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# Determinants of institutional quality: A Case Study of IMF Programme Countries

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## Abstract

An attempt has been made to determine the variables that have a significant bearing on the economic and political institutional quality, taking a sample of member countries of IMF, especially focusing on the programme countries and prolonged users, during 1980-2012. Main results point towards a parliamentary form of government, governance and its related indicators, openness, freedom with regard to monetary, fiscal, investment and labour, and education as variables that significantly enhance institutional quality, while the presence of military in power, excessive strength of government and opposition in parliament, and foreign aid have a negative consequence for institutional quality.

*JEL classification: B52, F33*

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## 1 Introduction

According to Barro and Lee (2005) while the role envisioned in the Bretton Woods in 1944 for IMF was to provide short-term financing for exchange rate stability, but after the breakdown of the 'par adjustable peg system' in 1973, its role assumed a new dimension in the shape of providing (technical and) financial support to developing countries in crisis, basically through the Standby Arrangements, Extended Support Facility, and later on in 1986 established Structural Adjustment Facility (SAF; including other facilities extended during the course of time). SAF then evolved into Enhanced SAF, which later on became Poverty Reduction and Growth Facility (Butkiewicz and Yanikkaya, 2005).

There is, however mixed evidence on the effectiveness of these programs. Joyce (1992) indicated, 'countries which signed agreements with the IMF had higher rates of domestic credit expansion, larger government sectors, more severe current account deficits, smaller reserve adequacy, and lower income levels than those which did not.' Barro and Lee (2005) pointed out that 'almost all developing countries have received IMF financial support at least once since 1970. The few exceptions include Botswana, Iraq, Malaysia, and Kuwait.' According to IEO (2002), '...prolonged use<sup>1</sup> has expanded consistently since the 1970s...' The fact that many

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<sup>1</sup> IEO (2002; p. 9 and 24) '...treats a country as prolonged user if it has been under IMF-supported programs for 7 or more years in a 10-year period... prolonged users (PUs) are treated as an invariant group that includes all the countries that met the 7 out of 10 years criterion at least once...'

countries have continued to borrow over a long period of time (that is, they fall under the category of prolonged users) has also raised the question of moral hazard - whether recipient countries have become irresponsible given the apparent ease at which assistance has been made available by Fund on a continued basis (Evrensel, 2002). There has been an increasing literature trying to understand mainly the conditionality<sup>2</sup> component and the impact especially on growth, balance of payments, and inflation, while lately research has also started to analyse program effects on poverty and income inequality levels.

Notwithstanding the level of implementation by recipient countries (an area that is still under-researched), research has shown mostly a neutral or negative program impact on economic growth. This has led researchers and policy makers to point to the need for the Fund to revisit the theoretical underpinnings of its Financial Programming Framework (FPP). The underlying assumptions of this framework are built on behavioural assumptions of the orthodox/Neo-Classical Economics. These behavioural assumptions, which consider a zero-transaction cost<sup>3</sup> world, in particular, have come under severe criticism by both the Old- and New Institutional Economics (NIE) schools of thought.

NIE, whose literature has grown considerably in the last three decades, thus carried out research to understand a world where internal control/ transaction costs<sup>4</sup> exist, where property rights<sup>5</sup> are protected to enable creativity and promote investment (leading to economic growth), where context of a particular area in terms of formal and informal institutions<sup>6</sup> is considered important

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<sup>2</sup> According to Barro and Lee (2005; p. 1248), 'Under an IMF arrangement, the amount of resources committed is released in quarterly installments, subject to the observance of policy benchmarks and performance criteria. This process is often called conditionality.'

<sup>3</sup> According to Dahlman (1979; p.148) transaction costs included, '...search and information costs, bargaining and decision costs, policing and enforcement costs'. Also, North (1994; p. 17) pointed out that, 'The cost of transacting arises because information is costly and asymmetrically held by the parties to exchange.' According to NIE, asymmetric information (in most cases) and heterogeneous nature of individual perceptions about how the world works, means transactions have associated costs; institutions, in turn, exist to reduce these information and transaction costs (Harriss et al., 1995).

<sup>4</sup> According to Eggertsson (1996; p. 8), 'It is important to note that the ability (power) of an actor to use valuable resources derives both from external/exogenous control and from internal/endogenous control. *External control* depends on the property rights of an actor or, in other words, on his or her institutional environment - constitutions, statutes, regulations, norms, enforcement, and sanctions - constrains and directs both the actor in question and outsiders. *Internal control* is established by the actors themselves through various investments aimed at gaining control over scarce resources, involving monitoring, fencing, hiring private guards, checking reputations, and other measures.'

<sup>5</sup> Eggertsson (1996; p.7) points out that institutional economics defines property rights as an actor's right to use valuable assets (Alchian, 1965).

<sup>6</sup> North (1990, p. 3) defines institutions as, 'Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape interaction'. According to North (1990; p. 4 & 5) while institutions are the rules of the game, organizations are the players/agents of the game, which evolve as a consequence of a particular institutional framework, and in turn, influence that institutional framework; hence, both institutions and organizations interacting to bring institutional change. Also, North (1994; p. 5) points out that 'External change and internal learning... triggers the choices that lead to institutional change.' Institutions include formal and informal constraints to shape human interaction (North, 1990; p. 4). Formal institutions are, 'formal rules (which) include political (and judicial) rules, economic rules, and contracts' (North, 1990; p. 47). Informal institutions are, 'informal constraints - such as conventions and codes of behaviour, ...(which) come from socially transmitted information and are a part of the heritage we call culture' (North, 1990; p. 4 & 37). Lin and Nugent (1995; p. 2306-2307) define

to be understood, and in turn endogenized into formal models of economic growth. Such analysis, with its increasing empirical focus, has indicated that institutional change matters for economic growth. Moreover, NIE advocates the importance of 'intervention' for better working of markets, not for the sake of highlighting the importance of 'state', but to underline the significance of one for the other (Toye, 1993).

With regard to institutions having a consequence on macroeconomic stability, Acemoglu et al. (2003) pointed out that, 'Overall, we interpret our findings as suggesting that the major causes of the large cross-country differences in volatility are institutional, and none of the standard macroeconomic variables appear to be the primary mediating channels through which institutional causes lead to economic instability. These macroeconomic problems, just like the volatility and the disappointing macroeconomic performance suffered by these countries, are symptoms of deeper institutional causes.'

Ugur (2010) indicated that most of the studies conducted between 1995-2004, report a significant relation between institutional quality and economic performance; with some of them demonstrating that 'the direction of causation is from institutions to economic performance' (Ugur 2010; p. 16). Hence, NIE highlighted that institutional frameworks that lowered transaction costs resulted in increase in investment, through innovation and specialization (a major consequence of private property protection and contract enforcement), and in turn economic growth. While private property protection is necessary for specialization, education, healthcare etc. are important, especially in the developing countries, where they are at such a low level that people don't find enough time income to make such an investment (Shirley, 2008).

In terms of impact of institutional change on economic growth, Rodrik et al. (2002; 2007) indicated that most cross-section regression pointed out that variables that enhanced institutional quality, as against trade or geography, were more correlated with growth. Similarly, Easterly (2002) found little consequence of variables like technological innovation (which are otherwise traditionally considered crucial) on economic growth.

Notwithstanding that some of the explanatory variables are not institutions and that institutional quality variables suffer for issues of aggregation, in his survey article, Aron (2000) pointed towards a number of studies that showed significant correlation between development measures and institutional quality variables (Shirley, 2008; p. 626).

Hence, given the roots identified in literature with regard to importance of institutional quality for enhancing economic growth, served as a motivation to explore significant determinants of institutional quality in the IMF member countries. The premise that such institutional determinants have a bearing on economic growth (an area which IMF program countries have found difficult to improve under various macroeconomic stabilization programs) points towards the need that the significant determinants are focused on in future Fund programs.

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institutions in line with thinking of North by indicating them as 'a set of... behavioural rules that shape and govern interactions between human beings, partly by helping them to form expectations...'

In this regard, all IMF member countries (188 to be precise; see Appendix A for the complete list) have been taken. While the aim here is to explore the significant determinants of institutional quality, in the light of NIE framework in these countries, special focus will also be made to identify significant determinants in program countries, and prolonged users. Time period under review is from 1980 (when role and penetration of Fund programs increased) to 2012.

The main results indicate that parliamentary form of government, aggregate governance indicator, voice and accountability, control of corruption, rule of law, civil liberties, government effectiveness, openness, monetary freedom, fiscal freedom, investment freedom, labour freedom, and education are positively and significantly contributing to the institutional quality of economic and political institutions in IMF programme countries, while the presence of military in power, excessive strength of government in parliament, excessive strength of opposition in parliament, and foreign aid have a negative consequence for the institutional quality, with no impact of regulatory quality, and property rights on institutional quality.

The structure of the study is as follows: Section 2 reviews important related literature on the topic under discussion, data and methodology are discussed in Section 3, while estimation and results are focused upon in Section 4. The last section concludes the study.

## **2 Literature Review**

Neo-classical economics, which has been relied upon for many policy frameworks, especially in the Fund programs, has come under greater criticism as one of the main reasons for their lackluster performance in terms of their consequences for economic performance (especially in terms of economic growth) of recipient countries. At the same time NIE, while on one hand has highlighted the importance institutional variables hold for economic growth, on the other hand, has focused attention on exploring the determinants and channels, through which the impact takes place. Importance of institutions has been underlined for a long time. Adam Smith (1976; p. 910) showed interest in institutions when he highlighted, 'Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of government (or in other words, "rule of law"; an important institutional factor)'; furthermore pointed out that the underlying differences between countries and regions were explained by institutional factors (Smith, 1976; p. 405).

Sadly, neo-classical economics forgot this initial understanding by ignoring institutions, by assuming a free-market, perfect competition basis for Pareto optimality and by taking a production function including labour and capital (Ugur, 2010). Such a technical production function is incompatible with regard to the existence of property rights and efficient contract enforcement (Rodrik, 2000), and does not explain the difference between developing and developed world (Ugur, 2010). Attention on the significance of institutions was later on brought in the decade of 1980s<sup>7</sup>, and especially during the 1990s with the realization through the liberalization reform, that institutions were required for incentive system of price signal to work for increasing national welfare (Rodrik, 2000).

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<sup>7</sup> Two pioneering papers by Kormendi and Meguire (1985), and Scully (1988) brought to attention the importance of institutions in explaining 'cross-country growth and investment' (Ugur, 2010).

A pro-development institutional framework puts in place institutions to enforce contracts, provided an environment for culture to grow for better human capital, enacted laws that protected private property, imparted good education and democratic culture (Shirley, 2008). The underlying reason for having such institutions is basically to reduce transaction costs<sup>8</sup>, as against a zero transactions cost world of neo-classical economics, so that exchange<sup>9</sup> in the economy can take place more cheaply with greater protection of property rights, and investment could be channelized away from rent-seeking behavior to one that promoted creativity, and in turn greater production (Shirley, 2008).

Acemoglu et al. have seen the evolution of institutions in history under two main influences of firstly the colonization experience, and secondly, the extraction that took place. Acemoglu et al. (2001a) took settler mortality rates as instruments for institutions and found out the way institutions developed in the wake of more or less extraction (resources transferred from colonies to colonizers) depending on the depth of settlements (dense settlements led to enforcing measures of enhancing institutional quality, while sparse settlements meant more extraction), determined (as one of many factors) current differences in income per capita of countries, due to the underlying phenomena of institutional persistence.

Also, Acemoglu et al. (2003) following the same line of argument indicated countries with a legacy of extractive institutions from their colonization experience, had weak current institutions that impacted formulation of macroeconomic and microeconomic policies, which in turn caused economic volatility; so while the macroeconomic policies mattered and needed to be set right, it was important to also reform weak institutions, because they were the underlying cause of sub-optimal macroeconomic policies in the first place. North (1981; p. 20-27) had similarly pointed out that good institutions hindered activities that led to expropriation by either government or other power blocks.

Acemoglu and Johnson (2005; p. 953) pointed out that countries where institutions protected property rights more, saw 'substantially higher income per capita (i.e. higher long-run growth rates), greater investment rates, more credit to private sector relative to GDP, and more developed stock markets; while 'contracting institutions' (enforcing contracts between citizens) did not have direct impact on economic growth, or other indicators but influenced financial intermediation.' Similarly, Alfonso and Jalles (2011) indicated that institutional quality had a significantly positive bearing on improving real GDP per capita. Also, highlighting the impact of polarization on institutional quality, Qian (2012) found it to be a consequence of weak institutions that were unable to control the influence of lobbies/vested interest groups on policies

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<sup>8</sup> Coase (1992, p. 197) emphasized the importance of lowering transaction costs for fostering exchange in the economy as, 'If the costs of making an exchange are greater than the gains which that exchange would bring, that exchange would not take place...'

<sup>9</sup> While costs involved in personal exchange are reduced by traders through relying on private means (Williamson, 1985), and through trust and cooperation (Knack and Keefer, 1997), but impersonal exchange required in addition, enforcement mechanisms implemented by state (Milgrom et al., 1990). Overall, institutional frameworks that enforced contracts and protected private property, created a facilitation that saw investments that resulted in specialization, and innovation through creation and sharing of knowledge, and undertaking of complex transactions (North, 1990, p. 34).

of the official authorities. Siba (2008) found high aid-dependence to have negative consequences for governance, while strong checks and balances on ruling elites positively impacted overall institutional quality.

Acemoglu (2006) puts forward the role played by political institutions, indicating that they put economic institutions under their own preferences so that the resources from the society could be transferred to themselves (and is similar to the extractive nature of colonization); in turn consolidating power, and specifically cause revenue extraction and factor price manipulation.<sup>10</sup> Similarly, Acemoglu and Robinson (2008) highlighted the impact of de jure and de facto political institutions in perpetuating their control over the economic institutions to continue to gain from it at the expense of the masses. Also Acemoglu and Robinson (2008; p. 288) talks about the 'captured democracy' phenomena, 'whereby democratic institutions may survive but end up creating equilibrium economic institutions are in line with the interests of the elite.' In line with the role played by political institutions in employing economic institutions for factor manipulation, Acemoglu (2010) points out that while the purpose of increasing fiscal instruments is there for economic development (through better allocation of resources), but since it gives more power to control the state (through availability of better taxation measures), it leads to political conflict as it becomes more attractive to control power. Hence, increase in fiscal instruments should be followed by greater political accountability of political elites.

Shirley (2008) highlighted that NIE literature identified four sources for institutions being underdeveloped. Firstly, a legacy of poor institutions from colonizers (North, 1990; La Porta et al., 1997; Acemoglu, 2000), but secondly, where the country had endowments, they did develop institutions to extract from the local resources<sup>11</sup> (Acemoglu, Johnson and Robinson, 2001a&b; Acemoglu and Robinson, 2012). Thirdly, lack of political competition outside and inside of the country resulted in little motivation for leaders to build institutions for peoples' benefit at large, similarly faced virtually no solid opposition for building institutions that served their own vested interests (Nugent and Robinson, 2002). Fourthly, beliefs and norms (at times) discouraged development of markets and institutions (North, 1994 & 2004; Knack and Keefer, 1997). North (1990; p. 110) indicated, 'Third World countries are poor because institutional constraints define a set of payoffs to political/economic activity that do not encourage productive activity.'

The huge role of multilateral institutions, like IMF (and for the matter World Bank, among others), especially during the last three decades, and given a significant number of their current programs, especially in the wake of the recent international financial crisis, underlines the

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<sup>10</sup> Acemoglu (2006; p. 343) explained factor price manipulation phenomena as, 'the group in power may want to tax middle-class producers in order to reduce the prices of the factors they use in production. This inefficiency arises because the elite and middle-class producers compete for factors (here labour). By taxing middle-class producers, the elite ensure lower factor prices and thus higher profits for themselves.'

<sup>11</sup> According to Acemoglu and Robinson (2012; p. 74-82), *inclusive economic institutions* work towards greater participation of people in economic activity through provision of better protection of property rights and other features of a facilitating environment, as against *extractive economic institutions* having features to extract 'incomes and wealth from one subset of society to benefit a different subset'. Furthermore, indicated that *inclusive political institutions* are those that 'are sufficiently centralized and pluralistic', while *extractive political institutions* emerge when 'either of these conditions fail'. Further, 'extractive economic institutions thus naturally accompany extractive political institutions... inclusive economic institutions, in turn, are forged on foundations laid by inclusive political institutions'.

important role that can be played by them in bringing institutional change in the recipient countries. Every effort made by institutions like IMF would be very useful, since research literature of NIE points out that although institutional change is a gradual process due to the path dependent nature of institutions (formal and especially informal), yet the importance of revolutionary changes (like the case of miracle economies) have led to improvement in institutions quickly; along with the fact, as Rodrik (2003) points out that growth enhancing institutional change does not require a broad spectrum of changes, rather small changes at the margins go a long way in improving economic performance.

Actually, NIE points out that institutional change takes place as a result of creating an environment (whereby, for example, reducing transaction costs through providing better education, protection of property rights, conducive business environment mainly through ensuring enforcement of contracts, improvement in rule of law) that incentivises people to invest in the economy, and in turn contribute to economic growth. On the other hand, Fund programs have been criticized for focusing too much on initiatives to reduce aggregate demand - curtailment of investment more than boosting savings to overall reduce absorption to deal with macroeconomic imbalances, while it has not pushed that much on improving the supply side - to bring economy to an equilibrium which reflects its true potential; in turn hurting economic growth in many programme countries (Haque and Khan, 1998; Bird, 2001; Bird, 2007; Arpac et al. 2008).

In research, measures of institutional quality have included (among possibly others) Polity2 (published by Marshall, 2012, and employed by Alfonso and Jalles, 2011), Economic Freedom of the World Index (published by Gwartney and Lawson, 2003, employed by Ahmadov et al., 2013, among others). In another study, Alonso and Garcimartin (2013) pointed towards four attributes of institutional quality, from the perspective of static and dynamic, along with being predictable and credible. Moreover, Siba (2008, p. 10) employed, "'Governance Matters IV" data set constructed by Kaufmann et al (2005)' as a measure of institutional quality.

The current study aims to identify such variables that hold significance in improvement of institutional quality (both the economic institutional quality, and political institutional quality), and in turn can help Fund make necessary adjustments in its FPP.

### **3 Data and Methodology**

IMF member countries, which stand at 188, have been taken as the sample to analyse variables that significantly determine institutional quality. At the same time, the sample contains countries which have had program with the Fund since 1980, along with countries that have been prolonged users since then. The reason behind taking the sample of IMF member countries in the first place, is based on the premise that one of the main reasons why Fund programs have underperformed in terms of their impact for economic growth, is due to their insufficient focus on improving institutional quality (an area, which has been shown in NIE literature to have positive consequences for output per capita). Information on whether a country has been under IMF program or not has been taken from IMF website<sup>12</sup>.

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<sup>12</sup> <http://www.imf.org/external/np/fin/tad/exfin1.aspx>



World Economic Outlook (WEO; 2005) measures economic institutional quality using Economic Freedom Index (EFI) of the Cato Institute<sup>13</sup>. The Index captures five aspects, i) size of government, ii) legal structure and security of property rights, iii) access to sound money, iv) freedom to trade internationally, and v) regulation of credits, labour, and business. Data is taken from 1980-2011 (5-yearly up till 2000, and yearly after that). Ahmadov et al. (2013) also employed EFI by Gwartney and Lawson (2003).

Another dependent variable, Polity2 (from the Polity IV dataset of Marshall, 2012), which captures 'political structures and regime change'<sup>14</sup>, has been taken (like Alfonso and Jalles, 2011), as an extension to indicate which variables significantly determine political institutional quality<sup>15</sup>. Data is taken for the time period 1980-2012.

The first regressor is openness, and a broad proxy that has been used here is KOF Index of Globalization<sup>16</sup>, which sees openness from the perspective of economic globalization, social globalization, and political globalization. Data is taken for the available for the time period 1980-2010. Openness is indicated in literature to be positively related with enhancing institutional quality (Rodrik et al., 2002; WEO, 2005). Although Alonso and Garcimartin (2013) did not find the impact of openness to be significant, KOF Index of Globalization, with its multidimensional approach, has been included for checking possible significance.

Literature review indicates a mixed result with regard to the impact of education on institutional quality. Alesina and Perotti (1996), and Alonso and Garcimartin (2013), for instance, find education to be highly important for improving institutional quality. Here, net primary enrollment rates is taken to see the influence of level of education on institutional quality. Source of data is World Development Indicators (WDI; World Bank)<sup>17</sup>.

Measures of economic freedom and prosperity are taken from the Index of Economic Freedom (produced by The Heritage Foundation<sup>18</sup>) to see their influence on institutional quality. Sub-indices taken here are, i) property rights, ii) fiscal freedom, iv) government spending, v) labour freedom, vii) monetary freedom, and viii) investment freedom. Unfortunately, data is only available since 1995; data is taken up till 2012.

A host of politico-social variables are taken to indicate the impact of political economic aspects on institutional quality. Firstly, data on civil liberties is taken from Freedom in the World (publication of Freedom House)<sup>19</sup>. Secondly, five separate indicators are taken from World Governance Indicators (WGI; World Bank)<sup>20</sup>, produced by Kaufmann, Kraay, and Mastruzzi

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<sup>13</sup> <http://www.cato.org/economic-freedom-world>

<sup>14</sup> <http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/9263?q=Polity2&searchSource=icpsr-landing>

<sup>15</sup> <http://www.systemicpeace.org/inscr/inscr.htm>

<sup>16</sup> <http://globalization.kof.ethz.ch/>

<sup>17</sup> <http://data.worldbank.org/data-catalog/world-development-indicators>

<sup>18</sup> <http://www.heritage.org/index/explore>

<sup>19</sup> <http://www.freedomhouse.org/report-types/freedom-world>

<sup>20</sup> <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>

(KKM, 2010)<sup>21</sup> which include, i) voice and accountability (found significant in WEO (2005) study for improving institutions), ii) government effectiveness, iii) regulatory quality, iv) rule of law, and v) control of corruption, along with an aggregate governance indicator. Lastly, a host of variables are taken from the Database of Political Institutions<sup>22</sup> for the time period 1980-2012, to overall see the impact of electoral rules and political system. Variables analysed here include, i) regime (presidential or parliamentary; also taken in the study by Alfonso and Jalles, 2011), ii) military (chief executive a military officer or not), iii) Herfindahl Index Government (to basically reflect the strength/proportion of government seats in parliament), iv) similarly Herfindahl Index Opposition (similarly indicates the extent of representation of opposition in parliament), v) checks and balances (found for example by WEO (2005) to be highly significant for improving institutional quality). While, Knack and Azfar (2003) find the impact of corruption to be highly country-sensitive, still this variable has been included to see its impact in the context of the current study. With regard to the existence of parliamentary form of government, literature finds it to be conducive for improvement in institutional quality (see for instance La Porta et al., 1999).

Net official development assistance and official aid received (as percentage of GDP) has also been included in the regression model. Although the relationship between foreign aid and institutional quality is less clear in literature (where, for instance, Brautigam and Knack (2004), and WEO (2005) even found a negative relationship, especially at higher levels of foreign aid), yet I wish to analyse it in the context of current study for possibly approaching a different result.

A number of controls have also been included, taken from WDI and include, i) log GDP at constant US\$, and ii) CPI.

Institutional quality will be determined using the following equation:

$$IQ_{it} = \alpha_i + \alpha_1 X_{it} + \alpha_2 Z_{it} + \alpha_3 M_{it} + \epsilon_{it} \quad [1]$$

where,  $IQ_{it}$  stands for institutional quality, and is measured by Economic Freedom Index of the Cato Institute, and Polity2 from the PolityIV database.  $\alpha_i$  are country-fixed effects.  $X_{it}$  is a vector of political/governance related indicators.  $Z_{it}$  is a vector of economic variables, while  $M_{it}$  is a vector of control variables.  $\epsilon_{it}$  is the error term.

$X_{it}$  consists of the following variables: Regime (is a dummy variable indicating 0 for presidential, and 1 for parliamentary form of government), military (existence of it is represented by 1, 0 otherwise), Herfindahl Index Government, Herfindahl Index Opposition, aggregate governance Indicators, checks and balances, voice and accountability, control of corruption, regulatory quality, rule of law, civil liberties (where the rating of 1 indicates the lowest degree of freedom, while 7 being the highest), and government effectiveness.

$Z_{it}$  vector is composed of the following variables: KOF Index of Globalization, and its sub-indices (Economic Globalization, Social Globalization, and Political Globalization), monetary

<sup>21</sup> <http://info.worldbank.org/governance/wgi/index.aspx#home>

<sup>22</sup> <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20649465~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html>

freedom, fiscal freedom, investment freedom, labour freedom, property rights, net primary school enrollment, and net official development assistance and official aid (as percentage of GDP).

$M_{it}$  are the control variables and include log of GDP (constant), and CPI.

As our data has cross-sectional as well as temporal features, Eq [1] will be estimated using the panel data fixed-effects model, after deciding by the Hausman test (Hausman, 1978).

Table 1 indicate that out of the 188 member countries of IMF, 129 have been under the programme at one time or the other during 1980-2012. Around one-third of the total programme countries (44 to be precise) are prolonged users. It gives a list of prolonged users (in descending order of number of years under the programme), whereby Mali and Senegal have been the most prolonged users, having each been under an IMF programme for a total of 23 years overall in the sample period. Geographical mapping indicates that almost half of the prolonged users belonged to the continent of Africa, followed by Asia (at around one-fifth of the total prolonged users); places that have otherwise also seen prevalence of absolute poverty on the higher side. This, in turn, opens up possible area for future research, to understand the consequences of IMF resources for poverty and the economy overall for prolonged users of these two continents.

Further analysis indicates that during the decade of 1980s there were surprisingly no prolonged users. At the same time, the next two decades of 1990s and 2000s, respectively, saw a mushrooming of prolonged users (28 countries to be precise, falling under this category, in each decade). Moreover, it could be seen that 12 countries remained prolonged users in both the 1990s and 2000s; pointing towards a possible prolonged user syndrome through the likely existence of moral hazard, whereby countries may have relied more on IMF resources than going for hard economic reforms. Nonetheless, this opens up as a possible research area for the future to understand more about the reasons behind a country becoming a prolonged user, and the reason for it remaining in that category for long periods of times.

Table 1  
Prolonged Users

Sr.#	Country Name	Years under IMF programme					Continent	Decade(s)-wise existence			
		1980-1989	1990-1999	2000-2009	Total	1980-1989		1990-1999	2000-2009	1990-2009	
1	Mali	4	9	10	23	Africa	0	1	1	1	
2	Senegal	6	8	9	23	Africa	0	1	1	1	
3	Mexico	6	5	10	21	N. America	0	0	1	0	
4	Mozambique	3	9	9	21	Africa	0	1	1	1	
5	Niger	6	5	10	21	Africa	0	0	1	0	
6	Madagascar	6	5	9	20	Africa	0	0	1	0	
7	Malawi	4	8	7	19	Africa	0	1	1	1	
8	Mauritania	5	8	6	19	Africa	0	1	0	0	
9	Tanzania	3	7	9	19	Africa	0	1	1	1	
10	Uganda	3	9	7	19	Africa	0	1	1	1	
11	Benin	1	7	10	18	Africa	0	1	1	1	
12	Burkina Faso	0	8	10	18	Africa	0	1	1	1	

13	Cameroon	2	7	9	18	Africa	0	1	1	1
14	Albania	0	7	10	17	Europe	0	1	1	1
15	Argentina	5	8	4	17	S. America	0	1	0	0
16	Bolivia	3	9	5	17	S. America	0	1	0	0
17	Kyrgyz Republic	0	7	10	17	Asia	0	1	1	1
18	Guyana	0	10	6	16	S. America	0	1	0	0
19	Sierra Leone	1	6	9	16	Africa	0	0	1	0
20	Armenia	0	6	9	15	Europe	0	0	1	0
21	Chad	3	7	5	15	Africa	0	1	0	0
22	Pakistan	1	7	7	15	Asia	0	1	1	1
23	Rwanda	0	5	10	15	Africa	0	0	1	0
24	Georgia	0	6	8	14	Europe	0	0	1	0
25	Guinea	3	7	4	14	Africa	0	1	0	0
26	Philippines	6	7	1	14	Asia	0	1	0	0
27	Zambia	2	3	9	14	Africa	0	0	1	0
28	Bulgaria	0	8	5	13	Europe	0	1	0	0
29	Burundi	3	2	8	13	Africa	0	0	1	0
30	Dominican Republic	2	4	7	13	N. America	0	0	1	0
31	Ghana	0	5	8	13	Africa	0	0	1	0
32	Jordan	2	8	3	13	Asia	0	1	0	0
33	Turkey	1	3	9	13	Asia	0	0	1	0
34	Dominica	5	0	7	12	N. America	0	0	1	0
35	Honduras	0	7	5	12	N. America	0	1	0	0
36	Nicaragua	0	4	8	12	N. America	0	0	1	0
37	Tajikistan	0	4	8	12	Asia	0	0	1	0
38	Lao People's Democratic Republic	1	7	3	11	Asia	0	1	0	0
39	Macedonia	0	7	4	11	Europe	0	1	0	0
40	Panama	4	7	0	11	N. America	0	1	0	0
41	Mongolia	0	7	3	10	Asia	0	1	0	0
42	Serbia	0	1	8	9	Europe	0	0	1	0
43	Algeria	1	7	0	8	Africa	0	1	0	0
44	Russian Federation	0	7	0	7	Asia	0	1	0	0
Total							0	28	28	12

## 4 Estimation and Results

Determinants of institutional quality have been estimated for both the economic institutional quality, and the political institutional quality. As indicated earlier, economic freedom index and Polity2 index have been used as proxies for these two, respectively. Also, while the main thrust of the estimation is on programme countries, focus has also been extended for prolonged users, as a special case. At the same time, estimation has also been made for all member countries (as robustness check, with results indicated at appendices B1 and B2).

### 4.1 Economic Institutional Quality

Table 2 highlights the significant determinants of economic institutional quality of the countries that have remained under IMF programme at one time or the other, during the sample period. First of all it can be seen that in majority of the models, the two control variables, being log GDP

and CPI have a significantly positive bearing on institutional quality. Hence, estimated increase in national income, along with increase in inflation (which also indicates a growth in the economy) are both having a positive impact on economic institutional quality. Table 3, which estimates the significant determinants of economic institutional quality with regard to prolonged users, also indicates similar impact of the two control variables.

Here, regime works as a dummy variable, which indicates whether a country has parliamentary form of government or presidential form of government. The estimation of regime is both positive and highly significant for economic freedom index (see Table 2). This indicates that as against a presidential form of government, programme countries with a parliamentary form, enhanced economic institutional quality. For example, vote of no confidence to remove a Prime Minister, in practice has remained an easier course to take by the Parliament (probably acting as a better check on the performance of the Prime Minister) than impeaching a president. This may be one of other reasons as to why parliamentary democracy remained significant for improving economic institutions. In Table 3, in the case of prolonged users, the same result holds.

Countries like Bangladesh and Pakistan, among others, saw military rulers at the helm of affairs, at one time or the other during the time period under discussion. Military dictatorships generally lack popular support, and since they are mostly unconstitutional, there is no way as such to remove them constitutionally. Therefore, this makes them unaccountable to the masses, and have little pressure to improve institutional quality. Hence, in the current study, with regard to programme countries (as indicated in Table 2), military (in power) has a significantly negative impact on economic institutional quality. In the case of prolonged users (see Table 3) the impact of military is insignificant on economic institutional quality.

Herfindahl Index Opposition in the study is estimated to have a significantly negative impact on economic institutional quality in the case of prolonged users. Vibrant role of opposition is beneficial for keeping a checking on the government, but too much power can hurdle smooth functioning of the government in power, and in their efforts to undertake meaningful reform on a sustained basis to improve the quality of economic institutions. The role of this variable becomes insignificant in the case of programme countries (see Table 3), maybe because the political culture has enough deep roots here to have cultured the opposition to not meddle in the working of the government unnecessarily; so it is likely that even when it becomes more representative in the parliament, it is aware of its limits.

Herfindahl Index Government, which indicates the strength of government in parliament, does not have a significant impact on improving the economic institutional quality of the prolonged users. At the same time, in the case of programme countries, the more representative the government, the more significantly negative impact it is likely to have on economic institutions. This is because, just like an exceedingly strong opposition, a very strong government tends to behave in an authoritarian way, facing little check from a weak opposition. Hence, lack of accountability of the government, and little inclusion of economic agents in the overall decision making process, tend to have negative consequences for economic institutional quality (similar consequences pointed out by Acemoglu and Robinson, 2012, and Nugent and Robinson, 2002).

Aggregate governance index is estimated to have a highly significant and positive impact on economic institutional quality of the programme countries. The result holds true for prolonged users also, highlighting the importance of governance in improving economic institutional quality. This underlines the importance of state in providing the right kind of environment for the market to function properly (Toye, 1993), which includes reducing the underlying transaction costs involved in the economic activity (a result emphasized by NIE).

While checks and balances have been estimated to have an insignificant impact on economic institutional quality of the prolonged users, in the case of programme countries as such they significantly impact negatively. It may be because, given the background of overall better economic institutions of programme countries (than prolonged users as such), increasing checks and balances, may disturb the inherent space for the economic agents to interplay and to absorb the price signals effectively.

Voice and accountability, which is likely to play an important role in enabling the people to communicate their point of views to their political representatives, along with keep a check on their activities, is estimated to have a significantly positive impact on economic institutional quality in the case of prolonged users; while it becomes insignificant in the case of programme countries, may be because of the likely presence of other channels to communicate the effect of this variable, in the overall more developed institutional environment of programme countries in the first place.

Control of Corruption has a highly significant and positive impact on economic institutional quality, in the case of both programme countries and prolonged users; underlining the importance of reducing corruption practices in economic institutions to help achieve productive and allocative efficiencies. For instance, North (1981) indicated that good institutions hindered activities that caused expropriation (a form of corruption). Also, Mauro (1995) found that one of the reasons behind lowering of investment (and in turn economic growth) was corruption.

While rule of law has an estimated positive impact on both the programme countries and prolonged users, regulatory quality has a positive impact only on prolonged users (and insignificant impact in the case of programme countries). This result underlines the importance NIE attaches to regulatory environment and rule of law (for example for providing protection of property rights) for proper functioning of the market forces in the overall production process and economic activity. The current global financial crisis has its roots in a paradigm, which muted the importance of state in providing this institutional mechanism for the inner organizational structure, influencing/enabling it to work towards improving competitiveness and becoming more transparent. At the same time, it is important to have civil liberties, as its estimated results (for both programme countries and prolonged users) hold a significantly positive bearing on economic institutional quality.

Government effectiveness is estimated to have a significantly positive impact on economic institutional quality in the case of prolonged users. An ineffective government will, in turn, not be able to carry out needed reforms. In the case of programme countries, the impact of government effectiveness is estimated to be insignificant. This may be because unlike the likely weak situation of overall institutions in the case of prolonged users, the role of government may

be a little limited in the case of programme countries (where the institutions are already likely to be performing better independently).

Level of openness and global linkages, which are captured by the KOF index of globalization comes out to be a key player in improving economic institutional quality, for both the programme countries and prolonged users. This is because it has a significantly positive impact. Furthermore, seen independently, the sub-components of KOF index in the shape of economic-, social-, and political globalization, are all also positive and significant for both the programme countries and prolonged users (with the exception of political globalization being insignificant in the case of prolonged users). A closer look then points out that social globalization is estimated to have the highest impact for improving economic institutional quality, followed by economic- and political globalization.

Macroeconomic environment comes out to have a very important role to play, since both monetary- and fiscal freedom are estimated to have a positive and significant impact on improving economic institutional quality. It is therefore important to allow for price stability without any price controls. This may mean avoiding artificial setting of prices to subsidize sectors (like providing price support for agricultural commodities, etc.), or not allowing central banks to administer monetary policies independent of government intervention. At the same time, lack of fiscal freedom in the shape of excessive tax burden may lead to making of an institutional incentive structure that disincentivises firms to invest in research and development (and may hurt innovation and economic growth, in turn).

NIE advocates lowering of transaction costs to promote investment and economic activity. Excessive restrictions on capital mobility, or making such mobility expensive through applying controls is likely to increase the cost of economic activity, with the probable result of reducing such investment. This line of thinking is supported by the current estimation, which indicates that investment freedom has a positive and significant impact on improving economic institutional quality for programme countries. The impact of investment freedom becomes insignificant though, for prolonged users. This may be because of the lack of depth of financial markets, or low investment opportunities (due to structural bottlenecks, like energy shortages or a worsening of law and order situation) in the case of prolonged users.

Labour freedom is estimated to have a significantly positive impact on economic institutional quality for both the programme countries and prolonged users. Proper minimum wages, flexibility with regard to working hours and hiring, etc. all help in improving the labour market conditions, and economic institutions involved.

The importance of property rights is paramount in the literature of NIE. Acemoglu and Robinson (2012) for example, pointed out that the reason why countries like UK and Netherlands developed far quicker than its other neighbours is because of the protection of property rights that led to greater research, and innovation. The current study estimates that property rights have a significantly positive impact on economic institutional quality of the prolonged users; though the same becomes insignificant in the case of programme countries. Deeper analysis of the data on property rights for the programme countries (that are not prolonged users) indicate a

worsening of property rights over the ending years for the sample of that data; opening up a further research area that may be explored for finding reasons behind this phenomena.

North (1994), among others, has for long underlined the importance of education, since it is an important element of the institutional matrix that promotes learning, competitiveness, innovation, and economic activity. This line of thinking is supported by the current study, which indicated that net primary school enrollment has a positively significant impact on economic institutional quality, for both the programme countries and prolonged users.

In the wake of twin deficits, many of the member countries have either approached the IMF and/or other donors to lend resources. Net official aid and official development assistance is estimated to have a significantly negative impact on economic institutional quality, for both the programme countries and prolonged users. Further research into this may focus attention to exploring existence of a probable prolonged user syndrome, and the underlying reasons, which lead to it.

#### **4.2 Political Institutional Quality**

The proxy of Polity2 has been taken for political institutional quality, and its significant determinants are explored for the programme countries (see Table 4) and prolonged users (see Table 5); while estimation is also done for all member countries as robustness check (see Appendix B2).

Log GDP and CPI are once again taken as control variables, but estimated values indicate that while CPI is mostly positively significant in both the programme countries (Table 4) and prolonged users (Table 5), log GDP is showing some surprising results in some regressions with wrong signs and significance, while in others these are according to the literature.

Regime has an estimated positive and significant impact on political institutional quality for both the programme countries and prolonged users; the same consequence as for economic institutional quality, underlining in turn the importance parliamentary form of government (unlike a presidential system) for enhancing overall institutional quality.

Like its significantly negative impact on economic institutional quality of the programme countries, military (in power) has the same consequence for political institutional quality (here for the prolonged users also). This is in line with the lack of deep roots of political institutions in countries (like Pakistan) which saw military dictatorships at one time or the other, during the sample period. As indicated before, since military did not come in power through the authority of the ballot, they on one side, weakened the true political leadership (and the political culture in general) to perpetuate their rule, on the other side, felt lesser motivation and/or lack of popular support to carry out much needed hard economic reform.

Herfindahl indices for both the government and the opposition have a significantly negative impact on political institutional quality of both the programme countries and prolonged users. Hence, just like their estimated impact on economic institutional quality, in fact even more so for political institutional quality, an exceedingly representative government or opposition (are likely



to exhibit dictatorial attributes) in parliament would thwart improvement in overall institutional quality.

Aggregate governance indicator, like its impact on economic institutional quality, once again has a significantly positive estimated impact on improving political institutional quality. This strongly underlines the importance of a well governed environment for the proper functioning of markets and the underlying agents, along with enhancing the visibility of their signals.

Checks and balances seem to have more importance and role to play for the development of political institutions than economic institutions (where the agents may require more space to interplay and/or are more developed in terms of their formal and informal setup), since the estimated values are significantly positive for both the programme countries and prolonged users.

Unlike the insignificant impact on economic institutional quality in the case of programme countries (but a significantly positive impact in the case of prolonged users), voice and accountability has a significant and positive impact on political institutional quality for both the programme countries and prolonged users. The institutional matrix that does not allow for this hinders political institutions in improving over time, since political agents (example voters in a democratic setup) need to be able to communicate their diverse point of views to the political decision makers (for example the legislators, who are the representatives of the political agents in the parliament), along with having the power to keep them accountable. Such an institutional setup, in turn, is likely to get weaker over time due to loss of interest of political agents to take part in the political process in the first place.

Control of corruption has an insignificant impact on political institutional quality for both the programme countries and prolonged users. This is in contrast to its significantly positive impact on economic institutional quality (for both the programme countries and prolonged users).

While the estimated impact of regulatory quality remained insignificant, rule of law is estimated to have a significantly positive impact on political institutional quality, for both the programme countries and prolonged users. Hence, just like its strong estimated consequence for economic institutional quality, rule of law has similar bearing on political institutional quality.

Civil liberties have a significantly positive impact on political institutional quality. The result holds true for the programme countries and the prolonged users; which is in line with the strong consequence it holds for improving the economic institutional quality.

Government effectiveness is important for improving political institutional quality, since it has an estimated significantly positive impact for the programme countries (for prolonged users the impact is insignificant). While it had only positive consequences for prolonged users with regard to economic institutional quality, it affects positively the programme countries when it comes to improving the political institutional quality, highlighting the immense importance it holds for the development of the overall political process.

Openness in terms of globalization is important for political institutional quality (the same as for economic institutional quality), since KOF index of globalization is estimated to be significantly positive, for both the programme countries and prolonged users. See separately, economic globalization, followed by political globalization are estimated to hold the most importance in terms of their consequence respectively, on political institutional quality for the programme countries; for prolonged users, political- followed by social globalization hold the most importance, while economic globalization has an insignificant impact.

Monetary freedom has a significantly positive impact on political institutions for both the programme countries and prolonged users; fiscal freedom on the other hand is significantly positive only for the prolonged users (insignificant for the programme countries). A macroeconomic institutional incentive structure that believes in artificial intervention for price stability, and a burdensome tax system, is unlikely to allow political institutions to evolve as an inclusive and accountable system. Furthermore, investment freedom is estimated to have a significantly positive impact on political institutional quality of the programme countries (with insignificant impact for prolonged users). An environment where controls are placed by official authorities on capital mobility to extract resources from one group of people to the other, for example (Acemoglu and Robinson, 2012) hinders improvement in political institutional quality.

Increase in labour freedom, especially in terms of concentration of power by trade lobbies and unions, has a significantly negative impact on political institutional quality in the programme countries (with insignificant impact on the prolonged users).

Property rights is estimated to have an insignificant impact on political institutional quality, since it appears to be more related with the economic institutions and underlying activity.

Education, like in the case of economic institutional quality, has an important role to play in the improvement of political institutional quality, since net primary school enrollment is estimated to have a significantly positive impact, for both the programme countries and the prolonged users. Hence, investment in learning and education, is likely to produce more enlightened political agents, and political decision makers.

The significantly negative impact of net official aid and official development assistance in the programme countries (but with insignificant impact in the case of prolonged users), indicates that like in the case of economic institutional quality, dependence on foreign aid hinders improvement in political institutional quality (a similar result also highlighted by Siba, 2008, where foreign aid dependence has been shown to have negative consequence for governance).

Table 2  
Dependent Variable -Economic Freedom Index- Programme Countries

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log GDP	1.558*** (0.0939)	1.917*** (0.0883)	1.055*** (0.0768)	1.017*** (0.0729)	1.025*** (0.0715)	1.092*** (0.0723)	0.322*** (0.0885)	0.157 (0.102)	1.115*** (0.0748)	0.352*** (0.102)	1.449*** (0.0806)	0.413*** (0.159)
CPI	0.00166*** (0.000201)	0.000654*** (0.000181)	9.36e-05 (9.96e-05)	0.000121 (9.99e-05)	0.000143 (9.91e-05)	0.000119 (0.000101)	0.000302* (0.000169)	0.000378** (0.000168)	0.000307** (0.000127)	4.58e-05 (0.000151)	0.000603*** (0.000142)	0.00678*** (0.000767)
Regime	0.399*** (0.120)											
Military	-0.284*** (0.0827)											
Herfindahl Index Government		-0.296*** (0.0922)										
Herfindahl Index Opposition		-0.111 (0.102)										
Agg. Governance Indicator			0.0138*** (0.00250)									
Checks and Balances			-0.0145* (0.00862)									
Voice and Accountability				0.00216 (0.00177)								
Control of Corruption				0.00708*** (0.00148)								
Regulatory Quality					0.000318 (0.00156)							
Rule of Law					0.00903*** (0.00207)							
Civil Liberties					0.0795*** (0.0237)							
Government Effectiveness						0.00165 (0.00171)						
KOF Index of Globalization							0.0737*** (0.00276)					
KOF Index of Economic Glob.								0.0310*** (0.00289)				
KOF Index of Social Glob.								0.0453*** (0.00389)				
KOF Index of Political Glob.								0.00593*** (0.00226)				
Monetary Freedom									0.0148*** (0.00114)			
Fiscal Freedom									0.0106*** (0.00172)			
Investment Freedom										0.00245** (0.00110)		
Labour Freedom										0.00353** (0.00175)		
Property Rights											-0.000331 (0.00164)	
Primary School Enrollment												0.00826*** (0.00283)

Net Off. Aid & Off. Dev. Ass.												-0.00920*** (0.00343)
Constant	-5.471*** (0.690)	-7.789*** (0.664)	-1.784*** (0.557)	-1.455*** (0.537)	-1.844*** (0.520)	-1.699*** (0.530)	0.156 (0.591)	1.160* (0.685)	-3.755*** (0.521)	3.631*** (0.747)	-4.412*** (0.620)	1.988* (1.162)
Observations	1,171	996	874	964	954	964	1,162	1,055	998	598	998	675
R-squared	0.306	0.388	0.257	0.256	0.274	0.233	0.575	0.607	0.458	0.056	0.324	0.363
Number of countries	99	97	93	102	101	102	107	94	99	98	99	96

Note all models are estimated using country-fixed effects. Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 3  
Dependent Variable -Economic Freedom Index- Prolonged Users

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log GDP	0.274 (0.186)	0.900*** (0.233)	0.614*** (0.167)	0.752*** (0.168)	0.648*** (0.163)	0.802*** (0.169)	0.0379 (0.180)	-0.0493 (0.186)	0.556*** (0.181)	0.217 (0.236)	1.152*** (0.186)	0.151 (0.258)
CPI	0.0119*** (0.000689)	0.00910*** (0.000877)	0.00349*** (0.000637)	0.00304*** (0.000636)	0.00336*** (0.000625)	0.00308*** (0.000651)	0.00708*** (0.000920)	0.00757*** (0.000908)	0.00435*** (0.000689)	0.00163** (0.000685)	0.00499*** (0.000754)	0.00746*** (0.000956)
Regime	0.453** (0.183)											
Military	0.0163 (0.0989)											
Herfindahl Index Government		0.183 (0.118)										
Herfindahl Index Opposition		-0.457*** (0.142)										
Agg. Governance Indicator			0.0215*** (0.00338)									
Checks and Balances			0.0223 (0.0186)									
Voice and Accountability				0.00674** (0.00287)								
Control of Corruption				0.0107*** (0.00220)								
Regulatory Quality					0.00530** (0.00209)							
Rule of Law					0.0117*** (0.00278)							
Civil Liberties					0.0832** (0.0379)							
Government Effectiveness						0.0102*** (0.00241)						
KOF Index of Globalization							0.0503*** (0.00557)					
KOF Index of Economic Glob.								0.0240*** (0.00457)				
KOF Index of Social Glob.								0.0344*** (0.00628)				
KOF Index of Political Glob.								-4.86e-05 (0.00333)				
Monetary Freedom									0.0133***			

Fiscal Freedom									(0.00170)			
Investment Freedom									0.00699**			
Labour Freedom									(0.00278)			
Property Rights										0.00103		
Primary School Enrollment										(0.00164)		
Net Off. Aid & Off. Dev. Ass.										0.00497**		
										(0.00243)	0.00539**	
											(0.00250)	0.00744**
												(0.00316)
												-0.0192***
												(0.00517)
Constant	3.067**	-0.596	1.028	0.249	0.679	0.174	2.835**	3.342***	0.593	4.491***	-2.293*	4.013**
	(1.226)	(1.541)	(1.064)	(1.096)	(1.046)	(1.092)	(1.166)	(1.223)	(1.141)	(1.542)	(1.241)	(1.758)
Observations	482	414	364	375	374	375	455	432	413	249	413	318
R-squared	0.572	0.520	0.417	0.399	0.429	0.371	0.650	0.682	0.527	0.121	0.440	0.501
Number of countries	39	39	36	37	37	37	40	38	37	37	37	38

Note all models are estimated using country-fixed effects. Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 4  
Dependent Variable -Polity2- Programme Countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VARIABLES												
Log GDP	-0.456 (0.317)	1.783*** (0.327)	-0.00808 (0.341)	0.721** (0.289)	-0.558* (0.320)	0.497 (0.334)	-2.139*** (0.385)	-3.388*** (0.465)	0.0629 (0.353)	0.890 (0.664)	0.916*** (0.316)	0.216 (0.620)
CPI	0.0223*** (0.00157)	0.00733*** (0.00154)	0.00675*** (0.00134)	0.00629*** (0.00115)	0.00575*** (0.00126)	0.00578*** (0.00135)	0.0112*** (0.00231)	0.0103*** (0.00231)	0.00381*** (0.00134)	0.000466 (0.00145)	0.00392*** (0.00136)	0.0344*** (0.00385)
Regime	3.503*** (0.356)											
Military	-4.580*** (0.259)											
Herfindahl Index Government		-1.825*** (0.324)										
Herfindahl Index Opposition		-3.186*** (0.335)										
Agg. Governance Indicator			0.111*** (0.0126)									
Checks and Balances			0.375*** (0.0540)									
Voice and Accountability				0.182*** (0.00860)								
Control of Corruption				-0.00159 (0.00798)								
Regulatory Quality					0.0117 (0.00737)							
Rule of Law					0.0304*** (0.0101)							
Civil Liberties					1.419*** (0.121)							
Government Effectiveness						0.0171*						

						(0.00883)							
KOF Index of Globalization							0.194***						
							(0.0152)						
KOF Index of Economic Glob.								0.0907***					
								(0.0145)					
KOF Index of Social Glob.								0.0336*					
								(0.0183)					
KOF Index of Political Glob.								0.0901***					
								(0.00977)					
Monetary Freedom									0.0247***				
									(0.00465)				
Fiscal Freedom									0.00837				
									(0.00821)				
Investment Freedom										0.0140*			
										(0.00756)			
Labour Freedom										-0.0289**			
										(0.0114)			
Property Rights											-0.00318		
											(0.00703)		
Primary School Enrollment												0.0398***	
												(0.0134)	
Net Off. Aid & Off. Dev. Ass.												-0.0330*	
												(0.0180)	
Constant	4.193*	-6.084**	-2.315	-9.515***	-0.561	-1.195	8.023***	15.19***	0.514	-1.513	-3.300		
	(2.212)	(2.363)	(2.389)	(2.047)	(2.191)	(2.331)	(2.499)	(3.014)	(2.320)	(4.824)	(2.325)	(4.481)	
Observations	2,583	1,970	1,270	1,399	1,398	1,399	2,529	2,379	1,649	778	1,649	1,274	
R-squared	0.268	0.119	0.142	0.286	0.152	0.031	0.169	0.208	0.045	0.016	0.026	0.201	
Number of countries	101	99	101	108	108	108	107	97	107	105	107	103	

Note all models are estimated using country-fixed effects. Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 5  
Dependent Variable -Polity2- Prolonged Users

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VARIABLES												
Log GDP	-3.066***	0.120	0.0828	1.315**	0.171	0.994	-6.408***	-5.950***	0.624	-0.171	1.971***	-4.337***
	(0.687)	(0.776)	(0.704)	(0.604)	(0.698)	(0.724)	(0.791)	(0.827)	(0.688)	(1.309)	(0.646)	(1.055)
CPI	0.0487***	0.0202***	0.0144***	0.0113***	0.0123***	0.0125***	0.0318***	0.0325***	0.00738**	0.00720*	0.0106***	0.0529***
	(0.00309)	(0.00352)	(0.00308)	(0.00262)	(0.00302)	(0.00318)	(0.00528)	(0.00544)	(0.00302)	(0.00384)	(0.00303)	(0.00501)
Regime	2.257***											
	(0.666)											
Military	-3.985***											
	(0.413)											
Herfindahl Index Government		-1.612***										
		(0.504)										
Herfindahl Index Opposition		-3.304***										
		(0.567)										
Agg. Governance Indicator			0.0780***									
			(0.0157)									
Checks and Balances			0.522***									

Voice and Accountability			(0.0982)	0.189***									
				(0.0121)									
Control of Corruption				-0.00748									
				(0.00936)									
Regulatory Quality				-0.0109									
				(0.0105)									
Rule of Law				0.0343**									
				(0.0142)									
Civil Liberties				1.187***									
				(0.179)									
Government Effectiveness					0.0169								
					(0.0112)								
KOF Index of Globalization						0.255***							
						(0.0296)							
KOF Index of Economic Glob.							0.0384						
							(0.0249)						
KOF Index of Social Glob.							0.0757**						
							(0.0339)						
KOF Index of Political Glob.							0.113***						
							(0.0154)						
Monetary Freedom								0.0238***					
								(0.00709)					
Fiscal Freedom								0.0260**					
								(0.0118)					
Investment Freedom									0.00837				
									(0.0101)				
Labour Freedom									-0.0247				
									(0.0158)				
Property Rights											0.0146		
											(0.00982)		
Primary School Enrollment												0.0720***	
												(0.0166)	
Net Off. Aid & Off. Dev. Ass.												0.0287	
												(0.0259)	
Constant	19.71***	5.181	-2.413	-13.24***	-4.570	-4.995	31.87***	29.23***	-4.912	5.470	-11.42***	21.53***	
	(4.488)	(5.177)	(4.491)	(3.887)	(4.455)	(4.631)	(4.973)	(5.197)	(4.290)	(8.568)	(4.308)	(7.006)	
Observations	1,117	798	542	573	573	573	1,047	1,013	696	332	696	594	
R-squared	0.342	0.140	0.180	0.386	0.188	0.100	0.326	0.339	0.120	0.027	0.098	0.330	
Number of countries	42	42	42	43	43	43	43	41	43	43	43	42	

Note all models are estimated using country-fixed effects. Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## 5 Conclusion

The current study is an attempt to determine the variables that significantly impact both the economic- and political institutional quality in the IMF member countries, especially programme countries and prolonged users. Data has been analysed for the period 1980-2012, for the above set groups of the countries, using panel data fixed-effects model. The results show that parliamentary form of government, aggregate governance indicator, voice and accountability, control of corruption, rule of law, civil liberties, government effectiveness, openness, monetary-fiscal-, investment-, labour freedom, and education are positively contributing to the institutional quality of economic and political institutions in IMF programme countries, while the presence of military in power, excessive strength of government and opposition in parliament, and foreign aid have a negative consequence for the institutional quality, with no impact of regulatory quality, and property rights on institutional quality. Furthermore, checks and balances has a negative consequence for economic institutional quality, but impact positively on political institutional quality, in the programme countries.

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## 6 Appendix A: List of Countries

1	Afghanistan, Islamic Republic Of	46	Djibouti
2	Albania	47	Dominica
3	Algeria	48	Dominican Republic
4	Angola	49	Ecuador
5	Antigua And Barbuda	50	Egypt, Arab Republic Of
6	Argentina	51	El Salvador
7	Armenia, Republic Of	52	Equatorial Guinea
8	Australia	53	Eritrea
9	Austria	54	Estonia, Republic Of
10	Azerbaijan, Republic Of	55	Ethiopia
11	Bahamas, The	56	Fiji
12	Bahrain, Kingdom Of	57	Finland
13	Bangladesh	58	France
14	Barbados	59	Gabon
15	Belarus, Republic Of	60	Gambia, The
16	Belgium	61	Georgia
17	Belize	62	Germany
18	Benin	63	Ghana
19	Bhutan	64	Greece
20	Bolivia	65	Grenada
21	Bosnia And Herzegovina	66	Guatemala
22	Botswana	67	Guinea
23	Brazil	68	Guinea-Bissau
24	Brunei Darussalam	69	Guyana
25	Bulgaria	70	Haiti
26	Burkina Faso	71	Honduras
27	Burundi	72	Hungary
28	Cambodia	73	Iceland
29	Cameroon	74	India
30	Canada	75	Indonesia
31	Cape Verde	76	Iran, Islamic Republic Of
32	Central African Republic	77	Iraq
33	Chad	78	Ireland
34	Chile	79	Israel
35	China, People's Republic Of	80	Italy
36	Colombia	81	Jamaica
37	Comoros	82	Japan
38	Congo, Democratic Republic Of The	83	Jordan
39	Congo, Republic Of	84	Kazakhstan, Republic Of
40	Costa Rica	85	Kenya
41	Côte D'Ivoire	86	Kiribati
42	Croatia, Republic Of	87	Korea, Republic Of
43	Cyprus	88	Kosovo
44	Czech Republic	89	Kuwait
45	Denmark	90	Kyrgyz Republic

91	Lao People's Democratic Republic	140	San Marino
92	Latvia, Republic Of	141	São Tomé And Príncipe
93	Lebanon	142	Saudi Arabia
94	Lesotho	143	Senegal
95	Liberia	144	Serbia, Republic Of
96	Libya	145	Seychelles
97	Lithuania, Republic Of	146	Sierra Leone
98	Luxembourg	147	Singapore
99	Macedonia, Former Yugoslav Republic Of	148	Slovak Republic
100	Madagascar	149	Slovenia, Republic Of
101	Malawi	150	Solomon Islands
102	Malaysia	151	Somalia
103	Maldives	152	South Africa
104	Mali	153	South Sudan, Republic Of
105	Malta	154	Spain
106	Marshall Islands, Republic Of The	155	Sri Lanka
107	Mauritania	156	St. Kitts And Nevis
108	Mauritius	157	St. Lucia
109	Mexico	158	St. Vincent And The Grenadines
110	Micronesia, Federated States Of	159	Sudan
111	Moldova, Republic Of	160	Suriname
112	Mongolia	161	Swaziland, Kingdom Of
113	Montenegro	162	Sweden
114	Morocco	163	Switzerland
115	Mozambique, Republic Of	164	Syrian Arab Republic
116	Myanmar	165	Tajikistan, Republic Of
117	Namibia	166	Tanzania
118	Nepal	167	Thailand
119	Netherlands, Kingdom Of The Netherlands	168	Timor-Leste, Democratic Republic Of
120	New Zealand	169	Togo
121	Nicaragua	170	Tonga
122	Niger	171	Trinidad And Tobago
123	Nigeria	172	Tunisia
124	Norway	173	Turkey
125	Oman	174	Turkmenistan
126	Pakistan	175	Tuvalu
127	Palau, Republic Of	176	Uganda
128	Panama	177	Ukraine
129	Papua New Guinea	178	United Arab Emirates
130	Paraguay	179	United Kingdom
131	Peru	180	United States
132	Philippines	181	Uruguay
133	Poland, Republic Of	182	Uzbekistan, Republic Of
134	Portugal	183	Vanuatu
135	Qatar	184	Venezuela, República Bolivariana De
136	Romania	185	Vietnam
137	Russian Federation	186	Yemen, Republic Of
138	Rwanda	187	Zambia
139	Samoa	188	Zimbabwe

Table B1  
Dependent Variable -Economic Freedom Index- All Member Countries

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log GDP	1.529*** (0.0737)	1.775*** (0.0700)	0.980*** (0.0707)	0.962*** (0.0671)	0.959*** (0.0663)	1.027*** (0.0664)	0.297*** (0.0757)	0.250*** (0.0844)	1.087*** (0.0678)	0.369*** (0.0912)	1.309*** (0.0702)	0.691*** (0.136)
CPI	0.00183*** (0.000184)	0.000824*** (0.000172)	0.000104 (9.70e-05)	0.000123 (9.70e-05)	0.000147 (9.62e-05)	0.000124 (9.81e-05)	0.000489*** (0.000161)	0.000564*** (0.000161)	0.000355*** (0.000123)	-1.69e-05 (0.000144)	0.000633*** (0.000135)	0.00645*** (0.000685)
Regime	0.426*** (0.107)											
Military	-0.350*** (0.0725)											
Herfindahl Index Government		-0.160** (0.0751)										
Herfindahl Index Opposition		-0.0370 (0.0826)										
Agg. Governance Indicator			0.0139*** (0.00226)									
Checks and Balances			-0.0145* (0.00809)									
Voice and Accountability				0.00231 (0.00161)								
Control of Corruption				0.00720*** (0.00136)								
Regulatory Quality					4.18e-05 (0.00132)							
Rule of Law					0.00855*** (0.00177)							
Civil Liberties					0.0740*** (0.0213)							
Government Effectiveness						0.00305** (0.00153)						
KOF Index of Globalization							0.0678*** (0.00234)					
KOF Index of Economic Glob.								0.0377*** (0.00232)				
KOF Index of Social Glob.								0.0237*** (0.00296)				
KOF Index of Political Glob.								0.00784*** (0.00185)				
Monetary Freedom									0.0153*** (0.00105)			
Fiscal Freedom									0.00804*** (0.00138)			
Investment Freedom										0.00161* (0.000924)		
Labour Freedom										0.00369*** (0.00126)		
Property Rights											-0.000668 (0.00134)	
Primary School Enrollment												0.00778*** (0.00261)

Net Off. Aid & Off. Dev. Ass.												-0.0106*** (0.00335)
Constant	-6.130*** (0.593)	-7.884*** (0.579)	-1.801*** (0.562)	-1.508*** (0.539)	-1.782*** (0.521)	-1.707*** (0.529)	0.289 (0.543)	0.543 (0.609)	-3.879*** (0.520)	3.531*** (0.733)	-3.962*** (0.586)	-0.0552 (1.009)
Observations	1,711	1,480	1,250	1,365	1,352	1,365	1,672	1,563	1,439	850	1,440	818
R-squared	0.329	0.377	0.203	0.208	0.218	0.188	0.556	0.579	0.393	0.049	0.264	0.400
Number of countries	139	132	132	143	141	143	148	133	139	138	139	113

Note all models are estimated using country-fixed effects. Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table B2  
Dependent Variable -Polity2- All Member Countries

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log GDP	-0.381 (0.243)	1.012*** (0.249)	0.462 (0.290)	1.019*** (0.253)	-0.283 (0.282)	0.816*** (0.290)	-1.937*** (0.301)	-3.081*** (0.355)	0.162 (0.293)	0.862 (0.527)	0.780*** (0.261)	-0.0440 (0.554)
CPI	0.0212*** (0.00129)	0.00938*** (0.00128)	0.00635*** (0.00117)	0.00572*** (0.00103)	0.00519*** (0.00112)	0.00518*** (0.00119)	0.0151*** (0.00190)	0.0130*** (0.00191)	0.00388*** (0.00114)	0.000299 (0.00121)	0.00360*** (0.00116)	0.0347*** (0.00333)
Regime	3.271*** (0.289)											
Military	-4.984*** (0.212)											
Herfindahl Index Government		-1.155*** (0.238)										
Herfindahl Index Opposition		-2.366*** (0.252)										
Agg. Governance Indicator			0.0946*** (0.0105)									
Checks and Balances			0.374*** (0.0455)									
Voice and Accountability				0.174*** (0.00722)								
Control of Corruption				-0.0125* (0.00667)								
Regulatory Quality					0.0111* (0.00619)							
Rule of Law					0.0308*** (0.00857)							
Civil Liberties					1.298*** (0.101)							
Government Effectiveness						0.0124* (0.00743)						
KOF Index of Globalization							0.147*** (0.0116)					
KOF Index of Economic Glob.								0.0730*** (0.0106)				
KOF Index of Social Glob.								0.00785 (0.0122)				
KOF Index of Political Glob.								0.0876*** (0.00750)				
Monetary Freedom									0.0256***			

Fiscal Freedom									(0.00384)			
									-0.00168			
									(0.00603)			
Investment Freedom										0.0109*		
										(0.00561)		
Labour Freedom										-0.0194***		
										(0.00744)		
Property Rights											-0.00665	
											(0.00517)	
Primary School Enrollment												0.0364***
												(0.0119)
Net Off. Aid & Off. Dev. Ass.												-0.0362**
												(0.0172)
Constant	4.237**	-1.250	-6.014***	-12.29***	-2.250	-3.604	9.572***	16.89***	0.698	-1.985	-2.162	-3.503
	(1.861)	(1.993)	(2.234)	(1.960)	(2.099)	(2.212)	(2.138)	(2.519)	(2.135)	(4.190)	(2.078)	(4.063)
Observations	3,791	2,945	1,819	1,963	1,962	1,963	3,672	3,449	2,331	1,100	2,335	1,558
R-squared	0.283	0.094	0.129	0.267	0.137	0.032	0.154	0.192	0.042	0.013	0.023	0.197
Number of countries	143	134	143	151	151	151	150	137	150	148	150	121

Note all models are estimated using country-fixed effects. Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.