

IMF Conditionality and Financial-Sector FDI

Trung Dang

University of Rochester

Randall W. Stone

University of Rochester

September 30, 2015

1. Introduction

Major American banks and financial institutions have direct access to U.S. policymakers, who in turn exercise extraordinary influence over the International Monetary Fund. Top economic policymakers are often drawn from the ranks of investment bankers, and often serve on the boards of banks after serving in Washington. In addition, the cooperation of important bankers is often essential to accomplishing the IMF's goals in particular countries, which draws the banks directly into the policy network. This dense network of relationships, and the informal contacts that it supports, have led many observers to conclude that the IMF has been captured by the leading U.S. banks. The Fund makes no secret of the fact that its objectives include liberalizing international capital markets, lowering barriers to entry for multinational financial firms, and dismantling capital controls, all measures that U.S. banks favor. In many quarters, IMF loans are seen as bailouts for U.S. banks and investors, and the conditions attached to them are assumed to be influenced by the banks and to consist of measures that increase their profits.

These sorts of informal influences are inherently difficult to observe, so we use an indirect approach. This paper uses a new empirical strategy to investigate who benefits from IMF lending by exploring how IMF lending influences foreign direct investment decisions by individual firms. Investment location decisions reveal firm preferences in the sense that they reflect the managers' expectations about whether IMF lending improves their prospects of making profits. Using firm-level merger and acquisition data drawn from SDC Platinum, we are able to refine our analysis to ask which sectors are made more profitable by IMF lending.

Combining these data with detailed information on the conditionality included in particular IMF loans from the IMF MONA database allows us to tie investment decisions by particular firms to particular policy reforms. The results we present remain correlations, but this strategy allows us to draw more credible causal inferences than was possible in previous work that relied on aggregate data and did not measure the varying content of conditionality.

Consistent with a literature that finds no catalytic effects of IMF lending on FDI, we find no evidence of a consistent pattern of effects of IMF programs on aggregate mergers and acquisitions by U.S. firms. Countries under IMF programs do not attract more or fewer M&A's. In addition, we find no particular effect of the overall level of conditionality contained in IMF loans on merger and acquisition activity. Firms do not appear to be attracted by programs that promise reforms that are broad in scope, but neither are they deterred from investing. However, IMF *financial conditions* have a statistically significant and positive effect on *financial* M&A's by U.S. banks, insurance companies and financial firms. Countries under IMF programs with financial conditions are significantly more likely to receive financial M&A's. This result survives every robustness check we perform, including Heckman selection, country and year fixed effects, robust standard errors, and controlling for a lagged dependent variable. The effect of IMF financial conditions on financial M&A's substantially increases the odds of investing in a particular country, and is relatively strong compared to other control variables, including market size, income, inflation, and democracy.

It appears that the chief beneficiaries of IMF conditional lending are multinational financial firms. Consistent with previous research, we find no evidence that IMF lending or conditionality spurs an aggregate increase in foreign investment, which might indicate a broad-

based improvement in market conditions or improved prospects for growth. Nor does IMF lending in general improve market opportunities for multinational financial firms. However, when we narrow our focus to particular kinds of policy conditionality, we find that financial conditionality encourages foreign investments by financial firms. This implies that these firms perceive this form of conditionality to improve their opportunities to earn profits. The IMF has long engaged in efforts to promote financial market liberalization around the world, and it has long been clear that the U.S. financial industry has substantial policy influence in Washington generally, and in the IMF in particular. Our findings suggest that these firms perceive a direct interest in the IMF's efforts to open up financial markets.

2. Theory

Until recent decades, most developing countries maintained high barriers to capital movements and rigidly controlled entry into their financial markets, and even after substantial waves of liberalization occurred, the financial sector remained the most protected and least internationalized sector in most economies. This corresponded to the preferences of leaders as well as those of domestic financial firms. From the point of view of leaders, having a robust national banking industry increased the government's autonomy in setting fiscal and monetary policy, and maintaining capital controls lowered the risk of sudden, politically destabilizing movements in the exchange rate. A relatively insulated domestic financial system made financial repression more effective as a tool of monetary and industrial policy. For authoritarian leaders in particular, credit rationing became a powerful tool for building

patronage. For its part, the domestic financial industry welcomed protection against more productive, credible, technologically advanced and better-capitalized competitors from developed countries. A natural alliance emerged between protected domestic banks that charged monopoly rents for financial services and the governments that extracted from them the resources to remain in power.

The International Monetary Fund has sought to disrupt this equilibrium by opening protected financial markets to international transactions and competition, with the objective of increasing international flows of capital in the long run. After initially encouraging capital controls as a means of reducing the volatility of capital flows under the Bretton Woods system of fixed exchange rates, the Fund gradually shifted its position to become a champion of capital-market openness. Direct U.S. pressure played an important role in this process, along with a gradual evolution of the positions of key U.S. allies and a shift in the dominant paradigms in the economics profession (Helleiner 1994, Abdelal 2007, Chwieroth 2010). The price of deepened access to IMF resources during the Latin American debt crisis was a substantial increase in the practice of conditionality, including intrusive efforts to deregulate capital markets (Boughton 2001). These efforts intensified during the IMF programs in the post-Communist countries, which sought to rebuild whole economies from scratch and grappled with institutional problems of unprecedented complexity (Stone 2002). Conditionality covering the financial sector became routine. The Asian financial crises further trained the spotlight of international attention on financial-sector issues, and the institutional response in the IMF was the creation of Financial Sector Assessment Programs (FSAPs), designed to create more

transparent, competitive and open financial sectors, which would presumably be less subject to the temptations and abuses that brought about the crisis (IEO 2003).

The evidence is mixed about whether engagement with the IMF actually expands access to international capital markets or provides new private-sector resources for development (Bird and Rowlands 2002; Bauer, Cruz, and Graham 2012; Steinwand and Stone 2008). Mody and Saravia (2003) find that IMF lending decreases bond spreads in cases of intermediate financial risk, and Eichengreen, Gupta and Mody (2006) find a broader effect in reducing bond spreads, while Cottarelli and Giannini (2002) find little supporting evidence. In contrast, Edwards (2006) finds that program participation leads to outflows of portfolio investment. Chapman et al. (2015) argue that IMF lending can drive bond spreads up because of adverse selection and moral hazard or down because of the direct effects of providing liquidity and imposing conditionality, but that the effects are most unsatisfactory in cases where U.S. banks are significantly exposed because this undermines the credibility of the loans-for-reform contract. In the closest study to the present one, Jensen (2004) finds that FDI inflows into countries that participate in IMF programs are reduced. Much of this literature, including the Jensen article, controls for non-random selection into IMF programs.

Meanwhile, substantial evidence has accumulated that major U.S. financial firms exercised influence over U.S. foreign economic policy, and indirectly over the IMF. Wall Street was represented by proxy at Bretton Woods, and lobbied for the creation of the Eurodollar market and the gradual lifting of capital controls abroad under Democratic and Republican administrations. U.S. banks were the pioneers of multinational banking, and their organization, size and ability to raise funds in U.S. dollars gave them critical competitive advantages over

their international competitors, so they favored an agenda of global liberalization. Furthermore, changes in the IMF's mission gave U.S. banks new entry into policymaking. The new IMF agenda in the 1980s of managing sovereign debt rescheduling made the banks essential partners because their contributions were needed to finance adjustment. As a result, they were able to influence IMF conditionality in ways that were favorable to their interests (Gould 2003, 2006). Large-scale bailouts such as the ones for Mexico in 1995 and Korea in 1997 came to routinely involve private sector involvement (or PSI, as it came to be known in Fund lingo), which meant efforts by the central banks to coerce the banks they supervised into extending additional credits. In return, however, the bankers received guarantees that IMF conditionality would serve their interests. In turn, the banks have become the major domestic supporters of the IMF in an often-critical Congress, and have played a key role in securing passage of bills allowing the United States to participate in expansions of the Fund's resources (Broz and Hawes 2011). Studies of IMF lending, meanwhile, indicate that countries that are major customers for U.S. bank loans receive larger IMF loans on easier conditions (Broz and Hawes 2006, Copelovitch 2010, Stone 2008, 2011). The implication is that the IMF is highly responsive to the interests of international banks, but the banks generally exercise this influence indirectly.

3. Research Design

Because the influence of lobbying activities is inherently difficult to observe, we choose an empirical strategy that relies instead on the location strategies of financial firms to reveal their

preferences about IMF policies. When firms choose to make costly investments in one country rather than another, they reveal information about their estimates of which location is likely to yield the highest profit. If these decisions are associated with particular activities of the IMF, we can infer that firms expect these activities to promote their profits. This does not establish that the firms influenced the IMF. However, it does establish a clearer basis than was previously available for drawing inferences about whether the IMF promotes policies that favor financial firms' interests.

Two sources of empirical data allow us to refine our inferences. First, firm-level data on foreign mergers and acquisitions by U.S.-based firms drawn from SDC Platinum allow us to tie conditions in particular countries to the decisions of particular firms. Unlike previous studies of the effect of IMF lending on FDI, for example, we are able to differentiate the effects on firms in various sectors, and isolate the particular factors that affect the calculations of banks and financial firms. Second, detailed data on conditionality drawn from the IMF's Monitoring of Agreements (MONA) database allow us to differentiate among IMF programs that required various kinds of reform. A voluminous literature has sought to find effects of IMF programs using a dichotomous indicator for program participation as the treatment variable, but programs that emphasize different kinds of reforms ought to be expected to have different effects. Our key hypothesis is that *financial sector* conditionality should promote foreign investments by U.S. *financial* firms. Along the way, we will use IMF program participation, aggregate conditionality and investment by firms outside the financial system as placebo tests; and to foreshadow our results, the fact that these different treatments and subjects do not

behave the way financial sector conditionality affects FDI by financial firms reinforces our confidence in our interpretation of our results.

4. IMF Programs and M&A's

As a first step in our analysis, we investigate whether IMF programs per se appear to have an effect on mergers and acquisitions by American firms, without differentiating with respect to sectors or types of conditionality. Our unit of analysis is the country-year, and our analysis covers all IMF members and the years 1989-2014, but some of the variables we use are available only up to 2010. Our dependent variable is M&A, a count variable for the number of M&A transactions involving American firms. A firm is classified as American if either it or its parent is based in the U.S. (Source: SDC Platinum). Our treatment variable is IMF Program, a dummy variable for whether there is an IMF program (0 = No, 1 = Yes) (Source: MONA). We control for several independent variables:

- Market Size: the natural log of GDP (million USD) at constant price. Source: UNCTAD.
- Income Class: a categorical variable that classifies countries based on GDP per capita at constant price and according to the World Bank's income classification. 1 = low income (less than \$1,045 per year), 2 = middle income (between \$1,045 and \$12,746), 3 = high income (more than \$12,746). Source: World Bank, UNCTAD.
- Inflation: annual percentage change in the Consumer Price Index (divided by 100). Source: Bas and Stone (2014).

- Democracy: a dummy variable for whether a country is a democracy. 0 = No, 1 = Yes.

Source: Bas and Stone (2014), updated from Przeworski et al. (2000).

Table 1 provides the summary statistics for all variables used in this section.

Table 1: Summary Statistics – IMF Programs and M&A's					
Variable	Mean	Std. Dev.	Min	Median	Max
M&A	10.404	39.191	0	0	571
IMF Program	0.264	0.441	0	0	1
Market Size	9.521	2.378	2.531	9.323	15.384
Income Class	1.898	0.730	1	2	3
Inflation	0.053	0.673	-0.016	0.006	24.411
Democracy	0.550	0.498	0	1	1

While the mean of M&A is 10.404, the median is 0, which is equal to the minimum value. The distribution of M&A is highly skewed (as a histogram also shows), suggesting that OLS estimators will not be accurate. Since M&A is a count variable, we use a Poisson regression, which captures the skewness of the distribution.

Table 2 presents the correlations between the variables.

Table 2: Correlation Matrix – IMF Programs and M&A's						
Variable	(1)	(2)	(3)	(4)	(5)	(6)
(1) M&A	1.000					
(2) IMF Program	-0.140	1.000				
(3) Market Size	0.479	-0.141	1.000			
(4) Income Class	0.317	-0.386	0.507	1.000		

(5) Inflation	-0.019	0.003	-0.002	-0.044	1.000	
(6) Democracy	0.190	-0.012	0.216	0.359	-0.041	1.000

Table 3 reports the results from Poisson regressions.

Table 3: Poisson Regressions – IMF Programs and M&A's				
Dependent Variable: M&A				
Variable	Model 1	Model 2	Model 3	Model 4
IMF Program	-0.134 (0.000)	0.093 (0.000)	0.122 (0.000)	0.027 (0.184)
Market Size	0.909 (0.000)	0.854 (0.000)	0.851 (0.000)	0.839 (0.000)
Income Class		0.383 (0.000)	0.382 (0.000)	0.212 (0.000)
Inflation			-0.472 (0.000)	-0.510 (0.000)
Democracy				0.579 (0.000)
Constant	-8.278 (0.000)	-8.566 (0.000)	-8.511 (0.000)	-8.387 (0.000)
Observations	3,859	3,859	3,039	3,039
Pseudo R ²	0.746	0.753	0.745	0.751
All independent variables are lagged by one year.				
Figures in parentheses are p-values.				

The effect of IMF Program is ambiguous, but the most credible result is statistically insignificant. A sparse regression suggests a negative coefficient estimate, but this changes signs when we control for income class. High-income countries receive more FDI and participate infrequently in IMF programs, so this was an important omitted variable. Controlling for democracy, however, shrinks the coefficient close to zero, and it becomes insignificant. Democracies attract more FDI and participate less frequently in IMF programs, so again, this was an important omitted variable. All control variables are statistically significant with the expected signs: larger and wealthier economies attract more M&A's, and multinationals are drawn to more democratic countries that have lower inflation. Once we control for these variables, the results are robust to a variety of specifications, including models that control for non-random selection into IMF programs. We conclude that the best available evidence shows that IMF programs have substantively small and statistically insignificant effects on investment decisions.

5. Financial Conditions and Financial M&A's

Armed with this important negative result, we turn our attention to our main hypothesis, that financial conditionality contained in IMF programs promotes mergers and acquisitions by financial firms. We measure the independent variable, *Financial Condition*, as a dummy variable for whether there is an IMF financial/banking condition included in an IMF program, as recorded in MONA. The dependent variable, *Financial M&A*, is a count variable constructed from SDC Platinum for the number of M&A transactions in which American firms acquire affiliates in a financial sector abroad. Firms classified as "financial" include: (1) commercial

banks and bank holding companies; (2) credit institutions; (3) investment and commodity firms, dealers, and exchanges; and (4) other financial firms, including insurance companies. A transaction is considered financial if the target firm is in one of the financial sectors. Thus, for example, the dependent variable would include instances in which U.S. auto companies purchased credit institutions in other countries, but would not include instances in which U.S. banks purchased advertising companies. Almost all of the observed acquisitions were performed by parent companies that were also themselves coded as being in the financial sector, however, so our decision to code by the sector of the acquired affiliate rather than by the sector of the parent firm is unlikely to affect the results.

Table 4: Summary Statistics – Financial Conditions and Financial M&A’s					
Variable	Mean	Std. Dev.	Min	Median	Max
Financial M&A	0.707	2.675	0	0	39
Financial Condition	0.092	0.289	0	0	1
Market Size	9.521	2.378	2.531	9.323	15.384
Income Class	1.898	0.730	1	2	3
Inflation	0.053	0.673	-0.016	0.006	24.411
Democracy	0.550	0.498	0	1	1

Although the mean of *Financial M&A* is 0.71, most countries experience no financial M&As in a particular year, so the distribution is skewed. As with aggregate mergers and acquisitions, we emphasize the results of Poisson regressions. Table 5 provides the correlations between the variables.

Variable	(1)	(2)	(3)	(4)	(5)	(6)
(1) Financial M&A	1.000					
(2) Financial Condition	-0.035	1.000				
(3) Market Size	0.461	-0.064	1.000			
(4) Income Class	0.273	-0.160	0.507	1.000		
(5) Inflation	-0.020	-0.012	-0.002	-0.044	1.000	
(6) Democracy	0.169	-0.010	0.216	0.359	-0.041	1.000

Note that the bivariate correlation between financial conditions and financial M&As negative, although very weak. This is apparently because countries with large markets, high income and democratic institutions are unlikely to have financial conditionality under IMF programs, and are likely to be attractive destinations for financial M&As. Table 6 reports the results from Poisson regressions.

Variable	Model 5	Model 6	Model 7	Model 8
Financial Condition	0.535 (0.000)	0.565 (0.000)	0.637 (0.000)	0.608 (0.000)
Market Size	0.864 (0.000)	0.849 (0.000)	0.864 (0.000)	0.858 (0.000)
Income Class		0.079 (0.023)	0.026 (0.475)	-0.110 (0.006)
Inflation			-1.628 (0.000)	-1.644 (0.000)

Democracy				0.534 (0.000)
Constant	-10.381 (0.000)	-10.390 (0.000)	-10.453 (0.000)	-10.466 (0.000)
Observations	3,859	3,859	3,039	3,039
Pseudo R ²	0.563	0.564	0.566	0.572
All independent variables are lagged by one year.				
Figures in parentheses are p-values.				

The results indicate strong support for our hypothesis that financial conditions encourage financial mergers and acquisitions: the coefficient estimate is statistically significant and positive in all models. In these models we have lagged the independent variables, so the estimated effect is the effect of a financial condition in place in the previous year on merger and acquisition activity in the current year. As we will see below, these results are substantively important, and they are robust to a variety of estimation techniques. This evidence supports the interpretation that U.S. financial firms expect IMF financial conditionality to improve their prospects of making profits abroad, and that they purchase foreign affiliates after IMF programs include such conditionality in order to capitalize on these opportunities.

Most control variables are statistically significant with the expected signs, but *Income Class* is inconsistent. In models that do not control for democracy, wealthier countries appear to be more attractive destinations for financial mergers and acquisitions, even controlling for the size of the country's market. However, this effect appears to be attributable to the fact that wealthier countries tend to be democratic, and when we control for political institutions

we find that wealthier countries are actually less attractive destinations for financial FDI. This may be because wealthy countries have well-established, competitive financial institutions, and entering competitive financial markets is less attractive than entering less well-developed ones, where U.S. firms have more substantial competitive advantages.

6. Robustness Checks and Substantive Effects

As a first robustness check, we employ negative binomial regressions in place of Poisson regressions. Negative binomial models relax the assumption that there is no contagion between events within an observation. Table 7 reports the results from negative binomial regressions.

Table 7: Robustness Check – Negative Binomial Regressions				
Dependent Variable: Financial M&A				
Variable	Model 9	Model 10	Model 11	Model 12
Financial Condition	0.307 (0.05)	0.386 (0.015)	0.432 (0.01)	0.405 (0.013)
Market Size	0.929 (0.000)	0.895 (0.000)	0.905 (0.000)	0.884 (0.000)
Income Class		0.212 (0.000)	0.144 (0.018)	0.048 (0.448)
Inflation			-1.089 (0.004)	-1.112 (0.003)
Democracy				0.584 (0.000)
Constant	-11.195 (0.000)	-11.278 (0.000)	-11.256 (0.000)	-11.223 (0.000)

Observations	3,859	3,859	3,039	3,039
Pseudo R ²	0.283	0.285	0.283	0.289
All independent variables are lagged by one year.				
Figures in parentheses are p-values.				

The negative binomial results are very similar to the Poisson results. *Financial Condition* remains statistically significant and positive in all models, and most control variables are statistically significant with the expected signs. In these models the coefficient on *Income Class* becomes insignificant rather than negative when controlling for democracy, but it remains the case that the correlation between democracy and income is what drove the apparent positive effect of income on financial M&As.

The next robustness check we perform is a Heckman selection model. IMF programs are not randomly assigned, and a country cannot be subject to financial conditionality without participating in a program. Indeed, many of the conditions that make program participation likely also make financial M&As less attractive. On the other hand, the severely depressed value of financial assets following an economic crisis may make these investments attractive. In either case, if selection into an IMF program is correlated with unobservable factors that also affect investments by financial firms, our estimates will be biased if we fail to model the selection effect.

To model selection into IMF programs, we use variables that consistently show statistical significance in the literature on IMF program effects, including *Debt Service*, *Investment*, and *Balance of Payments* (Vreeland 2003, Bas and Stone 2014). In addition, we

introduce two instruments—*Affinity* and *IMF Office*—which are theoretically expected to affect IMF program participation but not to affect investment decisions by financial firms. *Affinity* measures how similar countries’ votes in the UN General Assembly are to those of the United States, and has been widely used as an instrument for IMF program participation because the United States exercises informal influence over IMF lending (Thacker, Barro and Lee, Steinwand and Stone 2008). It is unlikely that largely symbolic votes in the UNGA influence the acquisition decisions of financial firms. *IMF Office* is a dummy variable for whether a country has an IMF resident representative office. The presence of an IMF office is positively correlated (a correlation of 0.364) with the presence of an IMF program, presumably because the IMF locates its permanent representatives in countries that interact with it intensely. However, it seems unlikely that the presence of an IMF representative affects the profitability of financial M&As in any other way than through the increased probability of an IMF program. In any case, models that do not include IMF Office as an instrument generate substantively equivalent results. Table 8 reports results from Heckman selection models.

Table 8: Robustness Check - Selection Bias					
Variable	Model 13	Model 14	Model 15	Model 16	Model 17
Selection Stage					
Dependent Variable: IMF Program					
Investment	-0.027 (0.000)	-0.026 (0.000)	-0.023 (0.000)	-0.022 (0.000)	-0.009 (0.004)
Balance of Payments		-0.021 (0.000)	-0.054 (0.000)	-0.051 (0.000)	-0.050 (0.000)
Debt Service			0.020 (0.001)	0.016 (0.013)	0.028 (0.000)

Affinity				0.995 (0.000)	1.185 (0.000)
IMF Office					0.813 (0.000)
Constant	0.068 (0.238)	0.121 (0.060)	0.273 (0.000)	0.667 (0.000)	-0.078 (0.485)
Inverse Mills Ratio	0.587 (0.002)	1.024 (0.000)	-0.025 (0.870)	-0.128 (0.278)	0.083 (0.371)
Outcome Stage					
Dependent Variable: Financial M&A					
Financial Condition	0.247 (0.002)	0.260 (0.002)	0.144 (0.044)	0.144 (0.045)	0.145 (0.043)
Market Size	0.290 (0.000)	0.315 (0.000)	0.255 (0.000)	0.253 (0.000)	0.257 (0.000)
Income Class	0.077 (0.310)	0.067 (0.392)	0.112 (0.079)	0.111 (0.078)	0.104 (0.102)
Inflation	-0.016 (0.700)	-0.197 (0.187)	-0.235 (0.054)	-0.246 (0.044)	-0.228 (0.061)
Democracy	0.067 (0.321)	0.048 (0.502)	0.071 (0.229)	0.067 (0.259)	0.068 (0.249)
Constant	-3.272 (0.000)	-3.928 (0.000)	-2.323 (0.000)	-2.218 (0.000)	-2.420 (0.000)
Observations	3,363	2,890	1,967	1,956	1,956
All models use Heckman two-stage selection.					
All independent variables are lagged by one year.					
Figures in parentheses are p-values.					

The main result is robust. *Financial Condition* remains statistically significant and positive in all models. The selection variables inherited from the literature on IMF programs are statistically significant with the expected signs. The additional instruments for selection into IMF programs—*Affinity* and *IMF Office*—are positive and significant, as expected. Indeed, both appear to be strong instruments. Countries that are closer to the US are more likely to receive IMF programs, and countries that have IMF offices are also more likely to receive IMF programs. The inverse Mills ratio is statistically significant in Models 13 and 14 but not Models 15, 16, and 17, which are more strongly identified. A statistically significant inverse Mills ratio indicates that selection biases do exist, so the fact that we do not find evidence of selection bias in our most credible selection models suggests that selection bias may not be a substantial problem in the case of financial mergers and acquisitions.

Except for Market Size, other control variables are statistically insignificant in most models (although they still have the right signs). Remarkably, the main result survives Heckman selection while most other results do not. The other results may be attenuated by the fact that the outcome stage in a Heckman model has OLS form, which is inefficient for a count dependent variable.

Table 9 reports results from other robustness checks. Model 13 includes country and year fixed effects, Model 14 adds Huber-White robust standard errors to Model 13, and finally Model 15 adds a one-year-lagged dependent variable to Model 14.

Table 9: Other Robustness Checks			
Dependent Variable: Financial M&A			
Variable	Model 18	Model 19	Model 20
Financial Condition	0.835 (0.000)	0.835 (0.000)	0.776 (0.000)
Market Size	1.386 (0.000)	1.386 (0.029)	1.262 (0.024)
Income Class	0.630 (0.000)	0.630 (0.017)	0.634 (0.007)
Inflation	-0.901 (0.003)	-0.901 (0.000)	-0.935 (0.000)
Democracy	-0.149 (0.411)	-0.149 (0.349)	-0.113 (0.427)
Observations	1,796	1,796	1,796
Country and Year FE	Yes	Yes	Yes
Robust Std. Error	No	Yes	Yes
Lagged Dep. Var.	No	No	Yes
All models use Poisson regressions.			
All independent variables are lagged by one year.			
Figures in parentheses are p-values.			

In all of these models, the main result stands: *Financial Condition* is statistically significant and positive in all three models. This indicates that the effects were not due to any unobserved variables at the country level that are time invariant, or to any contemporaneous shock, such as changes in U.S. macroeconomic conditions, or the Asian financial crisis, which might have affected many countries in the same way. Indeed, including country and time fixed

effects strengthens the main result, which indicates that to the extent that such country and time effects are correlated with financial M&As, they tended to hide the effect of IMF conditionality rather than exaggerate it.

Democracy is statistically insignificant in all three models, presumably because it did not vary enough over time within the sample to exercise much effect under country fixed effects. Surprisingly, the lagged dependent variable is also statistically insignificant everywhere (not reported in the table). This lack of evidence for autoregression obviates the need for further robustness checks using time series models or panel-corrected standard errors. All other control variables are statistically significant with the expected signs in all models. Table 10 reports the estimated substantive effects of the variables.

Table 10: Substantive Effects		
Variable	Treatment	Effect
Financial Condition	Having a financial condition	(17.1%, 41.0%)
Market Size	Increasing by one standard deviation	(15.1%, 209.5%)
Income Class	Increasing by one category	(6.6%, 40.1%)
Inflation	Increasing by one standard deviation	(-33.3%, -13.8%)
Democracy	Being a democracy	(-14.7%, 6.2%)
Effects are expressed as percentages of a standard deviation of the dependent variable. 95% confidence intervals are based on estimates from Model 20.		

The treatments we choose depend on the types of the independent variables. For continuous variables (*Market Size* and *Inflation*), the treatment is that the variable increases by one standard deviation. For the only ordinal variable (*Income Class*), the treatment is that the

variable increases by one category (e.g., low income to medium income, medium income to high income). For indicator variables (*Financial Condition, Democracy*), the treatment is that the indicator changes from 0 to 1. The substantive effect of imposing financial conditionality is strong relative to the other factors that we find to have important effects on financial mergers and acquisitions.

7. Non-Financial Conditions and Non-Financial M&A's

Table 3 analyzes the relationship between IMF programs and M&A's in general, while Table 6 analyzes the relationship between IMF financial conditions and financial M&A's in particular. In this section, we replicate these analyses for IMF non-financial conditions and non-financial M&A's. The main independent variable of interest is Non-Financial Program, which is a dummy variable that indicates whether there is an IMF program that does not contain financial conditions.

Table 11: Poisson Regressions – Non-Financial Conditions and Non-Financial M&A's				
Dependent Variable: Non-Financial M&A				
Variable	Model 21	Model 22	Model 23	Model 24
Non-Financial Program	-0.156 (0.000)	0.091 (0.000)	0.113 (0.000)	0.010 (0.670)
Market Size	0.915 (0.000)	0.853 (0.000)	0.849 (0.000)	0.837 (0.000)
Income Class		0.406 (0.000)	0.407 (0.000)	0.236 (0.000)
Inflation			-0.429 (0.000)	-0.467 (0.000)

Democracy				0.584 (0.000)
Constant	-8.432 (0.000)	-8.694 (0.000)	-8.615 (0.000)	-8.501 (0.000)
Observations	3,859	3,859	3,039	3,039
Pseudo R ²	0.743	0.752	0.742	0.748
All independent variables are lagged by one year.				
Figures in parentheses are p-values.				

The effect of *Non-Financial Program* is essentially the same as that of an IMF program in general (Table 3). The coefficient estimate is positive in the sparsest model, negative once we control for income class, and insignificant in the most credible model, which controls for democracy. All control variables are statistically significant with the expected signs.

8. Financial Conditions and Non-US Financial M&A's

In order to narrow the range of possible interpretations of our results, we replicate our analysis using financial M&As from countries other than the United States as the dependent variable. If these non-U.S. M&As respond to financial conditions in the same way as M&As from U.S. firms, this does not imply any bias on the part of the IMF, and to the contrary suggests a straightforward explanation: financial conditionality improves the profitability of investments in financial affiliates, which benefits foreign investors of all nationalities. On the other hand, if the effect is apparent only for firms based in the United States, this suggests a political economy explanation involving lobbying by U.S. financial firms. *Non-US Financial M&A* is a

count variable for the number of financial M&A transactions involving non-American firms. As above, sectors classified as “financial” include: (1) commercial banks, bank holding companies; (2) credit institutions; (3) investment & commodity firms, dealers, exchanges; (4) other financial. A transaction is considered financial if the target firm is in one of the financial sectors.

Table 12: Poisson Regressions – Financial Conditions and Non-US Financial M&A’s				
Dependent Variable: Non-US Financial M&A				
Variable	Model 25	Model 26	Model 27	Model 28
Financial Condition	-0.471 (0.000)	-0.402 (0.000)	-0.146 (0.000)	-0.119 (0.000)
Market Size	0.737 (0.000)	0.699 (0.000)	0.742 (0.000)	0.750 (0.000)
Income Class		0.221 (0.000)	0.092 (0.000)	0.188 (0.000)
Inflation			-1.332 (0.000)	-1.312 (0.000)
Democracy				-0.322 (0.000)
Constant	-6.050 (0.000)	-6.115 (0.000)	-6.219 (0.000)	-6.324 (0.000)
Observations	4,423	4,423	3,039	3,039
Pseudo R ²	0.598	0.602	0.686	0.690
All independent variables are lagged by one year.				
Figures in parentheses are p-values.				

The effect of Non-US Financial Condition is clear: the coefficient estimate is statistically significant and negative in all models. This indicates that while IMF financial conditions increase financial M&A's by US firms, they decrease financial M&A's by non-U.S. firms. This suggests two possible explanations, both of which are politically significant. First, it may be the case that U.S. firms have unique organizational and financial advantages that allow them to exploit market opening when it occurs, which makes only U.S. firms able to respond to the opportunities presented by financial conditionality. On this interpretation, it is the entry of U.S. firms that deters firms of other nationalities from entering the market. Alternatively, it may be the case that IMF financial conditionality is designed to the specifications of U.S. financial firms in order to give them competitive advantages that other international firms will not enjoy. On this interpretation, IMF policies directly favor U.S. firms over their international competitors, and consequently deter them from entering. Most control variables are statistically significant with the expected signs, except Democracy. It appears that democratic countries attract fewer financial M&A's from non-US firms.

9. Reverse Causality: Do Financial M&A's cause Financial Conditions?

An alternative interpretation of our results to this point might be that financial M&As by U.S. firms are responsible for the financial conditionality in IMF programs, perhaps because the firms that make these investments lobby the IMF. In order to check this possibility, we reverse the direction of the analysis. The first three models presented in Table 13 contain the results of logit models where the dependent variable is *Financial Condition*, and the next three are

Heckman models with the same dependent variable that control for selection into IMF programs.

Table 13: Reverse Causality Check						
Variable	Model 29	Model 30	Model 31	Model 32	Model 33	Model 34
Selection Stage						
Dependent Variable: IMF Program						
Investment				-0.009 (0.004)	-0.008 (0.022)	-0.005 (0.116)
Balance of Payment				-0.050 (0.000)	-0.044 (0.000)	-0.046 (0.000)
Debt Service				0.028 (0.000)	0.020 (0.003)	0.015 (0.041)
Affinity				1.185 (0.000)	1.297 (0.000)	1.331 (0.000)
IMF Office				0.813 (0.000)	0.870 (0.000)	0.934 (0.000)
Constant				-0.078 (0.485)	-0.111 (0.326)	-0.215 (0.067)
Inverse Mills Ratio				0.004 (0.939)	0.016 (0.744)	0.036 (0.487)
Outcome Stage						
Dependent Variable: Financial Condition						
Financial M&A	-0.086 (0.135)	-0.280 (0.015)	-0.639 (0.002)	0.011 (0.532)	-0.014 (0.515)	-0.045 (0.061)
Market Size	0.034 (0.404)	0.057 (0.173)	0.080 (0.060)	-0.017 (0.139)	-0.008 (0.475)	0.001 (0.907)
Income Class	-1.100	-1.099	-1.068	-0.027	-0.021	-0.004

	(0.000)	(0.000)	(0.000)	(0.415)	(0.559)	(0.915)
Inflation	-0.046	-0.083	-0.072	0.073	0.075	0.093
	(0.709)	(0.624)	(0.632)	(0.259)	(0.359)	(0.274)
Democracy	0.478	0.466	0.397	-0.005	-0.004	-0.018
	(0.001)	(0.001)	(0.007)	(0.864)	(0.912)	(0.615)
Constant	-1.105	-1.192	-1.315	0.441	0.359	0.253
	(0.002)	(0.001)	(0.000)	(0.000)	(0.001)	(0.029)
Observations	3,039	2,785	2,513	1,956	1,911	1,847

Model 25-27 use logistic regressions, Models 28-30 use Heckman two-stage selection.

Financial M&A is lagged by one year in Models 25 and 28, three years in Models 26 and 29, five years in Models 27 and 30. All other independent variables are lagged by one year throughout.

Figures in parentheses are p-values.

The results consistently reject the hypothesis that financial M&As increase the probability that a country is under financial conditionality. The coefficient of *Financial M&A* is consistently negative in the logit models, and it is insignificant or negative in the Heckman models. Consequently, it is difficult to interpret our previous results as effects of reverse causality. To the contrary, these results are consistent with the interpretation that countries that receive a substantial number of financial M&As are unlikely to receive financial conditionality because their financial markets are relatively open.

10. Conclusions

Whose interests are served by IMF conditional lending? IMF officials may have professional interests in promoting lending and particular kinds of market-oriented reforms. Leaders of borrowing countries may have political interests in borrowing in order to delay the day of reckoning for macroeconomic imbalances, or in order to gain leverage over other domestic actors in order to promote their preferred economic reform agendas. Leading member countries may have political agendas that are unrelated to macroeconomic policies or structural reforms, which limit the discretion of IMF officials to design and implement conditionality. Leading multinational banks may have interests in shaping conditionality to promote their competitive strategies. Suggestive correlations that bear on each of these questions have been presented in the literature.

This paper takes a different approach, using the location decisions of multinational financial firms to reveal their preferences. We find that IMF financial conditions have a statistically significant and positive association with financial M&A's by U.S. firms; countries under IMF programs with financial conditions are significantly more likely to receive financial M&A's. This result survives every robustness check we perform, including Heckman selection, country and year fixed effects, robust standard errors, and controlling for a lagged dependent variable. It is also not accounted for by reverse causation; to the contrary, countries with substantial numbers of financial M&As are unlikely to receive financial conditionality. The substantive effect of IMF financial conditions on financial M&A's is strong in the sense that they predict substantially increased odds of relatively rare events. In addition, this effect is relatively strong compared to other important factors that we find to affect financial M&As, including

market size, income, inflation, and democracy. These results imply that U.S. financial firms expect financial conditionality to significantly improve their prospects of making profits in the affected countries.

We find that this effect is specific to financial conditionality and is specific to financial firms. The presence of an IMF program does not promote FDI in general, and the presence of an IMF program without financial conditionality does not promote FDI in non-finance sectors. This eliminates alternative interpretations of our results, and focuses attention clearly on the mechanism of financial conditionality. Furthermore, this effect is specific to U.S. financial firms. Financial conditionality does not promote mergers and acquisitions by non-U.S. firms in the financial sector, and if anything, appears to deter such transactions. These results suggest that U.S. financial firms, in particular, are important beneficiaries of IMF conditionality. Either preexisting features of U.S. financial firms (technology, competitiveness) or the design of particular financial conditions gives U.S. financial firms a competitive advantage, which leads them to rush into new markets when IMF conditionality opens them up.

These results do not demonstrate that U.S. banks and financial institutions control the content of IMF conditionality, or even that they lobby to promote financial conditionality. However, the fact that U.S. banks and other financial institutions are influential in the U.S. policy establishment, which in turn has informal influence over the IMF, is well established in the literature. The results of this paper demonstrate directly something that previous studies have only suggested, which is that U.S. financial institutions benefit from the practice of IMF financial conditionality. They demonstrate, furthermore, that these benefits are limited to U.S. financial institutions. The implication is that the informal influence that U.S. banks are

presumed to exercise is in fact quite effective.

References

- Abdelal, Rawi. *Capital Rules: The Construction of Global Finance*. Cambridge: Harvard University Press, 2007.
- Bas, Muhammet A. and Randall W. Stone. Adverse Selection and Growth under IMF Programs. 2014. *The Review of International Organizations* 9 (1) (March): 1-28.
- Bauer, Molly E., Cesi Cruz, and Benjamin A.T. Graham. 2012. When Do IMF Loans Serve as a Seal of Approval? *The Review of International Organizations* 7 (1):33–58.
- Bird, Graham, and Dane Rowlands. 2002. Do IMF Programmes Have a Catalytic Effect on Other International Capital Flows? *Oxford Development Studies* 30:229–49.
- Boughton, James M. *Silent Revolution: The International Monetary Fund, 1979-1989*. Washington, DC: International Monetary Fund, 2001.
- Broz, Lawrence, and Michael Hawes. The United States Congress and IMF Financing, 1944-2009. *The Review of International Organizations* 6, 3 (September 2011): 341-368.
- Broz, Lawrence J., and Michael Brewster Hawes. U.S. Domestic Politics and International Monetary Fund Policy. In Hawkins, Darren G., David A. Lake, Daniel L. Nielson, and Michael J. Tierney, eds., *Delegation and Agency in International Organizations*. New York: Cambridge University Press, 2006.
- Chapman, Terrence, Songying Fang, Xin Li and Randall W. Stone. 2015. Mixed Signals: IMF Lending and Capital Markets. *British Journal of Political Science*. August, pp 1 – 21 (FirstView).
- Chwieroth, Jeffrey M. *Capital Ideas: The IMF and the Rise of Financial Liberalization*. Princeton: Princeton University Press, 2010.
- Copelovitch, Mark S. *The International Monetary Fund in the Global Economy: Banks, Bonds, and Bailouts*. Cambridge: Cambridge University Press, 2010.
- Cottarelli, Carlo, and Curzio Giannini. 2002. Bedfellows, Hostages, or Perfect Strangers? Global Capital Markets and the Catalytic Effect of IMF Crisis Lending. Working Paper No. 02/193. Washington, DC: IMF.
- Edwards, Martin S. 2006. Signaling Credibility? The IMF and Catalytic Finance. *Journal of International Relations and Development* 9:27–52.
- Eichengreen, Barry, Poonam Gupta, and Ashoka Mody. 2006. Sudden Stops and IMF-Supported Programs, working paper. Cambridge, MA: NBER.
- Gould, Erica R. Money Talks: Supplementary Financiers and International Monetary Fund Conditionality. *International Organization* 57 (Summer 2003): 551-86.

- Gould, Erica R. *Money Talks: The International Monetary Fund, Conditionality, and Supplementary Financiers*. Palo Alto: Stanford University Press, 2006.
- Helleiner, Eric. *States and the Reemergence of Global Finance: From Bretton Woods to the 1990s*. (Ithaca: Cornell Univ. Press, 1994).
- Independent Evaluation Office (IEO). *The IMF and Recent Capital Account Crises: Indonesia, Korea, Brazil*. Report. International Monetary Fund, Washington, DC
- Jensen, Nathan M. 2004. Crisis, Conditions, and Capital: The Effect of International Monetary Fund Agreements on Foreign Direct Investment Inflows. *Journal of Conflict Resolution* 48:194–210.
- Mody, Ashoka, and Diego Saravia. 2003. Catalyzing Capital Flows: Do IMF-Supported Programs Work as Commitment Devices? Working Paper No. 03/100. Washington, DC: IMF.
- Przeworski, Adam, Michael E. Alvarez, Jose Antonio Cheibub and Fernando Limongi. *Democracy and Development : Political Institutions and Material Well-being in the World, 1950-1990*. New York: Cambridge University Press, 2000.
- Steinwand, Martin, and Randall W. Stone. The International Monetary Fund: A Review of the Recent Evidence. *The Review of International Organizations* 3 (2) (June, 2008): 123-49.
- Stone, Randall W. *Controlling Institutions: International Organizations and the Global Economy*. Cambridge: Cambridge University Press, 2011.
- Stone, Randall W. *Lending Credibility: The International Monetary Fund and the Post-Communist Transition*. Princeton: Princeton University Press, 2002.
- Stone, Randall W. The Scope of IMF Conditionality. *International Organization* 62 (Fall 2008): 589-620.