factor of increased economic efficiency in the extended neoclassical growth model.

The following section examines the relevant literature on the effects of IFI policies on economic growth. Section 3 proposes a measure of the Washington consensus degree of implementation by the way of our Washington consensus index (WCI). Section 4 presents our methodology and model. Section 5 presents the empirical models testing the impact of WCI on economic growth, their results followed by a discussion of said results. Section 6 concludes.

2. The effects of IFI programs on growth in literature

Empiric literature on the macroeconomic effects of Bretton Woods institution programs can be divided into at least three classes. The first approach is to assess the effects of stabilization programs on macroeconomic outcomes through case studies. Even if a well-documented country-study can give a balanced and complete picture of how IFI programs work in a specific context, it cannot be generalized and give an assessment of the average effectiveness of such policies, which is what we want to assess. The second one uses purely counterfactual analysis or develops specific methodologies such as Generalized Estimator Evaluation (GEE) or simulation models. The last approach estimates, in a cross-section of countries, the way policy changes explain variations in Gross Domestic Product (GDP) while controlling for other factors of growth. Given the first approach limitations for our purposes, we only survey the second and third ones.

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4 See also Easterly (2001, 2005), Stiglitz (2000, 2002), Rodrik (2004) or Moreno-Brid et al. (2004). Fischer (1997, p.25) defines IMF programs as including “structural elements, among them trade liberalization, price liberalization, privatization, the introduction of indirect means of monetary control, foreign exchange market liberalization, banking system restructuring, tax reform, subsidy cuts, and change in the structure of government spending. Many of these measures are in the purview of the World Bank, with whom coordination and cooperation is essential”. Consequently, we will indifferently use the terms Washington consensus, IFI programs, IMF programs and Bretton’s Woods institution programs as synonymous.
1. Counterfactual or simulation methods

Counterfactual studies consist of before-and-after tests or of with-or-without tests. The underlying questions of these tests are respectively “do reforming countries grow faster after than before the reforms” and “do they grow faster than non-reforming countries”? While these counterfactual studies show that IMF-supported policies do potentially work on external outcomes like balance of payments strengthening or competitive real exchange rate depreciation, their impact on internal outcomes such as inflation or growth is generally more confused. Despite the methodological shortfalls that we present further on in this section, these counterfactual studies have produced interesting results, though they are rather mixed. Former studies by Killick (1995), Schadler et al. (1993), Goldstein and Montiel (1986) or Khan (1990) focus on the early eighties. They do not find any significant relationship or any adverse significant relationship between stabilization programs and growth. But more recent studies including data for the end of the eighties and the beginning of the nineties by Conway (1994), Bagci and Perraudin (1997), or Dicks-Mireaux et al. (2000) find IMF programs to have a significant positive impact on growth whereas Bird (2001), Bird and Rowlands (2003) show that they have a significant adverse effect on growth. Actually, there are crucial differences between the short-run and long-run estimated effects on growth and investment. Conway (1994), Hutchinson (2001) and Killick (1995) find that the short-run effect on growth is adverse or neutral while it is positive in the long-run. However, Prezkowics and Vreeland (2000) claim IMF programs to have a sustained adverse effect on growth, even in the long run. They show that IMF program-participation lowers growth rates for as long as countries remain under a program, and that the post-program growth is lower than it would have been without participation. More recently, Easterly (2005) has shown that most of the countries entitled to IMF and World Bank adjustment loans continue to undergo severe macroeconomic distortions with no positive effect on growth in the medium run.

Apart from the fact that they produce interesting results, this counterfactual approach poses the methodological problems underlined in Easterly et al. (1997), Ul Haque and Khan (1998), Bird (2001) or more recently Butkiewicz and Yanikkaya (2005). Firstly, it is difficult to assess what has changed, assuming other elements remain constant, when other elements actually do not remain constant. It is also puzzling to say what would have happened in the absence of such policies because of the difficulty in finding countries that are differentiated only in the extent of the existence of such policies. If non-reform determinants of growth are different across countries, differences in growth rates between reforming and non-reforming countries should be explained especially by such differences. Even when other socio-economic differences are controlled for as in the GEE framework introduced by Goldstein and Montiel (1986), the measurement of the effects on growth of IFI programs is faced with new problems. Countries differ in respect to the depth and the pace of the reforms they implement, and estimations of the effects on growth should control for such differences. Furthermore, Dicks-Mireaux et al. (2000), show that simulating the effects of IMF-supported policies by using a unique model for different countries is misleading, while Bird (2001) claims that parameters of this model are generally policy-dependent. Finally, Butkiewicz and Yanikkaya (2005) argue that the many restrictive assumptions made to build the models underpinning the GEE method and the simulation techniques are not sufficiently and adequately questioned. What they claim is that such studies tell us about the effect of Fund-type policies in a theoretic model but do not say anything about the effects of the policies actually undertaken in real countries. Bird (2001) finally claims that the measurement of the effects of IMF programs asks for alternative methodologies to side-step the shortfalls of the simulation approach. Do cross-sectional growth regressions provide such an alternative and effective framework?

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6 While Ul Haque and Khan (1998) and Dicks-Mireaux et al. (2000) claim that the more recent studies using the GEE methodology are more relevant for our purposes than the former counterfactual studies, Butkiewicz and Yanikkaya (2005) do however insist on the poor evaluation that is made of the underlying model and assumptions.
2. Cross-country growth regressions

Cross-sectional studies can be differentiated by the way they introduce IFI policies in growth regressions. Many studies try to appraise the growth effects of specific stabilization outcomes or of definite adjustment policies, but only a few have tried to evaluate the effects of the entire policy set promoted by IFIs. Thus, economic growth has been regressed on fiscal and monetary targets such as the public consumption share of GDP, exchange rate distortions, or inflation rates, and also on policy variables like financial liberalization or trade openness, but generally without any attempt to measure the global effect of the underlying program defined as a policy set. Thus, they provide only partial appraisals of the growth effects of IFI programs.

Nevertheless, some of the results of these partial cross-country studies are rather robust and they are relevant for our purpose. Large government deficits are generally negatively associated with growth as in Levine and Renelt (1992), and public consumption is found to deter growth as shown by Barro (1991, 1997), Barro and Sala-i-Martin (1995) or Sala-I-Martin et al. (2004). Barro (1991) has however found public investment to foster GDP expansion. Inflation is detrimental to growth according to Barro (1991), De Gregorio (1992), Levine and Renelt (1992), Fischer (1993) or Bruno and Easterly (1998), but at rates above about 40% annual for the last study, whereas for Barro (1991) the threshold is around 15% annual. As regards structural reforms, higher financial integration is very often found to be associated with higher growth rates as in King and Levine (1993) or Easterly (1993) and forward in much of the subsequent literature. But recent studies produce more heterogeneous results. While Rodrik (1998), Klein and Olivei (1999), Arteta et al. (2001), Edison et al. (2002) find no evidence of such a positive link for developing countries, Edwards (2001) and Klein (2003) find a negative relationship for poorer developing countries and Stiglitz (2000) claims that capital-market liberalization provokes increasing economic instability and adverse effects on growth. Trade reform and the related liberalization of the balance of payments are often measured by the average trade share of GDP and by the average black market premium. While the latter is usually significantly and negatively associated with growth as in Easterly (1993), Levine and Renelt (1992), Barro and Sala-I-Martin (1995), and Sala-I-Martin (1997), measures of trade openness are more ambiguously related to growth. Openness is found to have a limited direct effect on growth and trade liberalization does not have the expected positive effect as recently shown by Yanikkaya (2003). Finally, as regards other structural reforms, Barro (1997) and Sala-I-Martin (1997) find that the rule of law, including secured property rights, should foster growth.

Thus, partial estimation studies are a first step on the way to assessing the effects of IFI programs, but they fail to deliver a clear overall picture of the effects of a set of policies implemented together. Their main limitation is that they overemphasize the estimated effects of a given policy on growth. For example, economic growth can be spurred by the reduction of public consumption, but also by the structural reforms associated with such a fiscal policy in programs. Such partial or mispecified regressions are likely to overweight the fiscal factor if they don’t control for the other policies simultaneously implemented.

Indeed, only few cross-country studies have attempted to appraise the joint effect of the entire set of policies implied by the participation in an IMF program. Some papers have paid attention to the impact of IMF programs on regional growth performance during the nineties. Easterly et al. (1997) and Fernandez-Arias and Montiel (2001) have tried to capture such a policy set effect for Latin

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7 See Quah (1998) for the survey of these explaining variables, Sala-I-Martin (1997) and Sala-I-Martin et al. (2004) for their degree of robustness in growth regressions.
8 Fiscal deficit is generally captured by the average ratio of government consumption on GDP and public deficit variables often exclude public investments and focus on non-productive public spending.
9 Empirical studies traditionally measure financial integration by a proxy for government restrictions on capital flows like the IMF-restriction measure, by a measure of actual international capital flows or by the average ratio of broad money to GDP.
10 See for instance the work of Levine et al. (2000) which accounts for the effects of institutional control variables on that positive relationship.
11 See Edison et al. (2004) for a more complete survey of methods and results.
12 Moreover, Rodriguez and Rodrik (2001) show in a crucial survey that some of the proxies used to measure openness are cautious, and that estimations are often biased by endogeneity problems.
American countries by simultaneously introducing several policy variables as additional explaining factors in a basic growth regression. They argue that post-reform growth impetus has not been disappointing given the depth of the reforms and the unfavourable external environment since the region recovered its historic annual rate of growth of 2 percent in 1991-93. Easterly et al. (1997) conclude that Latin America’s growth rates rose relative to East Asia’s during the period because it reformed more (since it had more to reform). They finally argue that, given normal standards, Latin America’s policy reforms and accompanying growth recovery have been an impressive achievement. Fernandez-Arias and Montiel (2001) also conclude that policies undertaken had delivered the results that they were expected to do, i.e. a growth acceleration. They spin out their analysis by implementing a growth-gap approach aimed at explaining the gap between actual and expected growth rates given the set of policy measures and other growth determinants. Then, they argue that growth could have been higher if reforms had been deepened or broadened. Using a different approach, Moreno-Brid et al. (2004) show that, on the contrary, there is no clear association between the depth of macroeconomic reform and economic growth performance in Latin America.

Even if Easterly et al. (1997) and Fernandez-Arias and Montiel (2001) deliver a more global assessment of the joint effect of a set of policies on growth, the relevance of their approach is undermined by several shortcomings. Firstly, the determination of the expected growth rate, once given a set of policies and of other determinants of growth, and the appraisal of what is the standard of growth a given national growth experience has to be compared to, pose serious methodological and normative problems. Secondly, the set of indicators they use can be seriously misleading. For example, they measure structural reforms such as the privatization of public firms, the resolution of debt-overhang problems or the liberalization of the FDI regime, by the log of the average ratio of investment to GDP. Yet, such a rough proxy gives a poor measure of the underlying outcomes it is assumed to account for. Indeed, the average ratio of investment to GDP could rise for purely cyclical reasons, or because of the expansion of a capital-intensive sector, without any influence of structural reforms on that increase. It could also be explained by the importance of public investments in a low income and unattractive country where private investments are shrinking. In the same way, the structural reform index used by Moreno-Brid et al. (2004) to catch the degree of implementation of the Washington consensus is not satisfactory, particularly because it is incomplete. Originally developed by Lora (2001), it reflects the movement of key variables in only five reform areas, i.e. trade policy, financial policy, tax policy, privatization and labour legislation. Thirdly, they focus their attention on the specific case of Latin American countries thrusting aside all the similar policy-implementing experiences that are located in other regions. The same criticism can be addressed to Mercer-Blackman and Unigovskaya (2004). Using a different approach based on a qualitative index of IMF program implementation computed from the Fund’s database for Monitoring Fund Arrangements, they show that such policies are positively associated with growth for the European transition economies. Once again, their analysis is focused on a specific geographical area and historic context, the transition from socialist economies to the market. But, since IFI programs consist of the implementation of similar policies whatever the macroeconomic and institutional environment is, the measurement of their growth effect for an “average” developing country has to be addressed.

Whatever the methodology they refer to, studies aimed at estimating the growth payoff of IMF policies often insist on the incompleteness of adjustment and stabilization programs to explain the poor subsequent growth performance13. Bird (2001) remarks that IMF programs are more often than not uncompleted and he reports that more than two-thirds of programs are poorly implemented and finally break down14. However, one can suppose the degree of effectiveness of the program implementation to be partially dependant on the degree of completion of the policy reforms agreed upon. One could also suppose that the pace and the sequence of implementation do matter for growth outcomes. In this view, if conditionality were to be well designed, deeply and correctly implemented policy reforms should entail increased macroeconomic performance and growth15. However, to assess

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13 Concerning Latin America, Fernandez-Arias and Montiel (2001) claim that “growth has not been higher in the post-reform period not because of a failure in reforms to yield the growth payoff that they should have been expected to do on the basis of international experience, but because of the combination of an unfavourable external environment with the insufficient depth and breadth of reform.”

14 See Mussa and Savastano (2000) for a more detailed study of the problem of completion.

15 For the opposite view, see for instance Milanovic (2003).
if the lack of effectiveness could depend on the degree of completion and on the pace of implementation would require further evidence. Such evidence is, however, remarkably poor in empiric literature. It generally consists of measures of the extent to which agreed loan is drawn down by the end date of the program. Some studies have tried to assess the growth effects of IMF programs focusing on the duration and the number of programs. They generally use alternative measures of loans as an explaining variable. Rodrik (1996) finds that lagged IMF lending is negatively related to growth and suggests that IFIs do not actually have the informational advantage that their familiarity with government policies could have produced. Barro and Lee (2003) show also that a higher IMF loan-participation rate reduces economic growth in the subsequent five years, while Easterly (2003, 2005) finds no systematic effect of adjustment lending on growth.

The problem is that a given shortfall in the use of IMF credits can correspond not only to a failure of the implementation of the policy reforms, but also to a success when the signalling effect of the policy reform program eases the substitution of sustainable external private capital inflows for multilateral lending, or could be the result of macroeconomic external shocks breaking down the policy program.

3. The Washington consensus index (WCI)

The many aspects of the policy program related to the Washington consensus substantially confuse any appraisal of the economic effects of its implementation. Although it is relatively easy to evaluate the implementation of one or the other of the ten policy instruments previously stated, it is much more difficult to obtain an empirical appraisal of the joint effect on growth of the entire policy set. Moreover, each of the policies can be loosely or fully implemented making any picture more blurred and any appraisal more dubious. Thus, we construct an index measuring the extent to which each policy aspect has been implemented and combining these measures into a unique index called WCI.

The WCI can be described by ten variables standing for the ten policy instruments featured in Williamson’s approach of the Washington consensus (Williamson, 1990). The choice of these variables requires very detailed attention in order to avoid any confusion between the measurement of objectives and means of such a policy set. As we want to assess the actual degree of application of the consensus, we opt only for variables measuring the level of completion of the so-called objectives. We further present the indicators standing for stabilization and structural measures. A countries’ overall budget balance, expressed as a percentage of GDP, accounts for fiscal deficits (FD). As a balanced budget should be a minimal medium-run norm according to IMF programs, the highest values of balance stand for countries in better positions. The public expenditure priorities indicator (PE) i.e. cutting down of subsidies and reorientation towards education, health and infrastructures (Williamson, 1990) is proxied by a composite variable mixing the share of public consumption in overall consumption and the share of transfers and subsidies in GDP. The highest values are for countries having the lowest shares of public consumption and subsidies. The action on interest rates by the mean of monetary orthodoxy (IR) is estimated by a composite indicator of the interest rates determination mode, the monetary policy orientation and the level of real interest rates. The lowest values of this variable are for countries with State-fixed interest rates, durably negative real interest rates and/or very loose monetary policies leading to hyperinflation. Highest values stand for countries where interest rates are market-determined, real interest rates are positive and/or an orthodox monetary policy is implemented. The indicator of competitive exchange rates (ER) is also proxied by a composite variable summarizing the annual growth of exports of goods and services and the external

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17 This will in some cases explain a shift between the consensus policy instruments and the selected variables.
18 The sources of all these data are World Bank (2003) and Gwartney, Lawson and Emerick (2003). They are detailed in appendix A.
19 While Williamson (1990) “believes that there are circumstances in which carefully targeted subsidies can be a useful instrument”, the IFI program aims at lowering the government’s role.
balance on goods and services expressed as a percentage of GDP. The highest is this indicator, the highest are the country’s growth of exports and external balance20.

Regarding structural measures, the indicator of trade policy (TP) is measured by an hybrid variable including the extent of trade liberalization (level of tariff and non-tariff barriers) and that of capital liberalization (degree of control over access to international capital markets). The highest values are attributed to countries with weak tariff and non tariff barriers and with free access to international capital markets. While Williamson did not include capital account liberalization in his Washington consensus (Williamson, 1990, 2000, 2004a), the IMF does it in the 1990’s21. A countries’ competitiveness regarding FDI (FI) will be accounted for by another composite variable combining net FDI flows, expressed as a percentage of GDP, and a measure of capital market regulation. This variable will be as high as the country receives significant FDI flows and/or has a more deregulated capital market. The indicator of privatization (PI) assesses the public sector share in the economy and is computed by using data on the number of public companies, their share in total output and the share of the public sector in total investment. The lowest values are for economies that are dominated by public-owned firms and/or where public investment represents more than 50 % of total investment. Highest values are for countries with few public-owned firms and/or where public investment is less than 15 % of total investment22. The indicator of deregulation (DE) is a composite variable accounting for the degree of regulation of credit and labour markets and for the degree of business regulation. This indicator has the highest values for countries with low regulations over business and/or markets. Tax reform (TR) is estimated by a composite variable accounting for taxes on income, profits and capital gains as a share of total taxes and for highest marginal tax rates. The highest values of this variable are attributed to countries with the lowest direct taxes share and/or the weakest marginal tax rates. Finally, a composite variable summarizing the existence of a legal framework allowing the defence of private interests and the protection of intellectual property, will stand for the property rights indicator (PR). The highest values are for countries where the legal system totally secures property rights.

These explanatory variables have been reduced by factor analysis into one single indicator called WCI. The methodology of principal components analysis (PCA) has been used because we believe it to be very well suited for our purpose23. The PCA says the correlation between several variables to be that of “measuring the same thing”, here the degree of implementation of the Washington consensus. It authorizes the building of indicators from weighted linear combinations of the independent variables (PCs). For the year 2000, the ten previous indicators of implementation of the policy set are available for 98 developing countries24. The simple correlations between these variables are reported in Table 1.

They show that most of the independent variables are more or less positively correlated. However, we notice an adverse correlation of PE with other variables like IR, TP, DE and PR which reveals a particularly interesting phenomenon. Whereas we expected developing countries to implement, more or less intensively, the entire set of measures advocated by the Consensus, it appears

20 As we do not refer to any particular exchange rate regime to reach this particular objective, ER applies for Williamson’s consensus as for IFIs one.
21 Bresser-Pereira and Varela (2004) consider capital account liberalization to be the starting point of a “second” Washington consensus.
22 Williamson (1990) however is “not persuaded that public service is always inferior to private acquisitiveness as a motivating force. Under certain circumstances, such as where marginal costs are less than average costs (for example, in public transport) or in the presence of environmental spillovers too complex to be easily compensated by regulation (for example, in the case of water supply), [he] continue[s] to believe public ownership to be preferable to private enterprise. But this view is not typical of Washington”.
23 Essentially, PCA maximizes the correlation between the original variables to form new variables that are mutually orthogonal, or uncorrelated. It is a special case of factor analysis which transforms the original set of inter-correlated variables into a new set of an equal number of independent uncorrelated variables or principal components (PCs) that are linear combinations of the original variables. The principal components are ordered in such a way that the first PC explains most of the variance in the data, and each subsequent one accounts for the largest proportion of variability that has not been accounted for by its predecessors. Although the number of PCs equals the number of independent original variables, most of the variation in the data set can generally be explained by the first few PCs, that can be used to represent the original observations.
24 The few data gaps (about 3 %) are filled by substituting means based on values for neighbouring or economically similar countries.
that the restriction of public expenditures and subsidies is adversely correlated with several other measures, such as monetary orthodoxy, liberalization, deregulation, or property rights. Thus, countries with high levels of deregulation and liberalization, with guaranteed property rights and monetary orthodoxy are also those where the public sector keeps a significant weight and where transfers and subsidies remain high. This observation suggests that most of the countries implementing Washington consensus recommendations do it while keeping a relatively high degree of State involvement, consequent public expenditures and sectoral subsidies. Thus, in observed countries, the Washington consensus has not been applied in the whole of its ten dimensions. Rodrik (1998a) has previously shown that bigger States are associated with more openness, while Williamson (2004b) confirms that reforming public expenditure priorities has been widely neglected.

Table 1. Simple correlations between WCI variables

<table>
<thead>
<tr>
<th></th>
<th>Fiscal deficit</th>
<th>Public expenditure</th>
<th>Interest rates</th>
<th>Exchange rate</th>
<th>Trade policy</th>
<th>Foreign investment</th>
<th>Privatization</th>
<th>Deregulation</th>
<th>Tax reform</th>
<th>Property rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD</td>
<td>1.000</td>
<td>0.018</td>
<td>-0.120</td>
<td>0.048</td>
<td>0.098</td>
<td>0.198**</td>
<td>0.020</td>
<td>0.034</td>
<td>-0.092</td>
<td>-0.116</td>
</tr>
<tr>
<td>PE</td>
<td>1.000</td>
<td>-0.218**</td>
<td>-0.081</td>
<td>-0.254**</td>
<td>-0.107</td>
<td>-0.040</td>
<td>-0.204**</td>
<td>-0.149</td>
<td>-0.389***</td>
<td>-0.398***</td>
</tr>
<tr>
<td>IR</td>
<td>1.000</td>
<td>0.881</td>
<td>0.221**</td>
<td>0.255**</td>
<td>0.388***</td>
<td>0.632***</td>
<td>0.280***</td>
<td>0.415***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ER</td>
<td>1.000</td>
<td>0.095</td>
<td>-0.228**</td>
<td>0.026</td>
<td>0.023</td>
<td>-0.014</td>
<td>0.186*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP</td>
<td>1.000</td>
<td>0.429***</td>
<td>0.313***</td>
<td>0.384***</td>
<td>0.062</td>
<td>0.291***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FI</td>
<td>1.000</td>
<td>0.311***</td>
<td>0.491***</td>
<td>0.295***</td>
<td>0.103</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>PI</td>
<td>1.000</td>
<td>0.469***</td>
<td>0.100</td>
<td>0.173*</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>DE</td>
<td>1.000</td>
<td>0.215**</td>
<td>0.424***</td>
<td></td>
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<td></td>
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<tr>
<td>TR</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.034</td>
</tr>
<tr>
<td>PR</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *** denotes a significant correlation at the 1 % level (2-tailed), ** at the 5 % level and * at the 10 % level.

Table 2. Principal components loadings

<table>
<thead>
<tr>
<th></th>
<th>PC1</th>
<th>PC2</th>
<th>PC3</th>
<th>PC4</th>
<th>PC5</th>
<th>PC6</th>
<th>PC7</th>
<th>PC8</th>
<th>PC9</th>
<th>PC10</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD</td>
<td>0.011</td>
<td>0.191</td>
<td>0.672</td>
<td>0.360</td>
<td>-0.105</td>
<td>-0.526</td>
<td>0.048</td>
<td>0.169</td>
<td>-0.253</td>
<td>0.008</td>
</tr>
<tr>
<td>PE</td>
<td>-0.218</td>
<td>0.462</td>
<td>-0.237</td>
<td>0.385</td>
<td>0.301</td>
<td>0.091</td>
<td>0.635</td>
<td>-0.145</td>
<td>-0.034</td>
<td>-0.102</td>
</tr>
<tr>
<td>IR</td>
<td>0.430</td>
<td>-0.063</td>
<td>-0.332</td>
<td>0.039</td>
<td>0.050</td>
<td>-0.372</td>
<td>-0.112</td>
<td>-0.371</td>
<td>-0.391</td>
<td>-0.506</td>
</tr>
<tr>
<td>ER</td>
<td>0.044</td>
<td>-0.421</td>
<td>-0.033</td>
<td>0.773</td>
<td>-0.197</td>
<td>0.149</td>
<td>-0.118</td>
<td>-0.150</td>
<td>0.343</td>
<td>-0.087</td>
</tr>
<tr>
<td>TP</td>
<td>0.360</td>
<td>-0.017</td>
<td>0.349</td>
<td>0.031</td>
<td>-0.109</td>
<td>0.676</td>
<td>0.142</td>
<td>-0.175</td>
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<tr>
<td>FI</td>
<td>0.359</td>
<td>0.416</td>
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<td>-0.200</td>
<td>0.082</td>
<td>0.049</td>
<td>-0.089</td>
<td>0.606</td>
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<td>PI</td>
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<td>0.157</td>
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<td>0.219</td>
<td>0.655</td>
<td>0.150</td>
<td>-0.364</td>
<td>0.466</td>
<td>0.036</td>
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</tr>
<tr>
<td>DE</td>
<td>0.490</td>
<td>0.058</td>
<td>-0.054</td>
<td>0.016</td>
<td>0.106</td>
<td>-0.235</td>
<td>0.123</td>
<td>-0.356</td>
<td>0.197</td>
<td>0.711</td>
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<tr>
<td>TR</td>
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<td>0.180</td>
<td>-0.603</td>
<td>0.037</td>
<td>-0.117</td>
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</tr>
<tr>
<td>PR</td>
<td>0.339</td>
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<td>-0.062</td>
<td>-0.102</td>
<td>-0.038</td>
<td>-0.111</td>
<td>0.620</td>
<td>0.505</td>
<td>0.062</td>
<td>-0.101</td>
</tr>
<tr>
<td>Eigen values</td>
<td>2.992</td>
<td>1.508</td>
<td>1.243</td>
<td>1.022</td>
<td>0.843</td>
<td>0.732</td>
<td>0.546</td>
<td>0.428</td>
<td>0.401</td>
<td>0.284</td>
</tr>
<tr>
<td>Cumulative %</td>
<td>29.916</td>
<td>44.992</td>
<td>57.425</td>
<td>67.644</td>
<td>76.076</td>
<td>83.400</td>
<td>88.860</td>
<td>93.145</td>
<td>97.160</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Note: bold values heavily contribute to PC’s variation.

Anyway, such a significant amount of cross-correlation suggests that these variables effectively account for various aspects of the same object, i.e. implementation of the policy set. Principal components estimation proves that most of the previous independent variables do load adequately onto the first PC extracted from the data, as reported in the first column of table 2. That result corroborates our hypothesis that the degree of implementation of IMF programs can be treated as a one-dimensional concept.

The percentage of the variation in the data captured by the first PC, almost 30 %, is also satisfactory for our purpose. The higher the contribution of a variable, the more that variable contributes to the variation accounted for by the particular PC. We can see that the first PC is heavily determined by variables accounting for structural measures, with little contributions of variables accounting for stabilization measures (except for IR). This suggests that in year 2000, the basic stabilization measures have already been implemented among countries to an almost similar extent,
The WCI is a linear combination of the initial variables so that:

$$WCI_{ij} = \sum a_k x_{kij}$$

where $WCI_{ij}$ is the composite indicator of the degree of Washington consensus implementation in the $i$th country in $j$th time, $a_k$ is the weight of the $k$th variable (first principal component loading of the $k$th variable), and $x_{kij}$ is the standardized value of the $k$th variable for the $i$th country in $j$th time. For year 2000, WCI attributes its highest values to the most advanced countries in the implementation of all the measures recommended by IFI programs, *i.e.* Singapore, Chile, Botswana, Panama or Argentina. Conversely, it assigns its lowest values to countries that did not come up to consensus expectations: Syrian Arab Republic, Democratic Republic of Congo, Sierra Leone, Central African Republic, or Islamic Republic of Iran.

As such, this indicator does not address adequately our question r, because it is not relevant to confront countries’ growth over 1980-2000 with the degree of implementation of a given number of consensus objectives for the final year 2000. What we need is to regress countries’ growth rates over 1980-2000 on the changes of WCI during the same period. To compute the WCI values for year 1980, we use additional cases technique which simply weights the value for the year 1980 of the ten initial indicators with the $a_k$ coefficients produced by the first PC executed on data for the year 2000. The variations ($\Delta WCI$) of WCI over the 1980-2000 time period then measure the extent of implementation of IFI programs during this period. They are normally distributed from Venezuela, Togo and Guatemala getting the weakest values to Nicaragua, Ghana and Syrian Arab Republic with the highest values.

4. **Model and methodology**

Relationships between the degree of implementation of the Washington consensus and growth should be examined by introducing the former as an endogenous variable into a standard growth model. We follow the Mankiw, Romer and Weil (1992) approach (MRW).

From a Cobb-Douglas production function with constant return to scale,

$$Y = K^\alpha H^\beta (AL)^{1-\alpha - \beta}$$

we can show by approximating around the steady state that growth is given by:

$$\ln \frac{Y(t)}{L(t)} - \ln \frac{Y(0)}{L(0)} = \theta \ln A(0) + G(X) + \theta \frac{\alpha}{1-\alpha-\beta} \ln(s_k) + \theta \frac{\beta}{1-\alpha-\beta} \ln(s_h) - \theta \frac{\alpha + \beta}{1-\alpha-\beta} \ln(n + g + \delta) - \theta \ln \frac{Y(0)}{L(0)}$$

where $\theta = 1 - e^{-\lambda t}$ and $\lambda$ is the rate of convergence to a country’s steady state, $Y(t)/L(t)$ is per capita income at time $t$, $K$ and $H$ are physical and human capital, $s_k$ and $s_h$ are the rates of physical and human capital accumulation, $\alpha$ and $\beta$ are technology parameters, $n$ is the labour force growth, $A(t)$ is the level of efficiency at time $t$ and $G(X)$ is the rate of efficiency growth depending on the vector of variables $X$. As usual and to avoid further methodological problems, we suppose that $g$ in the fifth

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25 This method would result in saying that the Consensus implementation positively influences growth because the most dynamic countries during the 1980-2000 period have a higher average WCI for the year 2000 than the least dynamic ones. However, the first group could have not applied any consensus measures during this period, whereas the second could have been in complete agreement with it…

26 Our sample is then reduced to 63 countries for which $\Delta WCI$ can be computed. For a detailed discussion on $\Delta WCI$ computation and comments, see Berr and Combarnous (2005).
term of (2) is a constant exogenous growth rate of efficiency. We make the standard assumption that \( g \) is 0.02 and the rate of capital depreciation \( \delta \) is assumed equal to 0.03.

There are two ways of proceeding in order to include the WCI as an explaining variable. Either WCI is added to the Cobb-Douglas production function as a “political” factor of production associated with the traditional economic factors or it is introduced as a factor of the dynamics of technological efficiency \( G(X) \). We follow this last method because of its consistency both with theory and with our purposes. Stabilization programs and structural reforms are aimed at making the price right and at getting the allocation of resources better through more effective factor markets or more macroeconomic stability, and at opening more widely the economy to trade and to FDI. The potential effects on economic efficiency, and especially on technological efficiency, of such outcomes cannot be denied. Hence \( G(X) \) is a term measuring increase in efficiency and it is proxied here by the degree of implementation of the previous policy set of stabilization and structural reforms: \( \Delta \text{WCI} \).

We follow simultaneously a traditional cross-section approach by averaging over 20 years and a panel approach. We first estimate the equation (3) by Ordinary Least Squares:

\[
\Delta y_i = \alpha y_{i0} + \beta x_i + \varepsilon_i
\]

where \( y \) is the natural logarithm of per capita GDP, \( y_{i0} \) is the initial level of it, \( x \) is the set of explanatory variables including changes in WCI and initial levels of WCI, and subscript \( i \) refers to each individual country. Then we estimate the corresponding equation (4) including fixed time effects (\( \delta t \)) and country effects (\( \mu_i \)) by partitioned OLS:

\[
\Delta y_{i,t} = \alpha y_{i,t-1} + \beta x_{i,t} + \mu_i + \delta t + \varepsilon_{i,t}
\]

where the time subscript \( t \) refers to the four sub-periods of five years.

We actually consider that the gain attached to the greater relevance of long time spans regarding growth analysis – as the elimination of business cycle effects that likely affect the results of regression computed over shorter time periods – are bigger than the costs of not controlling for individual unobserved fixed effects and not removing the unobservable country-level heterogeneity underpinning the \( A(0) \) term in (2) and the constant term in regressions. Moreover, we introduce dichotomised terms that control for the likely country heterogeneity in the initial conditions of economic and technological efficiency. Hence countries with higher initial microeconomic efficiency (right prices, effective capital and labour markets), with higher macroeconomic stability (lower inflation and black market premium) and with larger openness (high trade share and high level of received FDI) will probably have higher global efficiency, but especially higher technological efficiency thanks to the higher incentives to innovate or to imitate, to invest in training and owing to the technological spill over of trade and FDI. Thus, we claim that the need to control for the initial heterogeneity in efficiency is partially addressed in the cross-sectional pattern of long-run changes. But, we simultaneously compute similar regressions on the corresponding panel of data in order to obtain estimates while controlling for unobserved effects that remain unchanged across time.

We claim that our methodology is able to address the main shortfalls discussed above. Firstly, the composite indicator we propose to introduce in growth equations is rather relevant for our purpose since it includes one measure for each respect of the policy set designed by IFIs. Secondly, it puts together measures of the achievement of policies objectives instead of the proximate outcomes usually chosen for proxies, and it reduces the risk of collinearity between a growing number of policy indicators. Thirdly, our methodology allows us to assess the direct effect of policy implementation without using such an ambiguous proxy as the amount of loans not drawn. If the design of

---

27 See for example Temple and Johnson (1998).
28 This is how Knight et al. (1992) or Dinopoulos and Thompson (1999) proceed. Temple and Johnson (1998) also use this method in order to introduce a social capacity variable in the MRW basic regression.
29 Or the elimination of the problem of residuals autocorrelation associated with the panel framework.
30 We follow Anderson and Hsiao’s procedure (Anderson & Hsiao, 1981) to account for unobserved country-specific effects by using the first-differences of all the terms of the equation (3) with time-specific effects controlled for by time-period dummies.
conditionality is right, the degree of completion might then matter and the depth and the breadth of such reforms should be associated with higher growth over a sufficiently long period. Our intention is to test such a proposal on a sample of developing countries having more or less completed the IFI policy set and over a twenty years time-span. Therefore, we use the WCI composite variable, which is a quantitative measure of the degree of implementation of the policy reforms as they are designed by the Washington consensus for developing countries, with or without IMF agreement\textsuperscript{31}. This index appraises the extent to which each given country has implemented every aspect of the stabilization and adjustment program. Hence, the WCI’s variation measures the depth and the pace of the reforms undertaken. Thereupon, we are able to measure the growth effect of this set of policies while controlling both for the degree of completion of each part of the program and for the pace of their implementation. Finally, the way we introduce it into the Solow augmented model of growth of Mankiw, Romer and Weil (1992) allows to interpret the results within an economic model and to compare them with usual results in literature.

5. Results and discussion

Using a methodology based on the Solow augmented model, we test the impact of $\Delta WCI$ on economic growth in growth regressions and in a discrete choice model. Both models are successively estimated in a cross-section and in a panel framework. The results are then discussed.

1. Growth regressions of the impact of the Washington consensus implementation

For our purpose, the magnitude of the parameter estimates is not of central importance\textsuperscript{32}. What we are interested in is the effect of the implementation of a set of policies on increase of GDP controlling for traditional factors of growth. Table 3 shows the OLS regressions results for the log difference of real GDP per capita between 1980 and 2000 and for 63 developing countries\textsuperscript{33} in columns (1) to (4), and the corresponding results for the panel of four sub-periods in columns (5) to (8).

Models (1) and (5) are the basic MRW growth model. The estimated coefficients have the expected signs and almost all are statistically significant. The adverse association between changes in the (log) GDP per capita and the (log) levels of the initial GDP suggests that conditional convergence occurs. The (log) level of investment has a significant positive effect on growth, whereas the (log) level of demographic growth significantly reduces growth. The (log) level of schooling is not statistically significant\textsuperscript{34}.

The impact of the Washington consensus is estimated in models (2) to (4) and (6) to (8). Firstly, $\Delta WCI$ is included in model (2) and (6) as an additional explanatory variable for growth and is not significant at conventional levels, but it is so close to significance in (2) and significant at 10% level in (6) that it suggests that the relationship between GDP growth and IFI programs implementation could be non-linear. In model (3) and (7) $\Delta WCI$ squared is henceforth included as an additional variable, but without significance and the coefficient of $\Delta WCI$ is unaffected.

Models (4) and (8) control for initial levels of WCI in model (3) and (7)\textsuperscript{35}. This initial level of WCI matters in at least two respects. Firstly, it may have a direct effect on growth if stabilization and structural reforms are about to be prerequisites for higher growth. But it can also act as a control for

\begin{itemize}
  \item \textsuperscript{31} In our 63 country sample, only nine have never received structural adjustment loans nor have faced the Paris Club until 2000, namely Barbados, Botswana, Colombia, Fiji, Islamic Republic of Iran, Malaysia, Paraguay, Singapore and Syrian Arab Republic.
  \item \textsuperscript{32} This is a crucial difference with the work of Easterly \textit{et al.} (1997).
  \item \textsuperscript{33} Sample size is limited by the availability of data. Observed countries are reported in appendix B, data measures and sources are reported in appendix C and summary statistics for data in appendix D.
  \item \textsuperscript{34} This is not a surprising result as changes in human capital measured by school enrolments “appear to explain little of the variation in changes of output” (Temple, 1999, p.139); see also Temple (1999) for a review of the shortfalls of school enrolment rates to proxy educational stocks or flows.
  \item \textsuperscript{35} Let “high initial WCI” be 1 for countries with WCI value in 1980 higher than the sixty-sixth percentile level and 0 otherwise.
\end{itemize}
Table 3. Estimates of MRW growth model with IFI programs impact

<table>
<thead>
<tr>
<th>Models</th>
<th>Cross-country regressions (OLS)</th>
<th>Panel regressions (partitioned OLS, Fixed Effects)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Observations</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Constant</td>
<td>2.896***</td>
<td>2.805***</td>
</tr>
<tr>
<td>(1.074)</td>
<td>(1.061)</td>
<td>(1.090)</td>
</tr>
<tr>
<td>ln (GDP ini) (a)</td>
<td>-0.152**</td>
<td>-0.160**</td>
</tr>
<tr>
<td>(0.104)</td>
<td>(0.073)</td>
<td>(0.074)</td>
</tr>
<tr>
<td>ln (I / GDP)</td>
<td>0.673***</td>
<td>0.660***</td>
</tr>
<tr>
<td>(0.104)</td>
<td>(0.073)</td>
<td>(0.074)</td>
</tr>
<tr>
<td>ln (SCHOOL)</td>
<td>-0.123</td>
<td>-0.096</td>
</tr>
<tr>
<td>(0.170)</td>
<td>(0.168)</td>
<td>(0.170)</td>
</tr>
<tr>
<td>ln (n + g + δ)</td>
<td>-1.135***</td>
<td>-1.073***</td>
</tr>
<tr>
<td>(0.365)</td>
<td>(0.362)</td>
<td>(0.368)</td>
</tr>
<tr>
<td>∆WCI</td>
<td>-</td>
<td>-0.081</td>
</tr>
<tr>
<td>(0.050)</td>
<td>(0.133)</td>
<td>(0.154)</td>
</tr>
<tr>
<td>∆WCI square</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(0.022)</td>
<td>(0.034)</td>
<td>-</td>
</tr>
<tr>
<td>High initial WCI</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(0.108)</td>
<td>(0.108)</td>
<td>-</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.508</td>
<td>0.522</td>
</tr>
<tr>
<td>Breusch-Pagan Chi² (b)</td>
<td>4.333</td>
<td>6.817</td>
</tr>
</tbody>
</table>

*** Significant at 1 % level, ** Significant at 5 % level, * Significant at 10 % level. (a) initial value of ln(GDP): ln(GDP) in 1980 for cross-country regressions and ln(GDP) at the beginning of each period t for panel regressions; (b) none of the values of the Breusch-Pagan test rejects the null hypothesis of residuals homoscedasticity.

Table 3 shows the effects of AWCI on growth. A given absolute variation of WCI from 1980 to 2000 can actually account for very different policy "efforts" depending on whether they set off from a high or low level of reform implementation. They show that even if ∆WCI has no significant impact on growth, a high initial WCI level has a significantly positive effect on it. Countries that had already set up stabilization policies and/or structural reforms before 1980 and were not driven to do so, experience a subsequent stronger growth.

2. A probit estimation of higher growth probability

The probit framework is used to catch the likely non linear relationship between IFI policies implementation and growth. Thereupon, we go further in our analysis by shifting the emphasis from the impact of Washington consensus implementation on growth to its impact on improving the probability for a given country to experience a growth rate higher than other countries. Such a shift in analysis is supposed to be fertile as we can expect Bretton Woods institutions programs to improve the proximate conditions of growth impetus more than to directly foster growth. In order to test this hypothesis, we transform the endogenous variable into a dichotomous one, with value 1 if the country did experience a stronger growth than median during 1980-2000, and 0 otherwise. Table 4 shows that probit regressions of the same model specifications as in table 3 produce very interesting results for cross-countries estimates (1) to (4) and that panel estimates (5) to (8) are less relevant. That can reveal the difficulty of short period regressions to catch the effects of long-run structural policies on the probability to benefit from a higher growth.

The basic growth model remains stable within this new framework whatever the specification that is chosen. While model (2) shows that ∆WCI has no linear impact on higher growth probability, model (3) shows a significant quadratic impact of ∆WCI on higher growth probability. This quadratic association between IMF programs implementation and higher growth probability is even strengthened.

36 The only exclusion is the constant term which is not statistically significant any more in models (3) and (4).
### Table 4. Probit estimates of MRW growth model with IFI programs impact

<table>
<thead>
<tr>
<th>Models</th>
<th>Cross-country regressions</th>
<th>Panel regressions$^{(a)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Observations</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>ln (GDP$_{ini}$)</td>
<td>(6.888)</td>
<td>(12.283)</td>
</tr>
<tr>
<td>ln (I / GDP)</td>
<td>-0.892*</td>
<td>-1.541*</td>
</tr>
<tr>
<td>ln (SCHOOL)</td>
<td>3.081***</td>
<td>5.577***</td>
</tr>
<tr>
<td>ln (n + g + δ)</td>
<td>(0.854)</td>
<td>(1.713)</td>
</tr>
<tr>
<td>AWCI</td>
<td>0.273</td>
<td>0.247</td>
</tr>
</tbody>
</table>
| AWCI square | -3.838** | -4.761** | (1.927) | (2.111) | - | - | - | - 
| High initial WCI | - | - | - | 1.177 | (0.752) | - | - | 0.273 |
| R² (Efron) | 0.541 | 0.546 | 0.593 | 0.617 | 0.091 | 0.111 | 0.111 | 0.113 |

$^{(a)}$ Significant at the 1 % level, ** Significant at the 5 % level, * Significant at the 10 % level. (a) Likelihood ratio tests (chi squared) reject random effects; (b) initial value of ln(GDP): ln(GDP) in 1980 for cross-country regressions and ln(GDP) at the beginning of each period $t$ for panel regressions.

The results reported above show that IFI programs do not necessary produce the growth payoff they are expected to do. The depth and the pace of the reforms are critical factors of the effectiveness of programs. Some studies have tried to show that reforms do not foster growth because they are not sufficiently deepened or broadened. Bordo and Schwartz (2000), Killick (1995), or Krueger (2003) claim for example that the lack of effectiveness of IFI programs can be partially attributed to the

by controlling for initial WCI levels, as shown in model (4). The results thus suggest that implementing such programs increases the probability to experience higher growth rates, but that there is a turning point above which furthering such policies can be harmful to growth. Once gauged such a threshold over which the relationship between ΔWCI and higher growth probability becomes negative, it appears that many countries may have respectively gone “too fast” or “too far” in the implementation of IFI programs. Among those which experience the highest values of ΔWCI in the sample, ten countries could have gone “too fast”: Syrian Arab Republic, Central African Republic, Islamic Republic of Iran, Burundi, Nigeria, Indonesia, Bangladesh, Ghana or Arab Republic of Egypt. Although they do not really come up to IFI’s expectations, as their WCI value remained weak in 2000, they have strongly implemented IFI programs during the 1980-2000 period. The others, Nicaragua, Bolivia, Peru, Guyana, Argentina and Turkey, could have gone “too far”. Their strong implementation of IFI programs rank them among the countries with the highest WCI values in 2000.

Panel estimates do not catch the quadratic association between IFI programs implementation and higher growth probability. Short run estimates only measure the positive effect of ΔWCI, in models (6) to (8), without being able to assess for the alleged effect of implementations gone “too fast” or “too far”. Five years periods are not long enough to capture the entire magnitude of the “extreme” implementations of the programs that are about to produce growth reversals in medium or long run.

### 3. Discussion

The results reported above show that IFI programs do not necessary produce the growth payoff they are expected to do. The depth and the pace of the reforms are critical factors of the effectiveness of programs. Some studies have tried to show that reforms do not foster growth because they are not sufficiently deepened or broadened. Bordo and Schwartz (2000), Killick (1995), or Krueger (2003) claim for example that the lack of effectiveness of IFI programs can be partially attributed to the
failure of national governments to implement the reforms. We argue that such ineffectiveness can also be the consequence of reforms that have gone too far or too fast.

As expected, we find that lower growth is associated with poor implementation of the reforms. But we also show that further implementation can be associated either with higher or lower growth depending on the depth and pace of the reforms. Countries going fast and far in reforms can be divided in two sub-groups according to their position relative to the turning point we identify for the relation between implementation and growth. If the set of reforms is driven too far or too hastily, it can hamper growth. This is an interesting result but it gives little information about what has been too far. Actually, those countries do not only contrast by their absolute degree of implementation of the Washington consensus. The comparison of their average commitment to the ten measures standing for the Consensus shows that the “form” of their implementation significantly differs. The t-test for equality of means for all the constitutive variables of $\Delta WCI$ between the two sub-groups of countries shows that IMF programs become harmful for countries which have gone much further in monetary orthodoxy and deregulation (IR and DE variables)$^{38}$. How can we interpret such results?

Countries that have deregulated too far or too fast may have betrayed Williamson’s approach of “market-oriented” reforms and have chosen a “market-fundamentalism” version of them. Actually, too much deregulation can finally fail to deliver the pro-competitive and pro-growth effects expected from unfettered markets, if the institutional context is insufficiently developed: poor social rules and weak regulation of competitive activities, low public interventions regarding activities producing externalities. There may exist institutional thresholds beyond which deregulation can have poor or even adverse effects on growth in developing areas. The re-orientation of IFI concerns towards institutions and good governance may corroborate that explanation.

Subject to numerous critiques (Gore, 2000; Davidson, 2004; Rodrik, 2003, 2004; Stiglitz, 1998, 1999; Birdsall and de la Torre, 2001; Easterly, 2001, 2005), IFIs, and notably the World Bank$^{39}$, have also re-oriented their position so as to promote equity and pro-poor growth. This proposes to enhance the Washington consensus with a “human face” program involving policies designed to better income distribution. Such a Post Washington consensus is requested by Stiglitz (1998, 1999, 2002) or Rodrik (2003, 2004) while Kuczynski and Williamson (2003) define a set of “second generation” policies in such a way. On the contrary, Post Keynesians and Neo-structuralists claim for a program emphasizing domestic demand as promoting investment, income distribution and reducing uncertainty and macroeconomic instability (Davidson, 2004; Gnos & Rochon, 2004; Taylor, 1983, 1988). The increased instability provoked by deregulation reforms in a developing economy can be decisive in understanding our results in several respects.

Firstly, the deregulation process includes business reforms aimed at easing market access and efficiency – such as FDI regimes – but also some form of financial liberalization. A number of studies have shown that capital account liberalization results in an increased volatility of financial flows that finally reduces investment and growth (Stiglitz, 2000; Bordo & Eichengreen, 2002). Moreover, capital flows are even more sensitive to macroeconomic outcomes for a country which is recovering from crisis and whose policies are scrutinized by close monitoring. Secondly, if the degree of deregulation is higher because of a consequential capital-account liberalization, such countries can excessively rely on high interest rates to prevent outward capital flight (Stiglitz, 2000, Bresser-Pereira & Varela, 2004). In this context of openness, inflation targeting remains a central objective, and it generally results in orthodox monetary policies likely to be too restrictive. Even if inflation targeting can be overemphasized as regards the potential adverse effects on growth of increasing prices$^{40}$, countries are more or less compelled to do it for financial reasons. Finally, such high interest rates will deter

$^{38}$ The t-test for equality of means for all the constitutive variables of $\Delta WCI$ between the two sub-groups of countries is significant at the 5 % level for variables IR and DE.

$^{39}$ See for instance World Bank (1997) in its annual report where “good governance” was supposed to ensure market efficiency. In the same way, Manuel (2003, p.19-20) asserts that, in the case of Sub-Saharan Africa, the problem is “that most states are weak and limited, not that states try to do everything and account for 50 percent or so of national income (…). Most African states need to expand, not contract, their public sector — and dramatically improve its efficiency in delivering quality public services. This demands institutional capacity, especially in areas of regulation, service delivery, and social spending”.

$^{40}$ Bruno and Easterly (1998) or Barro (1991) showed that inflation penalizes growth at levels higher than 15, or even 40%, Stiglitz (1998) claims that “below that level (…) there is little evidence that inflation is costly (…)”, he adds that monetary policy should try to minimize or to avoid major economic contractions instead.
investment and therefore growth\textsuperscript{41}. Thus, one can conceive that self-reinforcing adverse effects on growth could result from the mutual strengthening of deregulation reforms and of monetary orthodoxy. Thirdly, if public and private investments are complements, the decrease in public investments following the cuts of government spending required by IFI stabilization programs will finally affect private investments too. Butkiewicz and Yanikkaya (2005) show that IMF lending – and consequently the IMF-supported policy set – has such significant negative effects on both private and public investments. Our data show that countries that implement further reforms simultaneously increase their public consumption share, and shall then necessarily reduce public investment to limit deficits. This overall decrease in domestic investment can be balanced by inflows of FDI when business reforms are able to create adequate incentives for foreign firms. However, FDI inflows partially depend on the growth rate and on the pace of productivity increase of host economies. Hence, the mutual depressing effect of deregulation reforms “gone too far” and of monetary orthodoxy on domestic investment and on domestic growth could significantly impede such FDI inflows. Such a drop in overall capital formation is likely to deter subsequent growth and can feed inflation pressures from the supply-side as argued by the Neo-structuralists. Further evidence is then required to test these hypothesis.

6. Conclusion

One of the major contributions of this paper has been that computing a multidimensional index of IFI programs implementation provides a useful complement to usual investigative techniques. As PCA offers a unique quantitative measure of the depth and pace of all aspects of IFI policy set, we have been able to investigate its whole impact on economic growth, within the well-known MRW growth model.

Concerning the construction of our index, an important implication should be noted. The adverse correlation of public expenditure priorities with other variables like monetary orthodoxy, commercial openness and deregulation disclose an interesting phenomenon. Among observed countries, those who come up to Consensus expectations do not implement the entire set of measures advocated by IFIs. These countries adopt IFI recommendations while maintaining a relatively high degree of government involvement.

What then have we learned? The key finding of this paper is that, when combined with usual explanatory variables, our index is relevant in predicting long-term growth in developing countries. Although IFI programs implementation seems to have a doubtful impact on growth rate itself, it presents a significant non-linear relation with the probability of getting a higher growth than others get. To a certain degree, the Consensus implementation increases the probability of benefiting from a higher economic growth. However, there could be a limit beyond which a further implementing of IFI programs becomes harmful. Indeed, it seems that a too abrupt, unprepared (“too fast”) and/or intense (“too far”) implementation of IFI programs can harm growth in developing countries.

That said, it could be of great interest to examine the quality of IFI-promoted growth. Therefore, our index may be useful in investigating the relationships between the Washington consensus implementation and the poverty-growth-inequality triangle.

\textbf{Références bibliographiques}


\textsuperscript{41} This adverse effect of deregulation and of orthodox monetary policies on growth through interest rates can be amplified by the effects on interest rates of the increase in public consumption observed in countries implementing further and faster the reforms.


Khan, M.S. (1990). The macroeconomic effects of Fund-supported adjustment programs. IMF Staff Papers, 37, 195-231.


Annexes

APPENDIX A. DATA SOURCES FOR WCI CONSTITUTIVE VARIABLES

*Public expenditure* – Mean of variables 1A and 1B – Gwartney, Lawson and Emerick (2003).
*Exchange rate* – Hybrid variable of annual growth of exports of goods and services and external balance on goods and services as a percentage of GDP – World Bank (2003).

APPENDIX B. LIST OF COUNTRIES

<table>
<thead>
<tr>
<th>Argentina</th>
<th>Dominican Republic</th>
<th>Korea, Rep.</th>
<th>Senegal</th>
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<td>Barbados</td>
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<td>Malaysia</td>
<td>Singapore</td>
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<td>Rwanda</td>
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</tbody>
</table>

APPENDIX C. DATA SOURCES FOR GROWTH MODELS

School: average combined gross enrolment ratio (primary + secondary + tertiary) from 1980 to 2000 – Unesco,  

APPENDIX D. DATA SUMMARY STATISTICS

<table>
<thead>
<tr>
<th>Variables</th>
<th>All</th>
<th>Low Income</th>
<th>Middle Income</th>
<th>Severely Indebted</th>
<th>Moderately or less indebted</th>
<th>Low HDI</th>
<th>Middle or High HDI</th>
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<td>Δ ln (GDP per capita)</td>
<td>0.712</td>
<td>0.488</td>
<td>0.849</td>
<td>0.451</td>
<td>0.883</td>
<td>0.373</td>
<td>0.837</td>
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<td>Initial GDP (1980)</td>
<td>2346</td>
<td>865</td>
<td>3258</td>
<td>2004</td>
<td>2571</td>
<td>810</td>
<td>2914</td>
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<tr>
<td>School</td>
<td>58.190</td>
<td>43.252</td>
<td>67.382</td>
<td>54.422</td>
<td>60.669</td>
<td>38.300</td>
<td>65.540</td>
</tr>
<tr>
<td>n + g + δ</td>
<td>7.170</td>
<td>7.684</td>
<td>6.853</td>
<td>7.457</td>
<td>6.981</td>
<td>7.787</td>
<td>6.941</td>
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<tr>
<td>Δ WCI</td>
<td>1.554</td>
<td>1.565</td>
<td>1.547</td>
<td>1.847</td>
<td>1.361</td>
<td>1.108</td>
<td>1.719</td>
</tr>
<tr>
<td>High initial WCI</td>
<td>0.333</td>
<td>0.083</td>
<td>0.487</td>
<td>0.160</td>
<td>0.447</td>
<td>0.059</td>
<td>0.434</td>
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