

The Effects of International Economic Agreements on FDI: Evidence from Africa

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Does joining international economic agreements increase FDI? The efficacy of international economic agreements is a longstanding debate, and previous studies found mixed results. This debate persists, partly, because of the self-selection problem of likely FDI recipients joining international economic agreements. To assess the causal effect of international economic agreements, I use the instructive case of Africa, which is populated by developing and least developed countries that are unlikely candidates to join international economic agreements. I exploit variation within African countries that joined an international economic agreement (Financial Services Agreement), in which countries committed to lower regulatory entry barriers to foreign financial firms. I show that after joining the agreement, most countries changed their domestic financial regulations in line with the agreement. Using matching and difference-in-difference analyses, I show that member countries received between \$350-500 million more FDI inflows. This study suggests that multilateral agreements may help developing countries attract much-needed FDI for their economic growth.

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Introduction

Does joining international economic agreements bring in foreign capital? This question is especially important for developing countries that are often left out of international economic agreements (Jamal and Milner, 2019; Luke and MacLeod, 2019) since FDI is a source of economic growth for capital-scarce countries. Scholars have examined the effectiveness of international economic agreements, such as the GATT/WTO (Tomz, Goldstein and Rivers, 2007; Subramanian and Wei, 2007), free trade agreements (Baier and Bergstrand, 2007; Büthe and Milner, 2008), and bilateral investment treaties (Tobin and Rose-Ackerman, 2011; Neumayer and Spess, 2005), on cross-border capital flows. However, empirical results have been mixed. Some studies found that international economic agreements increase cross-border capital flows (Büthe and Milner, 2008), while others found that they have no independent effects (Rose, 2004) or only when specific conditions are met (Tobin and Rose-Ackerman, 2011; Beazer and Blake, 2018). This debate persists, partly, because of the self-selection problem of likely FDI recipients joining international economic agreements (Simmons, 2000; Von Stein, 2005; Büthe and Milner, 2008).

In order to examine the independent effects of international economic agreements on FDI, this study compares countries in Africa that are the least likely candidates for international financial agreements.¹ Specifically, I examine membership in the Financial Services Agreement (FSA), in which 102 countries committed to remove domestic regulatory entry barriers in trade in financial services at the WTO.² Prior to this agreement, many countries were not open to foreign financial firms' entry and even lacked independent regulators in finance (Haggard and Maxfield, 1996; Chwiero, 2007; Grittersová and Mahutga, 2019), all of which increased risks

¹Research has shown that rich or democratic countries are more likely to join international agreements. For example, see Mansfield and Pevehouse (2006); Mansfield, Milner and Rosendorff (2002).

²Trade in financial services liberalization is a part of current account liberalization and differs from financial liberalization or capital account liberalization. Trade in financial services follows the General Trade Agreement in Services framework that has four modes of supply, from cross-border trade, consumption abroad, commercial presence, and natural movement of persons, in financial services. It encompasses long-term foreign direct investment in financial services, such as establishing branches and subsidiaries of financial firms, which can better facilitate cross-border capital flows. See Quinn and Inclan (1997) and Kireyev (2002) for more discussion.

for multinational financial firms looking to expand abroad (Djankov et al., 2002; Singer, 2007). The FSA created an international regime with principles of liberalization and independent and transparent regulations in financial services, in which countries committed to lower their domestic financial regulations on foreign entry.

I exploit variation among politically and economically similar African countries, which varied in their membership in the agreement, in matching and difference-in-difference analyses. I find that FSA member countries received substantially more FDI than similar countries that did not join. The member countries changed their domestic regulations in line with their multilateral liberalization commitments, and this allowed foreign financial firms to enter host markets and facilitate short-term and long-term cross-border capital flows.³ Joining an international liberalization agreement and subsequently changing domestic regulations legalized their commitment to liberalization (Goldstein and Martin, 2000), which sent strong signals to foreign investors and attracted FDI inflows (Martin and Simmons, 1998; Mansfield and Pevehouse, 2006; Büthe and Milner, 2008; Baccini and Urpelainen, 2014).

This study speaks to the literature on the political economy of development in three ways. First, it speaks to how developing countries can better engage with international organizations (Wade, 2003). Previous studies examined how international organizations may be inadvertently kicking away the ladder for developing countries (Chang, 2002; Wade, 2003), and this study shows how developing countries can use international agreements to their advantages (Mosley and Singer, 2009). Second, scholars have long examined the interdependent relation of domestic politics and international relations (Gourevitch, 1978; Lake, 2009; Oatley, 2011; Chaudoin, Milner and Pang, 2015), and this paper traces the institutional root of diffusion of liberalization policies (Simmons and Elkins, 2004; Chwieroth, 2007) and empirically tests how international agreement leads to changes in domestic institutions. Third, beyond political economy, this study shows how countries can overcome the compliance problem in international relations

³The FSA, which is the first multilateral agreement in trade in financial services, established a new regime, such as standards, rules, and procedures in financial services. The FSA is the Fifth Protocol to the General Agreement on Trade in Services (Protocol S/L/45, 3 December 1997). This agreement now serves as a blueprint for hundreds of FTAs that contain chapters on trade in financial services.

by designing an international regime (Aggarwal, 1998; Koremenos, Lipson and Snidal, 2001) with specific guidance for domestic regulatory changes that could lead to changes in outcomes of interest, such as in human rights and environment. The next section examines existing arguments in the literature and puts forward the mechanism through which international agreements can affect capital flows.

The (In)Effectiveness of International Economic Agreements

Positive Effects

Many scholars argue that joining an international liberalization agreement increases capital flows (Büthe and Milner, 2008; Dreher, Mikosch and Voigt, 2015; Gngangnon, 2017). There are three main mechanisms: 1) signaling credible commitment to liberalization (North, 1993; Ahlquist, 2006; Büthe and Milner, 2008), 2) legalizing countries' liberalization commitments (Goldstein and Martin, 2000), and 3) providing information about countries' regulatory developments, which reduces information asymmetry (Keohane, 1984; Kim, 2021).

First, joining an international agreement can give assurances to foreign investors that the country is open to foreign business (North, 1993; Bartolini and Drazen, 1997; Ahlquist, 2006; Büthe and Milner, 2008; Baccini and Urpelainen, 2014).⁴ This is especially effective for developing countries as it can signal their commitment to foreign investment even during periods of political instability or economic volatility. Second, countries can legalize liberalization commitments by joining an international agreement, which makes them binding and enforceable (Abbott and Snidal, 2000; Goldstein and Martin, 2000). Especially because the FSA was nested at the WTO (Aggarwal, 1998) with an enforcement mechanism – the dispute settlement mechanism – countries' liberalization commitments became binding, with violations subject to

⁴This argument was indeed used by the US and EU during the FSA negotiations with East Asian countries that were reluctant to join the FSA especially after the Asian Financial Crisis. They persuaded the Asian officials that joining the FSA, especially at this time, would signal commitment to foreign investors that their markets are open to foreign investment (Vastine, 2005).

legal procedures. Third, the FSA can attract FDI by transmitting information about countries' entry regulations and regulatory reforms to foreign investors (Keohane, 1984; Krasner, 1983). Prior to the FSA, foreign entrants had to spend time and resources to find out about host markets' entry regulations, which in some cases resulted in hiring local brokers (Djankov et al., 2002; Faccio, 2006). The FSA reduced uncertainty and information asymmetry by becoming a central depository of regulations, in which countries listed their current and future regulatory reforms relevant to foreign entry.

Little to No Effects

An alternative view suggests that international economic agreements have little to no effects on capital flows (Rose, 2004) or only conditional on certain characteristics (Gowa and Kim, 2005; Tobin and Rose-Ackerman, 2011; Steinberg, 2002; Neumayer and Spess, 2005). There are three related arguments – selection effects, international institutional weakness, and domestic institutional weakness.

First, many studies pointed out that the selection effect, in which unobserved characteristics may lead states to both join the agreement and receive capital flows, makes it difficult to establish causal effects of international agreements (Downs, Rocke and Barsoom, 1996; Von Stein, 2005; Bütthe and Milner, 2008). For example, countries that join international economic agreements may be fundamentally different from countries that do not join in that they possess characteristics attractive to investors, such as rule of law, that may increase their likelihood of both joining an international agreement and receiving capital inflows.

The second argument emphasizes the institutional weakness of international agreements. A perennial problem in international organization is the problem of weak enforcement. Many international organizations lack effective monitoring and enforcement mechanisms that may lead to countries' noncompliance (Downs, Rocke and Barsoom, 1996). The third argument of the (in)effectiveness of international institution is domestic institutional weakness, which hinders the implementation of international agreements (Chayes and Chayes, 1998; Gray,

2014). If countries lack the necessary domestic institutions, such as property rights, they may not be able to comply with international agreements.

These arguments conclude that international agreements have no independent effects. I suggest a different mechanism through which international agreements may affect cross-border capital flows.

Increasing FDI Inflows by Lowering Entry Regulations

I argue that international agreements can increase capital inflows by lowering domestic entry regulations. The influence of international agreements on domestic institutions has been long studied by scholars (Gourevitch, 1978; Frieden and Rogowski, 1996; Katzenstein, Keohane and Krasner, 1998; Oatley, 2011; Chaudoin, Milner and Pang, 2015). An international agreement, which creates an international regime of norms, principles, rules, and procedures (Keohane, 1982; Krasner, 1982; Ruggie, 1982), can lead to countries changing their domestic regulations to comply with their multilateral commitments, especially if it is signed at an international organization with an enforcement mechanism (Aggarwal, 1998). This strengthens countries' credible commitment to liberalization by institutionalizing regulatory changes and attracts capital inflows (Büthe and Milner, 2008; Bartolini and Drazen, 1997).

The FSA is an agreement on international liberalization of trade in financial services. Trade in financial services was a part of the General Agreement on Trade in Services (GATS) negotiations during the Uruguay Round at the WTO, and it was later spun off as a sectoral negotiation (Dobson, Jacquet et al., 1998; Aggarwal and Ravenhill, 2001). Finance ministers and trade negotiators in 102 countries negotiated the opening of financial services, such as banking, insurance, and securities services, around the world. The goal of the FSA was to create an open regime that laid out rules and principles of transparent regulations, nondiscrimination, and independent regulators in finance. Countries committed to open their markets to foreign entrants, allow foreign financial firms to enter and operate business without discriminatory restrictions, and establish and strengthen independent regulators in finance (Vogel, 1996). This

would allow foreign financial firms to enter and facilitate cross-border capital flows.

In order to analyze whether the FSA led to changes in countries' financial regulations, I coded regulatory changes on foreign entry liberalization that reflected the language embedded in the FSA, such as nondiscrimination between domestic and foreign firms, clear entry requirements, such as ownership requirements, and types of entry, such as requirements for branches, subsidiaries, and representative offices, between the years of 1994 and 2007.⁵ In order to find the relevant regulations, I first reviewed the WTO Trade Policy Review of countries, in which the WTO reviews each country's trade policies. I especially analyzed the section on trade in financial services, in which the WTO reviews countries' FSA commitments and whether countries have liberalized foreign entry regulations in finance. For countries that are not reviewed or missing information on these reviews, I searched for their financial regulations, often through their Ministry of Finance or Central Banks. If a country changed domestic regulations on foreign entry that reflects the FSA commitments in the years during the study period, it received a 1.

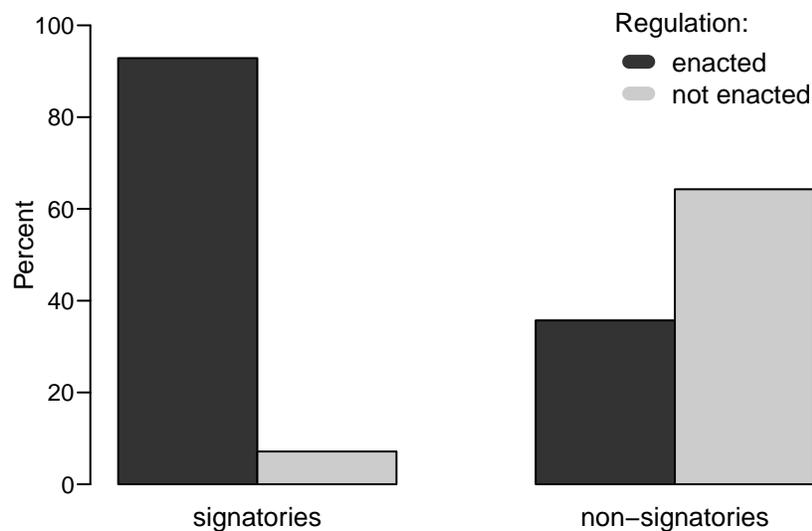


Figure 1: Domestic Financial Regulatory Reform on Foreign Entry and Liberalization based on FSA status.

⁵Countries submitted their final FSA schedules between 1994 and 1997. The analysis ends in 2007 before the global financial crisis, which could also affect both cross-border capital flows and financial regulations. There is a large literature on crisis-induced financial liberalization. See Haggard and Maxfield (1996); Martinez-Diaz (2009).

Figure 1 shows that most of the signatories created or changed domestic financial regulations on foreign entry and liberalization during the years of 1994 and 2007. A t-test also confirms the clear difference between signatory and non-signatory countries ($t=3.79$). Among the signatories, 92% of the countries had domestic financial regulations created or liberalized their financial regulations regarding foreign entry. Only 1 country (Malawi) did not update its regulations during the study period.⁶ On the other hand, among the non-signatories, only a third changed financial regulations on foreign entry while two thirds did not change the regulation.⁷

Joining the multilateral agreement *and* lowering domestic entry regulatory barriers subsequently signal credible commitment to liberalization to foreign investors and can attract capital flows. This would especially allay foreign investors' fear about the risk of expropriation and unfair competition in developing countries with weak institutions. As countries clarify their expectations for foreign investors through the FSA and lower domestic entry regulatory barriers in finance, foreign direct investment would flow into their market.

Research Design

In order to address the empirical limitations of prior research, I first conduct a matching analysis of signatories and non-signatories, balancing their political, economic, and financial characteristics. I then engage in a difference-in-difference analysis to control for unobservable factors in order to examine the causal effect of international economic agreements.

Africa presents an optimal case because countries that joined and did not join this agreement were similar in many political and economic characteristics, such as regime type⁸ or the size of the economy, but still included variation within the continent. Table 1 compares the means of

⁶Malawi created the Financial Services Act in 2010. See World Bank, 2012. *Malawi: Diagnostic Review of Consumer Protection and Financial Literacy. Volume II. Comparison with Good Practices.*

⁷I excluded countries from both groups that delegate their financial regulatory authority to regional authorities, such as the West African Monetary and Economic Union (Benin, Burkina Faso, Guinea Bissau, Ivory Coast, Mali, Niger, Senegal, and Togo) and the Central African Economic and Monetary Community (Cameroon, the Central African Republic, Chad, Congo, Equatorial Guinea, and Gabon).

⁸Many studies examined the relationship between regime type and international agreement membership or FDI flows (Jensen, 2008; Büthe and Milner, 2008; Li and Resnick, 2003; Pepinsky, 2013; Pond, 2018).

Table 1: Selected political and economic country characteristics by FSA signatory status

	Not joined	Joined	Diff. (<i>p</i> -val)
GDP per capita (USD)	2549.82 (274.33)	4039.68 (560.36)	0.012
Regime type	-1.2 (0.58)	-0.8 (0.67)	0.656
Foreign Bank Share (%)	45.39 (3.73)	34.21 (3.41)	0.036
Domestic Credit to Financial Sector per GDP (%)	19.07 (2.32)	35.6 (4.41)	0.001
Export of goods and services per GDP (%)	25.36 (1.67)	28.31 (1.51)	0.208
Corruption	4.93 (0.18)	4.85 (0.20)	0.745

Note: Pre-treatment (1994-1996) covariate averages. Entries are means with standard errors in parentheses. Final column displays *p*-value from two-sided *t*-test. Regime type is polity score (Marshall and Gurr, 2021), which ranges from -10 (authoritarian) to +10 (democratic). Data for GDP per capita, exports, financial development, and the share of foreign banks come from the World Development Indicator (World Bank, 2020). Corruption is an index of political corruption from 1 to 6 from ICRG (2013).

political and economic characteristics of the signatories and non-signatories, at the time of the FSA signing. The signatory group had a slightly higher GDP per capita (\$4,040 in the signatory group and \$2,550 in the non-signatory group) and a higher level of financial development, as measured by the standard variable of domestic credit to financial sector as a share of GDP (36% in the signatory group compared to 19% in the non-signatory group).⁹ Countries that did not join the FSA had a higher share of foreign banks (45% in the non-signatory group compared to 34% in the signatory group), which may indicate their underdeveloped domestic financial systems. The two groups did not have meaningful political differences, in terms of regime type (*p*-value of 0.656) and corruption (*p*-value of 0.745). While the signatory countries were less authoritarian and less corrupt, the differences were not statistically significant.

Figure 2 shows African countries that joined (red) and did not join (mint) by the end of the FSA negotiations – twenty countries joined the FSA and thirty-one countries did not. It

⁹The share of domestic credit to the financial sector is the standard measure in the international banking literature for financial development (Beck, Levine and Loayza, 2000; Harrison and McMillan, 2003).

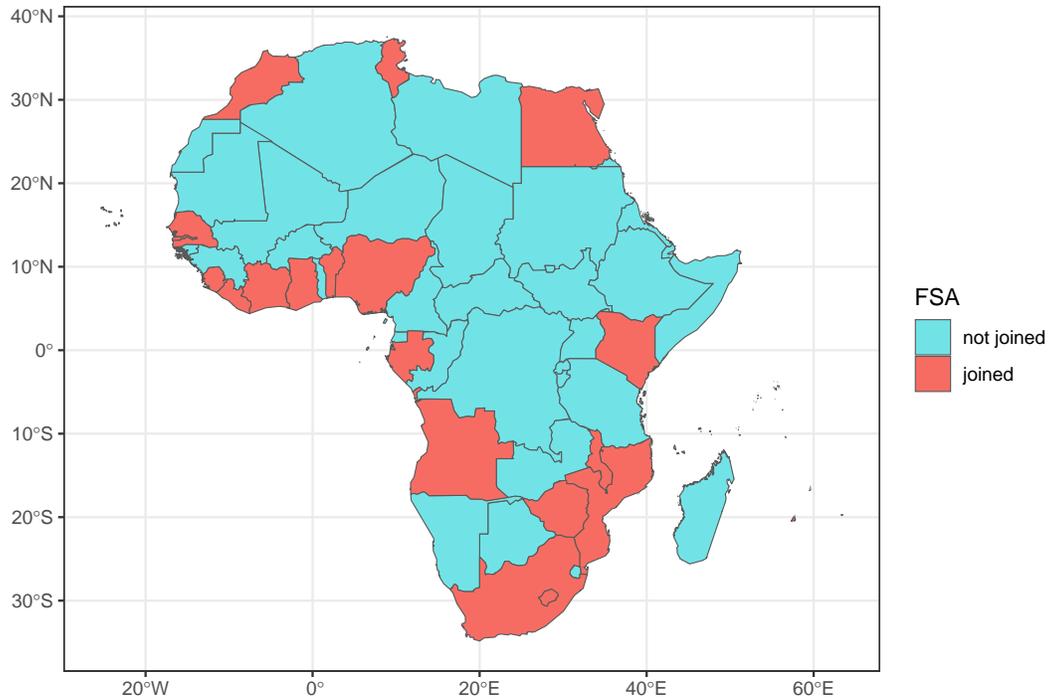


Figure 2: FSA membership in Africa

shows that countries that joined were mostly located on the coast except for Lesotho, Malawi, and Zimbabwe, and many landlocked countries did not join the FSA. Coastal regions generally tend to be exporters and therefore richer. However, as shown in Table 1, signatories and non-signatories seem to be well-balanced in terms of political and economic characteristics. Nevertheless, I balance on these variables in matching analyses and include them as covariates.

Analysis and Results

Empirical Strategy 1: Matching

I match African countries on known covariates that are related to both treatment assignment and the outcome, employing an optimal full matching analysis (Hansen, 2004). Because some African countries suffer from missing values for some covariates in some years during the study period, an analysis using listwise deletion reduces the sample to 25 countries. Therefore, I also

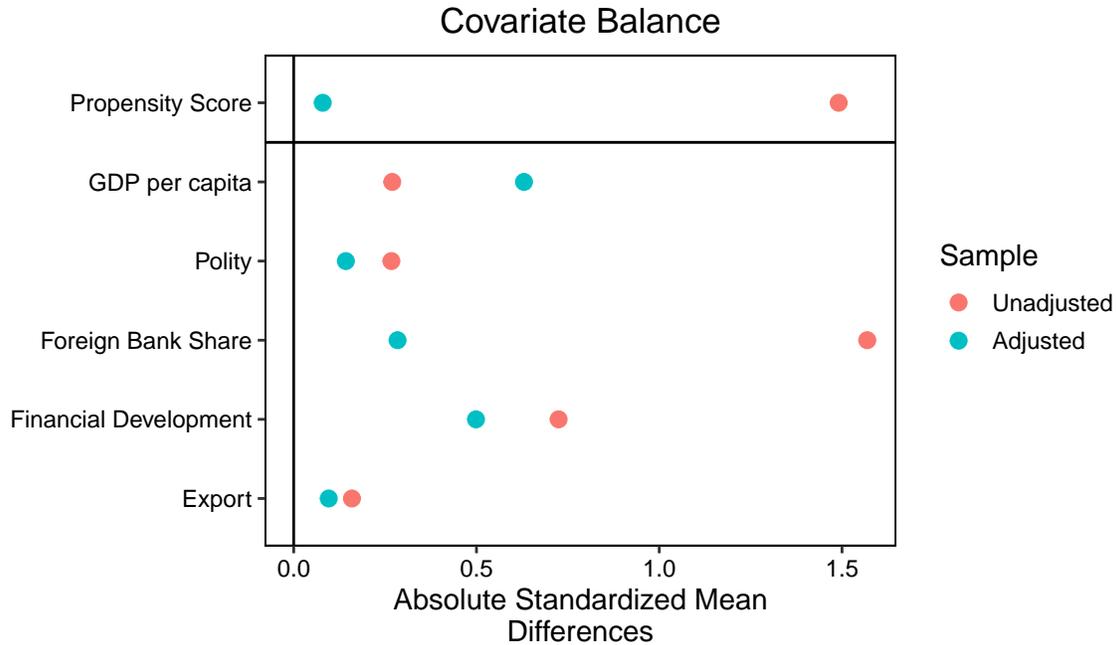


Figure 3: Balance among covariates before and after matching

present analyses using multiple imputation via weighted predictive mean matching creating 25 imputed data sets (Rubin, 1986). To employ a minimum level of information for each country, I only impute values for countries that have at least two variables without all information missing during the study period. This restriction yields a sample of 39 countries.¹⁰ Matching estimation is applied to each imputed data set, results are pooled, and standard errors are penalized for multiple imputation variance (Rubin, 1978; King et al., 2001).

The covariate balance plot (Figure 3) shows that the overall imbalance between signatory and non-signatory countries has been greatly reduced after matching. The propensity score has seen an almost twenty-fold decrease from about 1.5 before matching to 0.08 after matching. The level of foreign bank share saw the largest change (reducing imbalance more than fivefold). Mean differences for other important variables, such as regime type, foreign bank share, financial development, and export, decreased after matching as well. However, the difference in GDP per capita, which was fairly small before matching (Table 1), increased after matching. This is

¹⁰See Appendix Table A.1 for the list of countries.

not unexpected given the multidimensional optimization problem matching has to solve. To address remaining (observable) imbalances, I also include the matching covariates as additional controls below.

Table 2: Effect of FSA membership on FDI inflows

	OLS		Matching		Matching + controls	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>A: Listwise deletion (25 countries)</i>						
FSA membership	0.539 (0.188)	0.523 (0.165)	0.822 (0.259)	0.822 (0.210)	0.539 (0.121)	0.701 (0.154)
<i>B: Multiple imputation (39 countries)</i>						
FSA membership	0.370 (0.111)	0.385 (0.111)	0.528 (0.199)	0.563 (0.204)	0.550 (0.184)	0.463 (0.180)
Covariate set	basic	full	basic	full	basic	full

Note: OLS and Matching estimates (1997-2007). Matching estimators in columns (3-6) employ optimal matching on pre-treatment (1994-1996) covariate averages. Columns (5-6) include covariates in outcome regression. Multiple imputation based on 25 data sets imputed using weighted predictive mean matching. Imputation results combined following Rubin (1978). Robust standard errors in parentheses. Dependent variables measured in billion USD. Basic covariate set includes polity from Marshall and Gurr (2021), GDP per capita (log), exports of goods and services, level of financial development, and share of foreign banks from World Bank (2020); full set adds resource wealth from Coppedge et al. (2022) and a measure of corruption from ICRG (2013). Table A.2 in the Appendix provides estimates for all controls.

Results are shown in Table 2. Panel (A) shows results for the sample using listwise deletion comprised of 25 countries, while panel (B) shows multiple-imputation results using 39 countries. The dependent variable of my analysis is FDI inflows (obtained from UNCTAD). Until otherwise noted, FDI inflows are expressed in billions of dollars. The first two columns of Table 2 are simple linear OLS models, while columns (3) to (6) use the matched sample. Model 1 indicates that when adjusting for basic covariates, i.e., GDP per capita, export, polity, foreign bank share, and level of financial development, joining the FSA leads to an increase in 0.539 in FDI inflows, which is akin to a \$539 million increase. Model 2 adds additional variables, such as resource income and corruption. Given that many African countries' main income source

and FDI destination is natural resources, I include per capita natural resources income data.¹¹ Similarly, *Corruption* can also account for unobserved political factors that countries with a high level of corruption may be less likely to both join the agreement and receive FDI inflows ICRG (2013). When the full set of covariates are added, including resource income and corruption, the FSA membership leads to an increase of \$523 million.

Columns (3) and (4) show mean differences in FDI inflows by FSA status in matching analysis. Robust standard errors (clustered by matching subclass) are given in parentheses. Column (3) matches on the basic set of covariates discussed above, while column (4) adds resource income and corruption to matching. Both results indicate that membership in the FSA leads to a statistically significant increase in FDI inflows in subsequent years. Columns (5) and (6) present estimates from models that additionally include the set of matched on covariates as controls. My results again show that joining the FSA leads to a statistically significant increase of FDI inflows. The size of the effect is of substantive importance. Joining the FSA leads to an increase of about \$540 million in FDI inflows (or about \$700 million when adjusting for resources and corruption).

Panel (B) examines the same set of models using 25 imputed data sets in the 39-country sample, and across all specifications joining the FSA emerges as a statistically significant effect. While the number of countries increased, the average effect of joining the FSA on subsequent FDI inflows stays similar around \$463 to 563 million. Thus, my matching analyses show that countries that signed up for the FSA did see a substantial increase in FDI compared to similar countries that did not join the FSA.

Additional robustness tests. To probe the robustness of these findings, I estimate models (both OLS and matching) including further possible confounders, such as legal origin, property rights, exchange rate stability, and inequality (Table 3). First, I test whether different legal origins affect countries' likelihood of signing the FSA and FDI inflows. Scholars have examined how

¹¹It measures petroleum, coal, natural gas, and metals production per capita (Coppedge et al., 2022).

Table 3: Robustness tests: Effect of FSA membership on FDI inflows

	OLS	Matching
Legal Origin: UK	0.469 (0.149)	0.539 (0.119)
Property Rights	0.446 (0.146)	0.504 (0.128)
Exchange Rate Stability	0.608 (0.185)	0.547 (0.114)
Inequality (Gini)	0.497 (0.156)	0.563 (0.116)

Note: Based on OLS and matching analyses with full covariates as in Panel (a) of Table 2. Legal origin data from La Porta, Lopez-de Silanes and Shleifer (2008). Property rights data from La Porta, Lopez-de Silanes and Shleifer (2002). Exchange rate stability data comes from ICRG (2013). Inequality is measured as the Gini of market income obtained from Solt (2020).

different legal traditions, such as common law and civil law, affect regulations for financial development (La Porta et al., 1998; La Porta, Lopez-de Silanes and Shleifer, 2008). In the case of African countries, legal origin also denotes colonial origin, which could also affect countries' economic policies.¹² However, including legal origins leaves the FSA estimate virtually unchanged. Second, property rights is a key factor for investors' decisions on investment destinations and countries' economic development (North, 1993; Li and Resnick, 2003). When I add the property rights measure to the analysis, the estimates of FSA membership stay virtually unchanged. Third, exchange rate stability often signals the stability of the financial system (Frieden, 1991; Goldberg and Kolstad, 1995). When exchange rate stability is controlled for, the estimate increases to 0.608 and is clearly statistically significant. Lastly, I include the measure of inequality, which may capture the residual unobservable factors in countries' countries' political and economic environment that affect their likelihood of joining an international agreement and FDI inflows. I find that accounting for inequality does not change the results. Results are statistically significant across all specifications.

¹²In the sample, there are two types of legal origins – the UK and France.

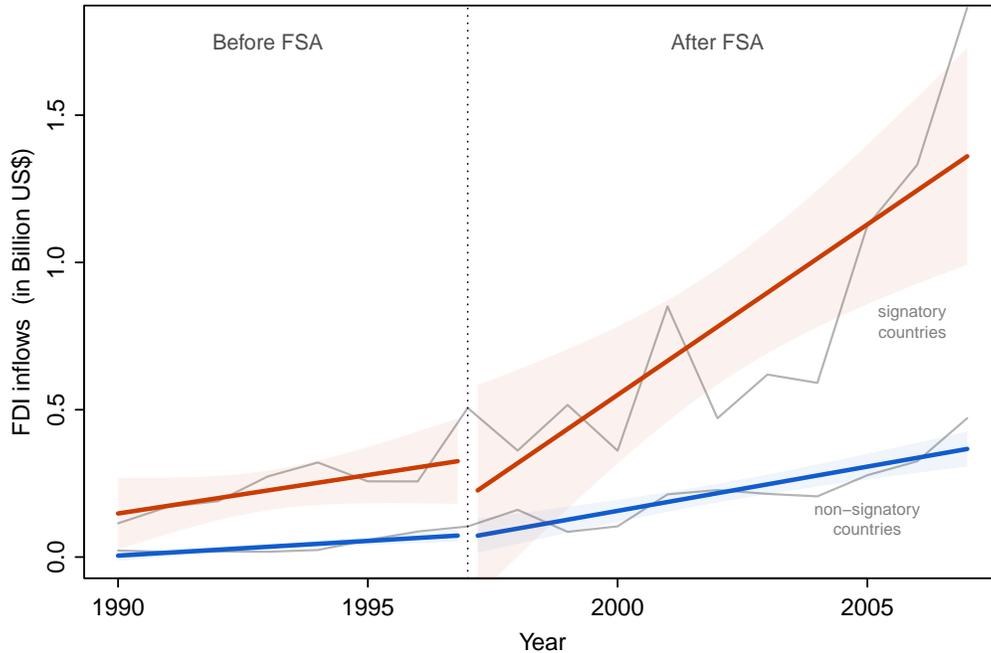


Figure 4: FDI inflows for Signatory and Non-signatory countries before and after signing the FSA.

The matching analysis showed that joining the FSA increased FDI inflows by \$370-560 million for signatories across specifications. However, while matching analysis balanced the distribution of known covariates between FSA signatory and non-signatory countries, it does not account for differences in unobservables. To alleviate the latter problem, I now turn to a difference-in-difference (DiD) analysis.

Empirical Strategy 2: Difference-in-Difference

The DiD analysis contrasts the before-after FSA difference among signatory and non-signatory countries by allowing for permanent unobserved differences in levels and trends between signatory and non-signatory countries (Angrist and Pischke, 2008, Ch.5). The essence of the DiD estimates presented is the assumption that absent signing the FSA, the (counterfactual) path

of the signatory countries would have mirrored the observed path of non-signatory countries.¹³ Figure 4 illustrates the underlying idea. It plots aggregate FDI inflows (in billion USD) by signatory status over time (1990 to 2007). Superimposed are simple linear trend estimates for signatory countries (red) and non-signatory countries (blue) before and after the FSA.

It shows that while the signatory group initially had a higher level of FDI inflows (which will be captured by country fixed effects in the analysis below), the trends between both groups were fairly similar before the FSA. After the FSA came into force; however, the path of both groups diverge sharply. The group of countries that signed the FSA saw a much more pronounced increase in FDI inflows, while non-signatory countries saw little to no change.

Table 4: Difference-in-Difference estimates of effect of FSA membership on FDI inflows

	(1)	(2)	(3)
FSA membership	0.386 (0.177)	0.323 (0.162)	0.359 (0.164)
Conditional parallel trends	N	Y	Y
N observations	648	630	510
N countries	37	36	29

Note: Panel-difference-in-difference estimates, 1990-2007. Cluster-robust standard errors in parentheses.

Table 4 shows DiD estimates obtained using the panel-DiD specification proposed by Callaway and Sant’Anna (2021). All specifications include country and year fixed effects, accounting for the multi-period nature of the analysis, and use robust standard errors clustered at the country level. The second and third specifications relax the parallel trends assumption by making it conditional on covariates. Across all models, the effect of the FSA is rather consistent (even as the number of included countries changes due to missing covariate values). The DiD results broadly confirm the results obtained from the analyses above, albeit with a slightly reduced effect size. They suggest that joining the FSA caused an average increase in FDI inflows of

¹³While this assumption is unverifiable, one can test if observed trends before the FSA are parallel in both groups. I estimate a model of linear group-specific pre-trends and test for a significant difference. I cannot reject the null hypothesis of parallel pre-trends at a p-value of 0.410.

about \$350 million. This difference is statistically different from zero across all specifications.

Discussion and Conclusion

In this paper, I explored the effects of international economic agreement on capital flows. Existing scholarship provides mixed empirical evidence on the effects of international institutions on capital flows. This stems partly from a key limitation: many prior studies had selection problems of likely FDI candidates joining international agreements. In order to isolate the causal effect of international economic agreements on FDI inflows, I studied African countries that are unlikely candidates to join international economic agreements, by employing matching and difference-in-difference analyses. African countries in the study were similar on many political and economic characteristics, such as regime type and economy size, but differed on joining an international economic agreement (WTO Financial Services Agreement), in which countries committed to lower regulatory entry barriers for financial service firms.

I demonstrated that countries that joined the agreement received substantially more FDI inflows than countries with similar political and economic characteristics but did not join. This result holds even when including a large battery of confounders, such as economy size, regime type, financial development, resource wealth, and property rights. Because this agreement created an international regime of transparent entry regulations at an international organization with an enforcement mechanism, signatories changed their domestic regulations to comply with the agreement, which subsequently attracted capital inflows. When foreign investors look to expand abroad, they weigh different factors in making investment decisions. If host markets are similar to each other, governments' commitment to liberalization through a multilateral agreement can signal hospitable environment for foreign investment and attract capital. Although international agreements have come under fire as having no real effects, this study shows that they can, and do, indeed make a substantial difference on cross-border capital inflows.

These findings have important implications for the study of the effectiveness of international

agreements. An international agreement that creates a regime of clear principles and rules that countries can implement domestically may lead to changes in outcomes of interest, especially if it has an enforcement mechanism that induces countries' compliance. This study has further implications for economic development. As countries have moved away from multilateral negotiations in favor of preferential negotiations with their favored trading partners, developing countries have been left on the sidelines. Returning to multilateral negotiations may help developing countries attract much-needed FDI for their economic growth.

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Appendix

Table A.1: Countries in the Sample

Listwise deletion (25 countries)		Multiple Imputation (39 countries)	
Algeria	Namibia	Algeria	Morocco
Burkina Faso	Niger	Angola	Madagascar
Botswana	Nigeria	Burkina Faso	Mali
Ivory Coast	Sudan	Burundi	Mozambique
Cameroon	Senegal	Benin	Malawi
Egypt	Togo	Botswana	Namibia
Ghana	Tunisia	Ivory Coast	Niger
Kenya	Tanzania	Cameroon	Nigeria
Morocco	Uganda	Central frican Republic	Rwanda
Madagascar	South Africa	Djibouti	Sudan
Mali	Zambia	Egypt	Senegal
Mozambique	Zimbabwe	Eritrea	Sierra Leone
Malawi		Ethiopia	Eswatini
		Gabon	Togo
		Ghana	Tunisia
		Gambia	Tanzania
		Equatorial Guinea	Uganda
		Kenya	South Africa
		Lesotho	Zambia
			Zimbabwe

Table A.2: Full Table of FSA membership and FDI inflow estimates

	OLS		Matching		Matching + controls	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>A: Listwise deletion (25 countries)</i>						
FSA membership	0.539 (0.188)	0.523 (0.165)	0.822 (0.259)	0.822 (0.210)	0.539 (0.121)	0.701 (0.154)
GDP per capita	0.770 (0.163)	0.358 (0.107)			0.770 (0.126)	0.534 (0.098)
Polity	0.004 (0.020)	0.013 (0.014)			0.004 (0.007)	0.014 (0.016)
Foreign bank share	0.004 (0.005)	0.006 (0.005)			0.004 (0.007)	0.014 (0.008)
Domestic Credit	0.005 (0.004)	0.006 (0.004)			0.005 (0.004)	0.007 (0.005)
Export	-0.027 (0.008)	-0.017 (0.006)			-0.027 (0.008)	-0.018 (0.009)
Corruption		-0.169 (0.087)				-0.288 (0.123)
Nat. Resources Inc.pc		0.002 (0.001)				0.003 (0.001)
<i>B: Multiple imputation (39 countries)</i>						
FSA membership	0.370 (0.111)	0.385 (0.111)	0.528 (0.199)	0.563 (0.204)	0.550 (0.184)	0.463 (0.180)
GDP per capita	0.055 (0.015)	0.097 (0.024)			0.054 (0.020)	0.095 (0.051)
Polity	0.011 (0.011)	0.014 (0.012)			0.020 (0.016)	0.030 (0.019)
Foreign bank share	-0.001 (0.002)	0.000 (0.003)			-0.003 (0.004)	-0.002 (0.004)
Domestic Credit	0.008 (0.002)	0.008 (0.002)			0.007 (0.003)	0.007 (0.004)
Export	-0.002 (0.005)	-0.004 (0.005)			-0.001 (0.006)	0.001 (0.006)
Corruption		-0.068 (0.047)				-0.060 (0.095)
Nat. Resources Inc.pc		0.000 (0.000)				0.000 (0.000)

Note: Matching estimators in columns (3-6) employ optimal matching on pre-treatment (1994-1996) covariate averages. Columns (5-6) include covariates in outcome regression. Multiple imputation based on 25 data sets imputed using weighted predictive mean matching. Imputation results combined following Rubin (1978). Robust standard errors in parentheses. Dependent variables measured in billion USD. Basic covariate set includes polity from Marshall and Gurr (2021), GDP per capita (log), exports of goods and services, level of financial development, and share of foreign banks from World Bank (2020); full set adds resource wealth from Coppedge et al. (2022) and a measure of corruption from ICRG (2013).