Chapter 7
Macroeconomic, Political, and Institutional Determinants of FDI Inflows to Ethiopia: An ARDL Approach

Addis Yimer

Abstract Based on the lines of the eclectic theoretical framework of Foreign direct investment (FDI) flows, this study investigates the macroeconomic, political, and institutional determinants of FDI inflows to Ethiopia for the period 1970–2013. Using the ARDL modeling approach, it finds that political and institutional factors are crucial both in the long run and the short run in FDI inflows to the country. On the macroeconomic side, the market size of the country, availability of natural resources, openness to trade, and deprecation in the nominal exchange rate are found to positively affect FDI inflows to the country. On the other hand, macroeconomic instability is found to effect FDI inflows negatively. In addition, better political stability, government effectiveness and regulatory quality, and better performance of the rule of law are found to positively affect FDI inflows to the country. A careful liberalization of the foreign exchange market and that of external trade, sustaining the current growth momentum of the economy, improving institutional quality, and strengthening the political stability of the country, among others, are fundamental areas that the government could work on to strengthen Ethiopia's position in FDI inflows on the continent.

Keywords ARDL · Determinants · Ethiopia · FDI · Macroeconomic stability · Political · Institutional

7.1 Introduction

Foreign direct investment (FDI) plays an important role in the growth process of poor nations (UNCTAD 2013). Not only does it provide the much needed capital for filling the saving-investment and foreign exchange gaps in these countries, but it is also important for generating employment opportunities and transferring technology and managerial know-how. In addition, by providing access to foreign

A. Yimer (✉)
Department of Economics, Addis Ababa University, Addis Ababa, Ethiopia
e-mail: addisyimer@gmail.com

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markets and building capacity through the transfer of technology, FDI improves the integration of the host country into the global economy thus fostering growth.

The Ethiopian economy has to grow at least at an annual growth rate of 11% for more than two decades so that it can attain the per capita income levels that have been achieved today by most sub-Saharan African (SSA) countries (UNDP 2011). However, the country's domestic sources of finance are limited and cannot help it achieve such a level of growth. In 2013, its gross domestic capital formation as a share of GDP was around 33%, with gross domestic savings lagging behind at around 6%. One alternative for filling this savings gap is through loans and development assistance from multilateral agencies such as the World Bank and IMF. However, as noted by Astatike and Assefa (2005) such a source of foreign finance is unstable in nature.

Acknowledging this fact, the current Ethiopian government has opened several economic sectors to foreign investors so that they fill the desired saving-investment gap. The government has issued several investment incentives, including tax holidays, duty-free imports of capital goods, and export tax exemptions to encourage FDI. Further, the Ethiopian Investment Authority (EIA) has been established to service investors and streamline investment procedures. In addition to liberalizing investments, other areas of the external sector have also been liberalized through unilateral, multilateral, and regional liberalization.

However, despite all these efforts, Ethiopia is not a major recipient of FDI inflows. The country's average share of global FDI inflows was only 0.01% in 2000–2013. In the same period, its annual average share in FDI inflows to the SSA region was only 2%. The central question, therefore, is Why does Ethiopia not attract much FDI?

There exists a very large body of literature on the determinants of FDI flows. While most of them are cross-country studies in the developing world in general, little has been done to investigate the determinants of FDI flows to Ethiopia specifically. While cross-country studies are able to identify the factors that drive FDI and examine its impact across countries, they fail to provide in-depth analyses and country specific factors that are crucial in attracting FDI. Even the few studies done on Ethiopia (which are by and large unpublished Masters' theses) deal with the economic determinants of FDI flows and ignore the role of political, governance, and institutional determinants of FDI flows to the host country. To the best of our knowledge, ours is among the first studies that try to capture the effects of a wide range of political and institutional quality indicators in the host country for attracting FDI inflows. Among other things, most studies also share the problem of a short series of data and omission of relevant macroeconomic variables in their models. They are not theoretically and empirically systematic either. Our study attempts to address these gaps.

The rest of the paper is organized as follows. Section 7.2 presents the trends in FDI inflows to Ethiopia. Section 7.3 gives a review of the theoretical and empirical

literature on the determinants of FDI inflows to a host country. Our study's empirical methodology is discussed in Sect. 7.4 while Sect. 7.5 discusses the results of the empirical exercise. Finally, Sect. 7.6 gives a conclusion and some policy recommendations.

7.2 FDI Inflows to Ethiopia

Net FDI inflows to Ethiopia were at a mere US$3.9 million in 1970, representing a very negligible share in global investment flows. This figure increased substantially to US$953 million in 2013, although its share in global FDI flows was still a decimal. This increase in FDI inflows to the country may be explained by factors that characterized the economic and political landscape that prevailed over the period under study. This period mainly witnessed two distinct political regimes. The first period, 1974–1991 related to the Derg regime, where the socialist ideology of a centralized command economic system controlled the sphere of socioeconomic policy making in the country. As noted by Geda (2008), this regime was mainly characterized by a deliberate repression of market forces and socialization of the production and distribution process and adoption of a 'hard control' regime. In this period, the country's economic performance was highly irregular due to its dependence on the agricultural sector (which is vulnerable to the vagaries of nature) and the intense conflict that characterized the period (see Geda 2008). The second period, post-1991 to the present, started with the coming to power of the Ethiopian People Revolutionarily Democratic Front (EPRDF) in 1991, after the demise of Derg. In terms of socioeconomic policies, there was a significant move away from the doctrines of the command system in favor of a free market.

The regime has adopted structural adjustment policies of market liberalization with the support of the World Bank and IMF (see Geda 2008). Economic performance during this period has substantially improved not only by the Derg's standards but also by African standards. The improvements in economic performance in this period appear to be a combined result of the reforms, favorable weather conditions, and better political stability and relative peace that have prevailed (see Geda 2008). Likewise, FDI inflows to the country have also registered a significant increase in this period. They increased from a period's average of US$5.9 million during the Derg regime to around US$270 million in the EPRDF regime (UNCTAD 2013). Thanks to the ups and downs (due to the global financial crisis in 2008 and deteriorating peace as a result of the war with Eritrea in 1998–2000, among other things), net FDI inflows reached a level of nearly US$1 billion by 2013 (Fig. 7.1). As argued in a report of the Ethiopian Investment Commission (2014), this was mainly due to the various liberalization policies, better economic performance, and a stable political sphere that characterized the period.

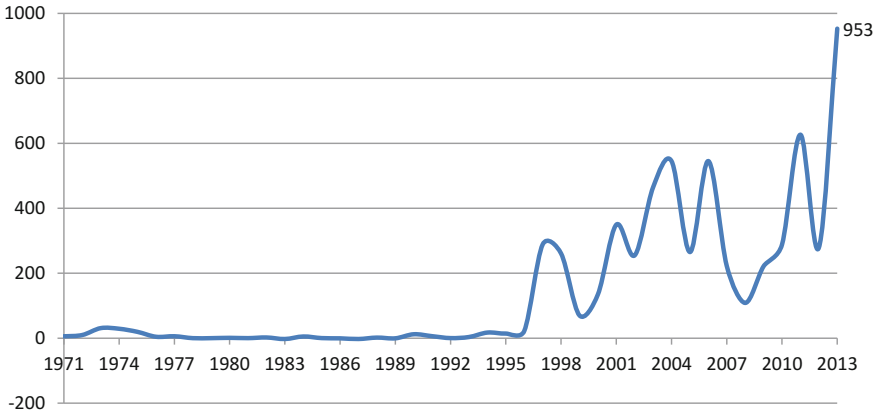


Fig. 7.1 FDI inflows to Ethiopia (1970–2013) (in million US$). *Source* Author's computation based on World Development Indicators (2015b) and UNCTAD (2013)

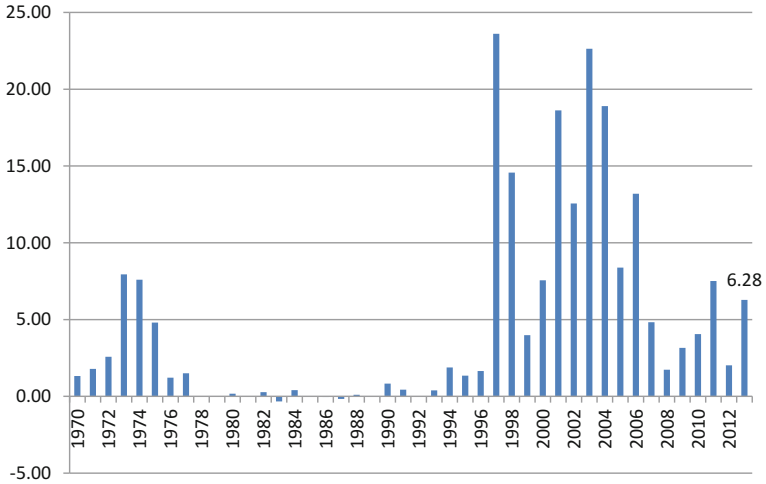


Fig. 7.2 Ethiopia's FDI inflows as percentage of gross fixed capital formation. *Source* Author's computation based on World Development Indicators (2015b) and UNCTAD (2013)

Total FDI inflows as a percentage of gross fixed capital formation in the country were around 0.7% in 1990. This reached a little over 6% in 2013, despite the ups and downs over the years. However, this is not a very big increase (see Fig. 7.2).

If we see the distribution of FDI inflows by sector, manufacturing led the list (with a 70.6% share of the total FDI inflows) followed by the service sector (10.7%) and agriculture (8.7%) (Ethiopian Investment Commission 2014).

7.3 Review of Related Literature

7.3.1 Theoretical Literature

The early neo-classical approach, summarized in MacDougall (1960), hypothesized that capital flows across countries were governed by differential rates of return. It argued that such capital inflows were welfare enhancing for both the parties engaged in the capital's movement. The MacDougall model assumes perfect competition, risk-free capital movement, mobility in factors of production, and no risk of default. The portfolio approach to FDI, presented in a reaction to the MacDougall model, emphasizes not only return differentials but also risk (Agarwal 1980). In line with this, Ohlin (1933) was one of the first to address the issue of determinants of FDI. According to Ohlin (1933), FDI was motivated mainly by the possibility of high profitability in growing markets, along with the possibility of financing these investments at relatively low rates of interest in the host country. Other determinants were the necessity to overcome trade barriers and to secure sources of raw materials. This is strengthened by a theory which emphasizes the positive relationship between FDI and output (sales in host country) along the lines of Jorgenson's (1963) model (see Agarwal 1980).

A major criticism of these theories relates to the question of perfection in markets. Hymer (1976) and Kindleberger (1969) argue that if foreign firms are to compete and succeed in the host country, then they must be in possession of a specific and transferable competitive advantage both over local firms and other potential entrants into the local market. Building on Hymer's (1960) analysis Kindleberger (1969) posited that instead of multinational firms' behavior determining the market structure, it is the market structure (monopolistic competition) that determines a firm's conduct by internalizing its production. Caves (1971) has supported such an analysis and has further argued that FDI is also related to trade barriers and could be taken as a way of avoiding uncertainties in supplies, or as a way of imposing barriers to new firms in the external market. This analysis also focuses on the micro-foundations of FDI by moving from a simple capital movement/ portfolio theory to a broader production and industrial organizational theory. This school of thought has formed the basis of a whole strand of literature. According to this line of thinking, some advantages of competitive foreign firms include cheaper sources of financing; the use of brand names and patent rights; technological, marketing, and managerial skills; economies of scale; and entry and exit barriers (Agarwal 1980; Kindleberger 1969).

A related micro-based theory of FDI has also emerged with the development of Vernon's product cycle theory (Vernon 1966). The product cycle theory is an advance over previous theories in that it incorporates an analysis of oligopoly and strategic market considerations. Based on Vernon's theory of 'product cycle,' and the existence of 'new' and 'old' goods, Krugman 1979) developed this theoretical avenue further for explaining FDI flows. Specifically, he extended the analysis to a North–South framework with innovation (in the 'North') and technology transfer

(to the 'South') representing its crucial aspects. Krugman (1979) notes that technological progress raises the marginal product of capital and provides an incentive for FDI. On the other hand, this process may be reversed through technology transfer. Mainstream trade theories usually underlie this type of analysis. Recent theories of trade such as that of the 'economies of specialization' which emphasize the existence of intra-industry (as well as intra-firm) trade, also provide scope for an analysis of FDI (see, for instance, Ocampo's 1986 survey).

Notwithstanding Vernon's contribution, building on Hymer's original contribution a second wave of refinements to the neo-classical capital movement/portfolio theory of FDI has also come into being with the emergence of explanations based on the ideas of 'international firm' and 'industrial organization.' The fact that decision making about FDI takes place within the context of oligopolistic firm structures and that such an investment includes a package of other inputs such as intermediate imports and capital flows has led to the development of alternative explanations grounded in the theory of industrial organization (see Agarwal 1980; Dunning 1993; Helleiner 1989). In this approach as set out by Hymer, foreign firms are seen as having an advantage over local ones. The foreign firms' pursuit of FDI is explained by the theory of internalization. This is characterized by the desire to minimize transaction costs, *a la* Coase (1937) to tackle risks and uncertainties, increase control and market power, achieve economies of scale, and ensure advantageous transfer pricing (Buckley and Casson 1976; Hymer 1976). In this approach, oligopoly is seen as mitigating, rather than creating market imperfections (Helleiner 1989).

Dunning's (1993) work, which he terms the 'eclectic paradigm,' represents a culmination of this trend toward a refinement of FDI theories. Without departing much from the Heckscher–Ohlin–Samuelson theory of trade for explaining the spatial distribution of multinational firms, Dunning's paradigm summarizes this strand of theory under an 'ownership-specific, location and internalization' (OLI) framework (see Dunning 1993). Framed in a micro-macroeconomic framework, Dunning's (1981, 1988, 1993) approach provides a flexible and popular framework where he argues that FDI is determined by three sets of advantages which direct investments should have over the other institutional mechanisms available for a firm in satisfying the needs of its customers at home and abroad. The first of the advantages is an ownership (O)-specific one which includes the advantage that a firm has over its rivals in terms of its brand name, patent, or knowledge of technology and marketing. This allows the firm to compete with other firms in the markets that it serves regardless of the disadvantages of being foreign. The second is location (L)-specific advantages which relate to the importance for a firm operating and investing in the host country and these advantages that make the chosen foreign country a more attractive site for FDI than others. The third advantage is the internationalization (I) advantage which relates to the preference of a 'bundled' FDI approach over 'unbundled' product licensing, capital lending, or technical assistance (Wheeler and Mody 1992). These refer to the superior commercial benefits for firms resulting from the exploitation of ownership and location-specific advantages by investing in foreign affiliates that they control,

rather than through transactions with unrelated firms located abroad. Helleiner (1989) notes that 'this "eclectic" theory of direct investment drawing on firm-specific attributes, location advantages and internalization advantages—is widely accepted.' There also exists an international trade version of FDI determination (termed the macro-approach) which is associated with Kojima (1973) work. The Kojima model argues that FDI may be explained by the 'comparative disadvantage' of industry in the investing countries. According to Kojima's theory, this may be mitigated by investing in a foreign industry, which may be able to achieve comparative advantages in the production of a particular product and potentially even export back to the home country. Naturally, this type of FDI will also have the effect of increasing trade volumes (Kojima 1973).

In sum, the determinants of the FDI theory cover a range of explanations: the pure capital movement, product cycle, industrial organization, the stagnation thesis, and other political considerations. In the African context, the pure capital theory does not work since the assumptions do not hold. Neither is Krugman's hypothesis workable since it is more relevant for countries with a good industrial base and infrastructure. On the other hand, the concentration of multinational corporations in the mining sectors in most African countries and, to a good degree, the importance of the colonial history in determining their spatial pattern (see Geda 2002) might be taken as lending support to the importance of the 'eclectic' approach. This theoretical insight is used in identifying FDI determinants in the empirical analysis and construction of our model.

7.3.2 Empirical Literature: Empirical Regularity in Africa

The empirical literature on the determinants of FDI in developing countries is voluminous and is based on both country case and cross-sectional analyses. However, in the discussion that follows, we focus on evidence found in African studies which offer some insights about the empirical analysis conducted in our study. In general, the findings of these studies reveal that labor costs, country size, economic openness, exchange rate regime, return on investment, human capital, and political factors are among the most important factors explaining FDI flows to the region.

Most studies on Africa report that FDI to Africa is largely motivated by natural resource endowments of the countries on the continent (Asiedu 2002, 2003; Asiedu and Gyimah-Brempong 2008; Basu and Srinivasan 2002; Morisset 2000; among others). Based on a survey conducted in 29 African countries using both panel and cross-sectional analysis, Morisset (2000) reported a high correlation between FDI inflows and total value of natural resources in each country. He further reported that economic growth and trade openness had a large impact on the level of FDI inflows that a given country received. Basu and Srinivasan (2002) found that almost 40% of the FDI in their African study found its way to the primary sector, particularly in the oil and mineral extraction business. Countries such as Angola, Botswana, Namibia,

and Nigeria received foreign investments targeted at the oil and minerals sectors of their economies (Basu and Srinivasan 2002). Though natural resource abundance is a common factor which explains much of the FDI inflows, a few successful African countries have also managed to attract FDI by creating favorable economic, social, and political environments (Basu and Srinivasan 2002; UNCTAD 1998). For instance, countries such as Mauritius and Seychelles have managed to attract FDI by tailoring their FDI policies through liberalization, export orientation, tax, and other investment incentives. Moreover, some countries such as Lesotho and Swaziland have attracted FDI because they are near South Africa and investors wanting to serve the large market in South Africa have located their subsidiaries in these countries (Basu and Srinivasan 2002; UNCTAD 1998).

Asiedu (2002) analyzed 34 countries in sub-Saharan Africa over 1980–2000. Using a panel data analysis, she found that openness to trade, higher incomes and better growth prospects, and better institutional frameworks and infrastructure were 'rewarded' with more investments. Later studies by Asiedu (2003, 2006) show the significant role of a country's market size and natural resource endowment in enhancing FDI. Lower inflation, good infrastructure, an educated population, openness, less corruption, political stability, and a reliable legal system were also found to have similar positive effects on FDI flows into the continent in these studies. Asiedu and Gyimah-Brempong (2008) validated these finding to a large extent and noted that countries that were small or lacked natural resources could attract FDI by improving their institutions and policy environments.

Based on a co-integration analysis for 1970–2000 using data from 19 SSA countries, Bende-Nabende (2002) found market growth, export-oriented policies, and liberalization as the most dominant long-run determinants of FDI in Africa. In line with Bende-Nabende (2002), focusing on manufactured goods, primary commodities, and services, Kandiero and Chitiga (2003) analyzed the impact of openness on FDI flows to Africa in 51 African countries. Their findings indicate that FDI responds significantly to increased openness in the whole economy in general and in the service sector in particular.

Using fixed and random effects models on a panel dataset for 29 African countries over the period 1975–1999, Onyeiwu and Shrestha (2004) identified economic growth, inflation, openness of the economy, international reserves, and natural resource availability as important determinants of FDI to Africa. Contrary to conventional wisdom, political rights and infrastructure were found to be unimportant in their study. Krugell (2005) also empirically tested the significance of a number of hypothesized determinants of FDI in sub-Saharan Africa. The pooled cross-country and time-series estimation covered the period 1980–1999 in 17 countries. Krugell's results are in line with the findings mentioned earlier, particularly with respect to economic growth and openness.

Abdoul (2012) estimated a model of FDI determination using five-year panel data with the system-GMM technique over 1970–2009 for 53 African countries. He found that larger countries attracted more FDI. However, regardless of their size, more open and politically stable countries that offered higher returns to investments also attracted FDI. FDI inflows were also found to be persistent in the sense that

countries that manage to attract FDI today are likely to attract more FDI in the future. Using cross-country data for 53 African countries for the period 1996–2008, Anyanwu (2012) found market size (whose proxy is urban population as percentage of total population and GDP per capita of the host country), openness to trade, the rule of law, foreign aid, natural resources, and past FDI inflows (increased agglomeration) to have a positive effect on FDI inflows. He also found domestic financial development to have a negative effect on FDI inflows. Further, he found that East and Southern African sub-regions appeared positively disposed to obtaining higher levels of inward FDI.

Among the most recent FDI studies on Africa, Geda and Yimer (2015) have estimated a model of FDI determination for Africa based on a new analytical country classification of African economies as 'Fragile, Factor, and Investment driven' economies. Using a panel co-integration approach over 1996–2012 they found market size, availability of natural resources, openness to international trade, a stable macroeconomic environment, better infrastructure, and an effective bureaucracy to have a strong positive impact on attracting FDI to the continent. On the other hand, they also found that political and macroeconomic instability and high financial and transfer risks had a negative effect on attracting FDI to the continent. However, the effect of these factors varied significantly across the analytical country classification that they developed (Geda and Yimer 2015). Among all determinants of FDI only government effectiveness and natural resource abundance were found to be important across all countries. They stress on the importance of emphasizing different policies in different countries or country groups.

Country case studies on Africa, which invariably use time series analyses, have reported results that are similar to those in recent cross section-based studies reviewed earlier. Among these, Astatike and Assefa (2005) examined determinants of FDI in Ethiopia over 1974–2001 using a time series analysis. Their empirical analysis shows that economic growth, export orientation (openness), and liberalization had a significant positive impact on FDI, while macroeconomic instability (measured by inflation) and a low level of physical infrastructure (measured by telephone lines per 1000 people) had a negative impact. Similarly, using a time series analysis for Cameroon, Sunday and Lydie (2006) show that the level of infrastructure development (increased electricity production and the ratio of paved roads) was the most significant determinant of FDI in the country. Market size (GDP per capita), openness, human capital development, and the rate of economic growth were also important but were found to be less significant. Exchange rate, political risk, the rate of inflation, debt burden, agglomeration effect, and the creation of an export-processing zone did not have any influence on FDI in Cameroon.

Seetanah and Rojid (2011) examined the determinants of FDI in Mauritius using reduced-form demand for the inward FDI function. In their study, openness, wages, and the quality of labor in the host country were important. Size of the market was reported to have a relatively lesser impact on FDI; this is probably related to the limited size of the population and the good export opportunities from Mauritius to other African countries especially in SADEC/COMESA regions. The significant coefficient of the lagged dependent variable in their model suggests the presence of

dynamism in the system. Finally, Okpara (2012), using Granger causality and an error correction model investigated the determinants of FDI flows to Nigeria during 1970–2009. He found that natural resource abundance, fiscal incentives, favorable government policies, exchange rate, and infrastructural development had a positive and statistically significant effect on FDI flows to Nigeria. Though statistically insignificant, market size and trade openness were found to have a positive sign while political risk was found to have a negative sign. Further, the statistically significant error correction term revealed that past foreign investment flows could significantly stimulate current investment inflows.

In sum, both the theoretical discussion in the previous section and the brief review of empirical studies in this section show that market size, openness of the economy, natural resource endowments, and political and macroeconomic stability are important determinants of FDI flows to Africa. These are important factors that any model about determinants of FDI flows to Africa needs to consider. However, when examined in light of FDI theoretical literature, none of these African studies formulate their empirical models by explicitly following one or the other strand of literature. The variables used in their models, however, suggest the use of Dunning's eclectic paradigm without stating which variable is used as a proxy for which theoretical concept. This is partly a result of missing theoretical discussions and formulations in almost all these studies.

7.4 The Empirical Methodology

7.4.1 Auto-regressive Distributive Lag (ARDL) Approach to Co-integration

In economic literature, a number of co-integration techniques such as the Engle-Granger (1987), Johansen (1988), Johansen and Juselius (1990), Gregory and Hansen (1996), Saikkonen and Lütkepohl (2000), and Pesaran et al.'s (2001) ARDL approach have been used.

The ARDL approach developed by Pesaran et al. (1996, 2001) and Pesaran and Shin (1999) has become popular in recent years. This ARDL model has some advantages over other co-integration approaches. Firstly, this technique is comparatively more robust in small or finite samples consisting of 30–80 observations (Pattichis 1999). Secondly, it can be utilized irrespective of whether regressors are of $I(0)$ or $I(1)$ or mutually integrated though there still is a prerequisite that none of the explanatory variables is of $I(2)$ or higher order, that is, the ARDL procedure will be inefficient in the existence of $I(2)$ or higher order series. Thirdly, the ARDL model applies a general-to-specific modeling framework by taking a sufficient number of lags to capture the data-generating process.

Further, traditional co-integration methods may also experience the problems of endogeneity, whereas the ARDL method can distinguish between dependent and

explanatory variables and remove the problems that may arise due to the presence of auto-correlation and endogeneity. The ARDL co-integration estimates short-run and long-run relationships simultaneously and provides unbiased and efficient estimates. The appropriateness of using the ARDL model is that it is based on a single equation framework. The ARDL model takes sufficient numbers of lags and directs the data-generating process in a general to specific modeling framework (Harvey 1981). Unlike other multivariate co-integration techniques such as Johansen and Juselius (1990), the ARDL model permits the co-integration relationship to be estimated by OLS once the lag order of the model is identified. The error correction model (ECM) can also be drawn by using the ARDL approach (Pesaran and Shin 1999). ECM allows drawing outcomes for long-run estimates while other traditional co-integration techniques do not provide such types of inferences. As noted by Pesaran and Shin (1999), ECM joins together short-run adjustments with long-run equilibrium without losing long-run information.

These advantages of the ARDL technique over other standard co-integration techniques justify the application of ARDL approach in our study to analyze the relationship among the FDI model's variables.

7.4.2 The Empirical Model in the ARDL Framework

In order to examine the long-run relationship and the dynamic interaction between FDI and institutions, our study employs an ARDL modeling approach. According to Pesaran et al. (2001) the ARDL approach requires three steps:

The first step is estimating the long-run relationship among the variables. This is done by testing the significance of the lagged levels of the variables in the error correction form of the underlying ARDL model. Following Pesaran et al. (2001), our ARDL model can be written as:

$$\begin{aligned}\Delta \mathrm{LFDI}_t = {} & \alpha_0 + \beta_1 \mathrm{LFDI}_{t-1} + \beta_2 \mathrm{LRGDP}_{t-1} + \beta_3 \mathrm{LRES}_{t-1} \\ & + \beta_{41} \mathrm{LINF}_{t-1} + \beta_5 \mathrm{LDEBGDP}_{t-1} + \beta_6 \mathrm{LOPNES}_{t-1} \\ & + \beta_7 \mathrm{LNER}_{t-1} + \beta_{86\mathrm{OLSTABDPountry}} \mathrm{Polinst}_{t-1} + \sum_{i=1}^{p} \delta_1 \Delta \mathrm{LFDI}_{t-1} \\ & + \sum_{i=0}^{p} \delta_2 \Delta \mathrm{RGDP}_{t-1} + \sum_{i=0}^{p} \delta_3 \Delta \mathrm{LRES}_{t-1} + \sum_{i=0}^{p} \delta_4 \Delta \mathrm{LINF}_{t-1} \\ & + \sum_{i=0}^{p} \delta_5 \Delta \mathrm{LDEBGDP}_{t-1} + \sum_{i=0}^{p} \delta_6 \Delta \mathrm{LOPNES}_{t-1} \\ & + \sum_{i=0}^{p} \delta_7 \mathrm{LNER}_{t-1} \sum_{i=0}^{p} \delta_8 \Delta \mathrm{Polinst}_{t-1} + \varepsilon_t\end{aligned}$$

where LFDI is log of FDI, LRGDP is log of real GDP, RES is log of natural resource abundance, INF is log of the domestic annual inflation rate, LDEBGDP is log of external debt to GDP ratio, LOPNES is log of openness, LNER is log of nominal exchange rate, Polinst is an indicator of political stability, and quality of institutions in the host country. As there is a high degree of multi-collinearity among the six political and institutional indicators, we used each of the political and institutional indicators separately. Hence, the variable Polinst indicates in all of the three steps a model that incorporates only a single political and institutional indicator among the macroeconomic variables. The selection of the optimum lagged orders of the ARDL models is based on the Schwarz Bayesian Criterion (SBC). In order to test co-integration among the variables, the Wald F-statistics for testing the joint hypotheses has to be compared with the critical values as tabulated by Pesaran et al. (2001).

The joint hypotheses to be tested are as follows:

$$H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_8 = 0$$
$$H_1 : \beta_i \neq 0, i = 1, 2 \ldots, 8$$

If the *F*-statistic is higher than the upper bound critical value, the null hypothesis (H_0) is rejected, indicating that there is a long-run relationship between the lagged level variables in the model. In contrast, if the *F*-statistic falls below the lower bound, then H_0 cannot be rejected and no long-run relationship exists. However, if the *F*-statistic falls in between the upper bound and lower bound critical values, the inference is inconclusive. At this condition, the order of integration of each variable should be determined before any inference can be made.

In the second step, once the co-integration is established, the conditional ARDL (p, q, r, s, t, u, v, w) long-run model of the determinants of LFDI_t can be estimated as follows:

$$\begin{aligned}\text{LFDI}_t = \alpha_0 &+ \sum_{i=1}^{p} \beta_1 \text{LFDI}_{t-1} + \sum_{i=0}^{q} \beta_2 \text{RGDP}_{t-1} + \sum_{i=0}^{r} \beta_3 \text{LRES}_{t-1} + \sum_{i=0}^{s} \beta_4 \text{LINF}_{t-1} \\ &+ \sum_{i=0}^{t} \beta_5 \text{LDEBGDP}_{t-1} + \sum_{i=0}^{u} \beta_6 \text{LOPNES}_{t-1} \\ &+ \sum_{i=0}^{v} \beta_7 \text{LNER}_{t-1} \sum_{i=0}^{w} \beta_8 \text{Polinst}_{t-1} + \varepsilon_t\end{aligned}$$

In the final step, we obtain the short-run dynamic parameters by estimating an error correction model (ECM) associated with the long-run estimates. This is specified as follows:

$$\Delta \mathrm{LFDI_t} = \alpha_0 + \sum_{i=1}^{p} \delta_1 \Delta \mathrm{LFDI}_{t-1} + \sum_{i=0}^{q} \delta_2 \Delta \mathrm{LRGDP}_{t-1} + \sum_{i=0}^{r} \delta_3 \Delta \mathrm{LRES}_{t-1} + \sum_{i=0}^{s} \delta_4 \Delta \mathrm{LINF}_{t-1} + \sum_{i=0}^{t} \delta_5 \Delta \mathrm{LDEBGDP}_{t-1} + \sum_{i=0}^{u} \delta_6 \Delta \mathrm{LOPNESO}_{t-1} + \sum_{i=0}^{v} \delta_7 \mathrm{LNER}_{t-1} + \sum_{i=0}^{w} \delta_8 \Delta \mathrm{LPolins}_{t-1} + \theta \mathrm{ECM}_{t-1} + \varepsilon_t$$

where, $\delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6, \delta_7$ and δ_8 are the short-run dynamic coefficients of the model's convergence to equilibrium and θ is the speed of adjustment.

In specifying the equation of our FDI model, we used the theoretical lines of Dunning's (1981, 1988, 1993) 'eclectic theory' of OLI advantages as determinants of FDI flows to Africa. In addition to location advantages, Dunning's ownership and internalization (LI) advantages that may attract FDI to Ethiopia could be proxied by market size, natural endowments, and a stable macroeconomic and political environment as African empirical literature in the previous section shows. Thus, we used these variables which are now briefly described as part of our empirical model.

The FDI data (the dependent variable) series is taken from the African Development Indicators (2015) and the World Development Indicators (2015) of The World Bank (2015a, b).

7.4.3 Macroeconomic Variables

RGDP: Real GDP is a measure of the size of the host market, which also represents the host country's economic conditions and the potential demand for output. Following the literature, real GDP is used to proxy for market size. Since this variable is used as an indicator of the market potential for products of foreign investors, the expected sign is positive.

RES: Natural resource availability. The availability of natural resources might be a major determinant of FDI to the host country. FDI takes place when a country richly endowed with natural resources lacks the amount of capital or technical skills needed to extract or/and sell to the world market. Foreign firms embark on vertical FDI in the host country to produce raw materials or/and inputs for their production processes at home. This means that certain FDI may be less related to profitability or market size of the host country than natural resources which are unavailable to the domestic economy of foreign firms. As posited by the eclectic theory, all else being equal, countries that are endowed with natural resources receive more FDI. As noted by Asiedu (2002) very few studies on the determinants of FDI control for

natural resource availability (except Morisset 2000; Geda and Yimer 2015). The omission of natural resources from estimations, especially for African countries may cause the estimates to be biased (Asiedu 2002). Given the absence of fuel and other petroleum related resources in the country, the share of mining and quarrying value added (current US$) is used to capture the availability of natural resource endowments. This variable is considered acknowledging the fact that a good share of FDI inflows to the country found its way to this sector.

OPNES: Trade openness as measured by total trade as a percentage of GDP. In literature, the degree of liberalization of the trade regime in the host country is regarded as a very important factor that promotes FDI inflows. This proxy is important for foreign direct investors who are motivated by the export market. More open economies usually follow 'appropriate' trade and exchange rate policies and espouse a relatively liberal investment regime (Geda and Yimer 2015).

DEBGDP: External debt as a percentage of GDP. External debt is considered a component of financial risk, influencing FDI inflows negatively (Nonnenberg and Mendonca 2004). In addition, heavily indebted countries represent higher transfer risks—the risk of potential restrictions on the ability to transfer funds across national boundaries. Transfer risks are an important component of country risks and a variable closely monitored by foreign investors. Higher transfer risks may cause foreign capital to move out of a country and new FDI flows to be re-routed to safer locations. The sign associated with *EXTDEBTGDP* is expected to be negative.

INF: Annual inflation rate. This is another important variable of macroeconomic stability indicators which may affect FDI. It represents changes in the general price level or inflationary conditions in the economy. In our study, the impact of inflation rates on FDI is expected to be negative.

NER: The nominal exchange rate. The effect of changes in exchange rates on FDI flows is ambiguous. Elbadawi and Mwega (1997), among others, used the real exchange rate as an indicator of a country's international competitiveness, hypothesizing that a real depreciation would attract larger FDI flows. However, it may be argued that unless the purpose of FDI flows to a country is to build an export platform overvalued exchange rates should not represent a considerable hurdle to foreign investors. On the contrary, depreciation increases the costs of imported inputs and reduces the foreign currency value of profit remittances, both of which have adverse effects on the profitability of FDI projects. This effect will dominate if FDI is undertaken primarily to serve the domestic market. Thus, if we assume that a prospective investor uses the previous year's change in the exchange rate as a guide to its evolution in the near future, we would expect a negative sign on the variable Δ ER (since an increase in the index represents a depreciation).

*7.4.4 Political and Institutional Variables (***Polinst***)*

As noted by Schneider and Frey (1985) political instability and the frequent occurrence of disorder 'create an unfavorable business climate which seriously

erodes the risk-averse foreign investors' confidence in the local investment climate and thereby repels FDI away.' Political stability, as argued by Aseidu (2002), is a significant factor in location decisions of multinational corporations (MNCs), especially in their decisions to invest in African states.

Our study used the Worldwide Governance Indicators (WGI) research dataset of the Political Risk Services (2015) to capture the effect of political instability and quality of institutions in attracting FDI inflows to the host country. This dataset summarizes the views on the quality of governance provided by a large number of enterprises, citizens, and expert survey respondents in industrial and developing countries. This data was gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms.

WGI projects constructs of aggregate indicators of six broad dimensions of governance: Voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; the rule of law; and control of corruption. The six aggregate indicators are based on 31 underlying data sources reporting the perceptions of governance of a large number of survey respondents and expert assessments worldwide.[1]

Voice and accountability (VOIACC): Reflects perceptions about the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

Political stability and absence of violence/terrorism (POLSTAB): Reflects perceptions about the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means including politically-motivated violence and terrorism.

Government effectiveness (GOVEFFE): Reflects perceptions about the quality of public services, the quality of civil services and the degree of its independence from political pressures, the quality of forming and implementing policies and the credibility of the government's commitment to such policies.

Regulatory quality (RQ): Reflects perceptions about the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development.

Rule of law (RoL): Reflects perceptions about the extent to which agents have confidence in and abide by the rules of society, in particular, the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence.

Control of corruption (CORR): Reflects perceptions about the extent to which public power is exercised for private gain, including both petty and grand forms of corruption as well as the 'capture' of the state by elites and private interests.

Political and institutional risk rating, as provided by the International Country Risk Guide of Political Risk Services (2015), awards the highest value to the lowest

[1]Details on the underlying data sources, the aggregation method, and the interpretation of the indicators, can be found in Kaufmann et al.'s (2010) WGI methodology paper.

risk and the lowest value to the highest risk and provides a means for assessing the political and institutional framework of countries. The expected signs for all the institutional variables are positive, which indicates that better quality institutions will stimulate more foreign investments.

As there is a high correlation among the political and institutional indicators and the possibility of a high degree of multi-collinearity among them, we used each of the political and institutional indicators separately and hence estimated six separate models (see Annexure 1 for the correlation matrix).

7.5 Discussion of Results

In an econometric analysis, before carrying out any estimation, a test for stationarity[2] of the variables in the model is undertaken. We found that some of the variables to be integrated were of order one-$I(1)$, while others to be integrated were of order zero-$I(0)$ (see Table 7.1).

Once checked for the unit root tests, the next step in the bounds test approach for co-integration is estimating the ARDL model using the appropriate lag length. One of the most important issues in applying ARDL is choosing the order of the distributed lag functions. Pesaran et al. (2001) have shown that the Schwarz Bayesian Criterion (SBC) should be used in preference over other model specification criteria because it often has more parsimonious specifications: the small data sample in our current study further reinforces this point. Since we had 43 annual observations, we chose two as the maximum lag length in the ARDL model.

For all the models, the bound test for co-integration with the null hypothesis of no long-run relationship among the variables is rejected as the F-statistic is greater than that of the upper bound critical value even at the one percent significance level. This proved the presence of a long-run relationship among the variables of interest in each of the models estimated (Table 7.2).

In the standard least squares model, the coefficient variance-covariance matrix is derived with a key assumption that the error terms are conditionally homoskedastic and serially uncorrelated (White White 1980). In cases where this assumption is relaxed to allow for heteroskedasticity or auto-correlation, the expression for the covariance matrix will be different and our inferences based on it will be misleading (Roecker 1991; White 1980; Wooldridge 2000, among others).

Given that the problem of heteroskedasticty and serial correlation is a customary problem in a time series analysis, it is necessary to estimate the coefficient covariance under the assumption that the residuals are conditionally heteroskedasticity and auto-correlated (Newey and West 1987). The coefficient

[2]In this study, the Augmented Dickey-Fuller unit root testing procedure (which does not take into account a structural break in the data) and the Lumsdaine and Papell (1997) unit root test (which captures two structural breaks in a series) are used. Though the latter is not reported here, both tests are in conformity.

Table 7.1 Unit root test results

Variables	At level		At first difference		Conclusion
	Intercept	Intercept and trend	Intercept	Intercept and trend	
LFDI	−0.82 (0.80)	−2.69 (0.24)	−9.49 (0.00)	−9.42 (0.00)	*I*(1)
LRGDP	−0.51 (0.88)	−1.01 (0.93)	−3.67 (0.00)	−3.72 (0.03)	*I*(1)
LRES	−1.61 (0.47)	−2.98 (0.15)	–6.88 (0.00)	−6.84 (0.00)	*I*(1)
LINF	−5.55 (0.00)	−5.57 (0.00)	−8.28 (0.00)	−8.16 (0.00)	*I*(0)
LDEBGDP	−1.94 (0.31)	−1.05 (0.93)	−4.45 (0.00)	−4.81 (0.00)	*I*(1)
LOPNES	−1.33 (0.61)	−1.89 (0.64)	−6.32 (0.00)	−6.24 (0.00)	*I*(1)
POLSTAB	−2.72 (0.08)	−3.01 (0.04)	−4.41 (0.00)	−3.77 (0.03)	*I*(0)
GOVEFFE	−0.21 (0.93)	−1.71 (0.73)	−7.64 (0.00)	−7.24 (0.00)	*I*(1)
CORR	−2.25 (0.19)	−3.51 (0.05)	−6.69 (0.00)	−6.63 (0.00)	*I*(1)
RoL	−3.54 (0.01)	−3.28 (0.08)	−7.49 (0.00)	−6.29 (0.00)	*I*(0)
RQ	−2.32 (0.17)	−1.80 (0.68)	−3.37 (0.00)	−3.54 (0.00)	*I*(1)
VOIACC	−1.26 (0.64)	−2.48 (0.33)	−6.60 (0.00)	−6.23 (0.00)	*I*(1)

Note *p* values in parenthesis

Table 7.2 Bound test for co-integration

Model	*F*-test statistic	Critical value bound level of significance			
		10%		1%	
		*I*0 bound	*I*1 bound	*I*0 bound	*I*1 bound
Model 1	5.08	1.99	2.94	2.88	3.99
Model 2	4.09	1.99	2.94	2.88	3.99
Model 3	4.91	1.99	2.94	2.88	3.99
Model 4	4.10	1.99	2.94	2.88	3.99
Model 5	4.19	1.99	2.94	2.88	3.99
Model 6	4.20	1.99	2.94	2.88	3.99

covariance estimator under this assumption is termed the Heteroskedasticity and Auto-correlation Consistent Covariance (HAC) or the Newey-West estimator. Note that both these approaches will change the coefficient standard errors of an equation, but not their point estimates (Newey and West 1987). Newey and West (1987)

have proposed a more general covariance estimator that is consistent in the presence of both heteroskedasticity and auto-correlation of unknown form. This procedure is followed in our study. Tables 7.3 and 7.4 present the long-run and short-run determinants of FDI inflows to Ethiopia based on the ARDL approach.

(A) **The long-run model**

In line with previous empirical studies on Africa, most of the explanatory variables have their expected signs in the long run. Market size (as proxied by GDP), trade openness (as proxied by trade as a percentage of GDP), resource abundance and deprecation in the official exchange rate are found to have a significant positive impact on FDI inflows in the long run.

The significant positive long-run coefficient on the GDP variable is in line with theory and suggests the presence of market seeking FDI inflows to the country. Given that Ethiopia is home to more than 90 million people and a rising middle-class population this may not be surprising.

The positive sign of the resource abundance indicator variable, as proxied by the mining and quarrying value added, indicates the presence of resource seeking FDI inflows to the country. This is not surprising given that a good share of FDI inflows to the country found their way to this sector.

The significant positive coefficient on the exchange rate variable may indicate, as noted by Elbadawi and Mwega (1997) among others, that depreciation in Ethiopia's exchange rate is affecting the inflows of FDI positively.

On the other hand, macroeconomic instability as proxied by the inflation rate was found to affect FDI inflows negatively. The significant negative coefficient of the inflation variable in the long run implies that foreign investors prefer investing their money in countries where they perceive better macroeconomic stability. Similarly, the significant positive coefficient of the trade openness variable suggests that liberalization in the external trade sector of the country has encouraged FDI inflows; this also supports the proposition that foreign investors are more likely to invest in countries that have opened up to the outside world (see Onyeiwu and Shrestha 2004; Asiedu 2006; Anyanwu 2012; among others).

In addition, better political stability and absence of violence/terrorism, government effectiveness in forming and implementing quality policies and the credibility of the government's commitment to such policies, regulatory quality with regard to the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development, and better performance of the rule of law affect FDI inflows into the country positively.

(B) **The short-run model**

In line with previous empirical studies on Africa, most of the macroeconomic determinants of FDI inflows have their theoretical expected signs in all the models in the short run. Market size, natural resource abundance, and trade openness were found to affect FDI inflows in a significant positive way. The positive sign of the natural resource availability variable as proxied by the mining and quarrying value

Table 7.3 The long-run model's results

Dependent variable: log of net FDI inflows Sample: 1970–2013; no. of observations: 43						
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	ARDL (1, 1, 0, 0, 0, 0, 2, 0)	ARDL (1, 1, 0, 0, 0, 0, 1, 0)	ARDL (1, 0, 0, 1, 0, 0, 1, 0)	ARDL (1, 1, 0, 0, 0, 0, 1, 0)	ARDL (1, 0, 0, 1, 0, 0, 1, 0)	ARDL (1, 1, 0, 1, 0, 0, 1, 0)
	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Log of real GDP per capita	0.71**	0.98**	1.14**	0.37*	0.98**	0.16*
Log of log of natural resource abundance	2.47**	3.16**	2.00*	2.99**	2.45*	1.96*
Log of inflation	−1.93*	−2.49**	−1.9	−1.98*	−2.28*	−1.59
Log of external debt to GDP ratio	−0.27	−0.22	−0.09	−0.44	−0.19	−0.58**
Log of openness	0.18**	0.19**	0.34	0.23**	0.33	−0.33
Log of nominal exchange rate	4.53***	4.41***	3.61***	4.77**	3.92***	4.10***
Rule of law	4.60*					
Political stability		2.19**				
Government effectiveness			2.93*			
Control of corruption				−1.51		
Regulatory quality					5.09**	
Voice and accountability						2.29
Constant	23.35**	21.61**	33.47**	9.23	31.05***	3.05

Note ***, ** and * indicate 1, 5 and 10% level of significance respectively

added indicates the presence of resource seeking FDI flows to the country. This is not surprising given that a good share of FDI inflows to the country found their way to this sector.

The consistent negative coefficient of the inflation variable in all the models in the short run implies that foreign investors prefer investing their money in countries where they perceive better macroeconomic stability. Similarly, the significant positive coefficient of the trade openness variable suggests that liberalization in the

Table 7.4 The short-run model: Error correction model's (ECM) results

Dependent variable: Δ(log of net FDI inflows) Sample: 1970–2013; no. of observations: 43						
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	ARDL (1, 1, 0, 0, 0, 0, 2, 0)	ARDL (1, 1, 0, 0, 0, 0, 1, 0)	ARDL (1, 0, 0, 1, 0, 0, 1, 0)	ARDL (1, 1, 0, 0, 0, 0, 1, 0)	ARDL (1, 0, 0, 1, 0, 0, 1, 0)	ARDL (1, 1, 0, 1, 0, 0, 1, 0)
	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Δ(Log of real GDP per capita)	4.06***	3.66***	1.57*	3.93***	1.22*	2.7**
Δ(Log of natural resource abundance)	2.36**	2.50**	1.33*	2.27**	1.78*	1.46
Δ(Log inflation)	−1.28**	−2.06*	−1.75	−1.81	−2.24*	−1.38
Δ(Log of external debt to GDP ratio)	−0.29	−0.61	−0.19	−0.65	−0.23	−0.72
Δ (Log of openness)	0.19*	0.18*	0.02	0.16	0.04	0.04
Δ(Log of nominal exchange rate)	−3.36**	−0.98	−0.06	−1.52	0.44	−1.08
Δ(Rule of law)	4.38**					
Δ(Political stability)		−0.26				
Δ(Government effectiveness)			4.19***			
Δ(Control of corruption)				0.66		
Δ (Regulatory quality)					5.09**	
Δ(Voice and accountability)						4.02**
ECM_{t-1}	−0.92***	−0.88***	−0.84***	−0.79***	−0.90***	−0.78***

Note ***, ** and * indicate 1, 5 and 10% level of significance respect

external trade sector of the country has encouraged FDI inflows and also supports the proposition that foreign investors are more likely to invest in countries that have opened up to the outside world (see Onyeiwu and Shrestha 2004; Asiedu 2006; Anyanwu 2012; Geda and Yimer 2015; among others).

In addition, except for controlling corruption and political stability, all the other political and institutional indicators have their *a prior* expected significant positive signs. Among the political and institutional indicators, better regulatory quality,

better performance of the rule of law, and government effectiveness have a significant positive effect on FDI inflows to the country.

As Table 7.4 shows, the expected negative sign of the error correction term (ECM) is highly significant, suggesting that deviations from the long-term trajectory are corrected very quickly. The ECM coefficient shows how quickly/slowly the relationship returns to its equilibrium path, and it should have a statistically significant coefficient with a negative sign. This holds for all the models estimated. As noted by Banerjee et al. (1998), a highly significant error correction term is further proof of the existence of a stable long-term relationship.

(C) Diagnostic and stability tests

As shown in Table 7.5 all the estimated models had a good fit. In addition, all the models passed all the exhaustive post-estimation diagnostic tests. Such tests included the normality test, heteroskedasticity test, test for serial correlation, model specification and stability test and a test for normality. In analyzing the stability of the long-run coefficients together with short-run dynamics, the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMQ) were applied (see Annexure 2 for the results). Following Pesaran et al. (2001), the stability of the regression coefficients was evaluated by stability tests as they can show whether or not the regression equation is stable over time. This stability test is appropriate in time series data, especially when we are uncertain about when structural change might have taken place.

As can be seen in the graphs in Annexure 2, the plots of both CUSUM and CUSUMSQ statistics moved between the critical bounds at the 5% significance level and did not cross the lower and upper critical limits. The latter implies that the estimated coefficients were stable and there was no structural break.

Table 7.5 Diagnostic and stability tests

Tests	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
R-squared	0.90	0.89	0.89	0.89	0.89	0.89
Adjusted *R*-squared	0.87	0.85	0.85	0.85	0.85	0.84
F-statistic	23.82	24.23	23.00	22.4	23.09	20.77
Prob(*F*-statistic)	0.00	0.00	0.00	0.00	0.00	0.00
Jarque–Berra	0.78	0.10	1.66	0.25	1.19	0.79
Prob(Jarque–Berra)	0.67	0.95	0.43	0.88	0.55	0.67
Breusch–Godfrey serial correlation LM test*	0.36	0.36	0.26	0.48	0.53	0.46
Heteroskedasticity test: ARCH*	0.72	0.65	0.81	0.88	0.56	0.99
Ramsey reset test*	0.04	0.10	0.47	0.18	0.76	0.12

Note **p* value is reported

7.6 Conclusion

Based on the ARDL modeling approach along the lines of Dunning's (1981, 1988) 'eclectic theory,' this study identified the main determinants of FDI flows to Ethiopia for the period 1970–2013. The results of the empirical modeling exercise in this study conclusively support the hypothesis that FDI in Africa is conditional on prudent macro-policies and enabling business environments manifested through better political stability and institutional quality. Better macroeconomic conditions, political stability, institutional quality, and resource availability affect FDI flows to Ethiopia positively. The effect of depreciation in the exchange rate was also found to effect FDI inflows positively.

Prudent fiscal and monetary policies to tackle the negative impact of inflationary pressures on FDI inflows and a move toward a careful liberalization of the foreign exchange market and of external trade are important policy options that the government could work on to boost FDI inflows to the country. In addition, sustaining the current growth momentum of the economy and further strengthening political stability in the country, taking sincere steps to increase transparency, controlling corruption and improving the regulatory quality of the country's institutions are fundamental areas that the government could work on to strengthen the country's position in the FDI inflows to the continent.

Further, regarding institutional and political factors, foreign investors are attracted to those African countries that are more democratic. To attract foreign investors, the country needs to improve its political and social situation and elevate its democracy from a mere electoral level to a more liberal one. What is needed, therefore, is deep introspection and political reforms of the various institutions and political parties seeking to govern so as to promote a sustained commitment to democracy that will guarantee equal citizenship, political pluralism, freedom, human rights, general respect for others, and socio-political cum economic inclusion.

Annexure 1: Correlation Matrix of the Political and Institutional Indicators (*Polinst*)

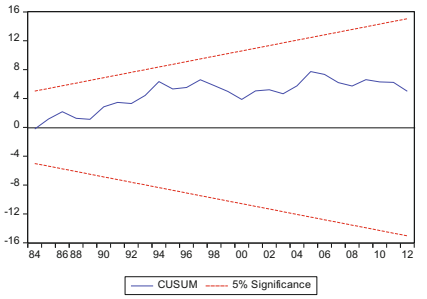
Covariance analysis: ordinary						
Sample: 1970–2013						
Included observations: 43						
Correlation*	RoL	POLSTAB	GOVEFFE	CORR	RQ	VOIACC
RoL	1.00 –					
POLSTAB	−0.84 (0.00)	1.00 –				
GOVEFFE	0.71 (0.00)	−0.90 (0.00)	1.00 –			
CORR	0.77 (0.00)	−0.69 (0.00)	0.75 (0.00)	1.00 –		
RQ	0.71 (0.00)	−0.89 (0.00)	0.96 (0.00)	0.69 (0.00)	1.00 –	
VOIACC	−0.67 (0.00)	0.88 (0.00)	−0.84 (0.00)	−0.65 (0.00)	−0.77 (0.00)	1.00 –

Note *p values in parenthesis
where
RoL Rule of law
POLSTAB Political stability and absence of violence/terrorism
GOVEFFE Government effectiveness
CORR Control of corruption
RQ Regulatory quality
VOIACC Voice and accountability

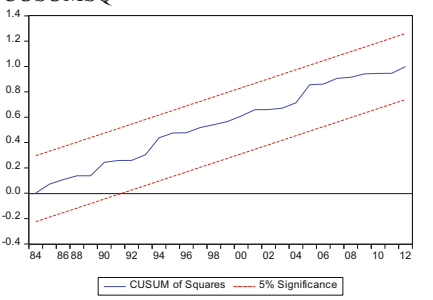
Annexure 2: Parameter Stability Tests

Model 1

CUSUM

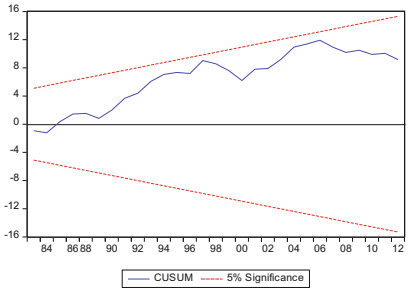


CUSUMSQ

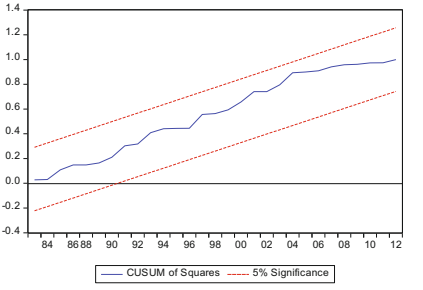


Model 2

CUSUM

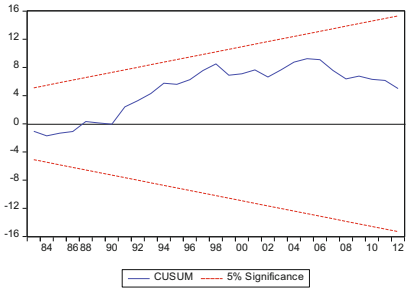


CUSUMSQ

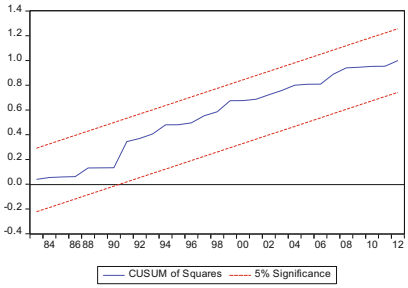


Model 3

CUSUM

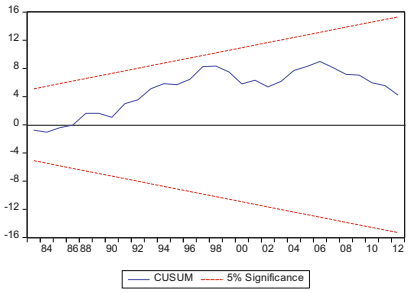


CUSUMSQ

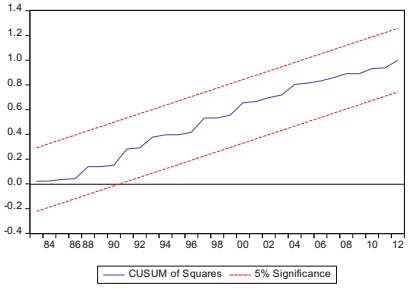


Model 4

CUSUM

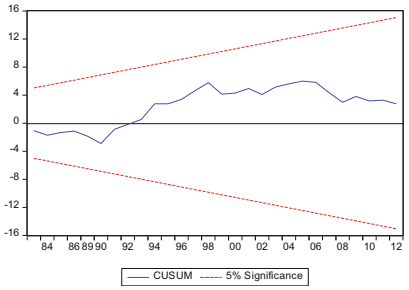


CUSUMSQ

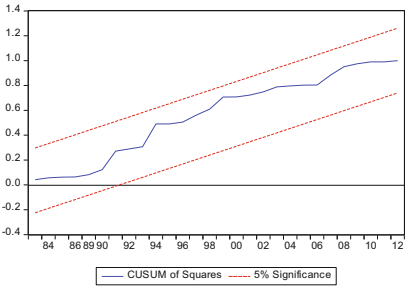


Model 5

CUSUM

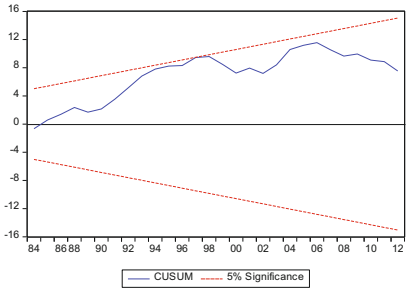


CUSUMSQ

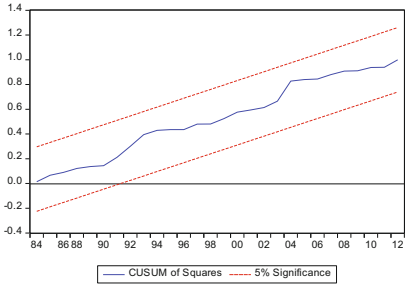


Model 6

CUSUM



CUSUMSQ



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