

Regional Integration and Cross-Border Mergers and Acquisitions in Africa: 2000-2014

Magdalene Kasyoka Wilson
and
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Regional Integration and Cross-Border Mergers and Acquisitions in Africa: 2000-2014

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Abstract

In this paper, we examined how regional integration affected cross-border M&A in Africa for the period 2000 to 2014 using a structural gravity model. We found that customs unions in Africa, specifically Southern Africa Customs Union (SACU) and the East African Community (EAC) are significant drivers of M&A by firms from within the unions but not those from outside, perhaps due to their relatively small size. This finding suggests that the depth of regional integration determines intra-regional M&A flows in Africa. Findings from this paper suggest that African governments need to strengthen the existing regional integration arrangements, as the case of SACU and EAC indicates, to benefit from intra-African cross-border M&A flows.

Keywords: Mergers and Acquisitions, Africa, Economic Integration, Institutions, Gravity Model, Foreign Direct Investment

JEL Classification: F21; F23; C33; G34

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1. Introduction

Since 1990, cross-border Mergers and Acquisitions (M&A) have become the dominant strategy for global businesses to attain growth, make profit and diversify their enterprises. According to Erel et al. (2012), worldwide growth in the number of M&A increased from 23% in 1998 to 45% in 2007. Furthermore, M&A have been identified as the driving force behind the expansion of Foreign Direct Investment (FDI), especially in developed countries where M&A constitute a substantial proportion of FDI, at times reaching 80% (UNCTAD, 2006). This substantial growth and significant rise of M&A as a component of FDI make it important to have a better understanding of factors that influence specific entry modes of FDI such as M&A. The empirical literature on determinants of FDI has focused on aggregate but not specific entry modes of FDI.

The literature on determinants of entry mode choice in international expansion seems to suggest differences between M&A and greenfield investment. Nocke and Yeaple (2007) examine how firm capabilities determine entry mode choice in a foreign market. They argue that the key motive for firms to enter foreign markets through M&A is to acquire complementary non-mobile capabilities such as distribution networks. Whereas M&A obtain country-specific non-mobile capabilities of acquired firms, greenfield investment does not.

Some scholars, for example Globerman and Shapiro (2002; 2005), have attempted to establish the determinants of the different modes of FDI. The findings by Globerman and Shapiro (2002; 2005) confirm that economic growth drives greenfield investment whereas financial development and investor confidence drive M&A. Zejan (1990) also notes that economic growth in host markets promotes greenfield mode of investment. However, Neto et al. (2010) find that some factors drive FDI regardless of the entry mode, whereas certain factors are important for specific entry mode. For instance, investor protection and cultural variables seem to play a bigger role for M&A. Therefore, the two modes of FDI are attracted by different factors and need to be analyzed separately.

Most literature on M&A is concentrated on domestic activities in the host developed countries. However, Erel et al. (2012:1045) point out that "national borders add an extra element to the calculus of domestic mergers because they are associated with additional set of frictions that can impede or facilitate mergers." In addition, Ahern et al. (2015) argue that the additional costs that come with cross-border mergers such as cultural differences have strong negative effects on merger activity. The findings

by Brouthers and Brouthers (2000) further suggest that host country characteristics influence the choice of entry mode for FDI. Interest has been growing in the role of country characteristics in determining the location of FDI. Dunning (2009: 60) argues that since the 1990s “the importance of location per se as a variable affecting global competitiveness of firms” became significant. Therefore, it is important to examine how country characteristics such as the level of economic integration, institutional quality and macroeconomic factors influence the location decisions of foreign investors.

The literature on M&A mode of FDI in developing countries is scarce. In fact, M&A have not been researched thoroughly – either in developed or developing countries. In the context of Africa, hardly any empirical work exists on M&A activities. To the authors’ knowledge, only a few studies have focused on M&A in Africa. For example, Agbloyor et al. (2012) examine how domestic financial markets affect M&A activity in Africa. More recently, Wilson and Vencatachellum (2016) have found that between 2003 and 2008, the number of M&A transactions in Africa doubled, as the value of M&A targeting the continent increased sevenfold. Figure 1 in the appendix shows the number of M&A that took place in Africa between 1990 and 2014 compared to other developing regions. It shows that M&A activities in Africa follow trends similar to those in other developing countries. M&A are becoming an attractive mode of investment and, over time, have become a dominant policy issue for both target and acquiror countries.

This paper is different from the existing empirical work on M&A. First, the paper focuses on M&A in Africa by firms from within the continent and by those from outside the continent. Unlike many previous studies, we use a structural gravity model to investigate M&A deals from the year 2000 to 2014. This period is important because, first, it is characterized by a global commodity boom that affected resource-rich economies of the developing world, such as those in Africa. Second, most M&A literature tends to omit information such as deal values, most of which happens to be private mergers and small deals which may lead to sample selection biases (Netter et al., 2011). It is likely that M&A in developing countries and especially in Africa are understudied as a result of these sample selection biases. Using the Zephyr database, which provides more information on deal values than other M&A databases, we examine both the number and the value of M&A deals. Third, since most studies on M&A have been on developed countries³ whose institutions and level of economic development are different from those in developing countries, we examine how locational factors such as economic integration, physical distance, cultural characteristics and institutional quality affect M&A in Africa.

We extract a dataset for global bilateral M&A flows from the Zephyr database. This bilateral data provides both home and host country M&A flows, a key ingredient in a gravity framework. A gravity model is the ideal way to study the effects of economic integration on international trade or/and FDI. Regression results from the model suggest that customs unions in Africa, specifically the East African Community (EAC) and Southern Africa Customs Union (SACU) are significant drivers of M&A by firms

from within the unions but not by firms from outside the unions, perhaps the result of the relatively small size of the economic blocs.

This paper is organized as follows: Section 2 reviews the literature on M&A, highlighting the importance of locational factors, particularly the role of regional integration in fostering FDI and M&A flows. Section 3 presents a structural gravity model, which is developed from microeconomic foundations. Section 4 describes the data and explains the treatment of zero observations. Section 5 discusses the empirical results while Section 6 concludes the paper.

2. Literature review

In this literature review, we examine studies on M&A and draw on FDI literature specifically related to regional integration. The section concludes with a brief review of ideas by Neary (2007; 2009), which are specific to M&A and help us to understand the relationship between regional integration and M&A.

The literature on determinants of M&A has explored various aspects of determinants, such as the role of culture and institutions (Ahern et al., 2015; Hyun and Kim, 2010) and the role of financial market development (Di Giovanni, 2005). Several studies have attempted to identify mode-distinguishing determinants of FDI; for instance, Globerman and Shapiro (2002; 2005), Aminian et al. (2005) and Neto et al. (2010). Rossi and Volpin (2004) look at how differences in laws and regulations explain the pattern of M&A whereas Erel et al. (2012) explore how valuations influence decisions made by M&A investors. However, most of this research is mainly on developed countries. For a recent comprehensive review of literature on cross-country determinants of M&A, see Xie et al. (2017).

Only a few empirical studies exist on M&A in developing countries. Kamaly (2007) was among the first to examine macroeconomic determinants of M&A in developing countries in the 1990s. The author finds that M&A activity is driven by international stock markets, interest rates and responds with a moderate lag. Aguiar and Gopinath (2005) investigate the behaviour of M&A in East Asia during the 1997 and 1998 financial crisis. The authors find that reduced domestic liquidity played a significant role in explaining the dramatic increase in foreign acquisitions in this period. More recently, Jongwanich et al. (2013) investigate the relationship between M&A and financial development in nine (9) emerging market economies in Asia for the period 2000 to 2009. Jongwanich et al. (2013) find that the banking sector plays a bigger role than equity and bond markets.

Research on M&A in Africa is even more scarce than research in other developing countries. The only studies that have paid attention to M&A in Africa are Agbloyor et al. (2012) which examine how domestic financial markets in eleven (11) African countries affect M&A activity, and Wilson and Vencatachellum (2016) whose study investigates how global factors such as international financial markets and natural resources affect M&A in Africa. Agbloyor et al. (2012) find that banking sector development, but not stock market development, encourages M&A activity. Wilson and Vencatachellum (2016) find that M&A in Africa are driven by international stock markets, bond yields

and natural resource endowment from 1990 to 2014. Tunyi and Ntim (2016) investigate firm- and country-level drivers of M&A in Africa. The authors find that country level factors such as market size, national governance and stock market development explain the incidence of M&A more than firm-level factors. In this paper, we investigate the relationship between regional integration and M&A activities in Africa.

The relationship between regional integration and FDI has been of interest to researchers since the establishment of the European Economic Community (EEC). The key element of regional integration is that it expands the market and therefore generates interest of potential investors wanting to exploit economies of scale. Sachs et al. (2004) argue that regional integration raises the interest of foreign investors by increasing the scope for markets. Brenton et al. (1999) assert that regional economic integration provides an important stimulus for both trade and FDI. Warin et al. (2009) in their empirical work from 1994 to 2005 illustrate that the integration process towards the European Monetary Union (EMU) doubled FDI flows within the EMU. This result complements the impact of economic integration on trade as measured by Frankel and Rose (1998).

Using case studies, Blomstrom and Kokko (1997) analyse the effect of economic integration between developed and developing countries, whereas Kubny et al. (2011) looks at the benefits of integration among developing economies. Blomstrom and Kokko (1997) and Kubny et al. (2011) argue that investigating the relationship between regional integration and FDI is complicated by the many aspects of the relationship that need to be taken into consideration. The complexity is brought about by the opposing effects from the various transmission channels. The two main transmission mechanisms are trade and investment.⁴

Empirical research on the impact of Regional Trade Agreements (RTAs) on FDI include Levy-Yeyati et al. (2003), who investigate how investment patterns between North and South are affected by the presence of RTAs. Te Velde and Bezemer (2006) focus on the impact of RTAs on FDI inflows in developing countries, from two source developed countries. Levy-Yeyati et al. (2003) measure regional integration with a dummy variable, whereas Te Velde and Bezemer (2006) use a quantitative measure of the strength of integration within RTAs by using the level of trade and investment provisions. Both empirical studies use stock and not flow of FDI, and both use gravity model for analysis, whereas in this paper we use flows of M&A.

So far, there is only one theoretical model that explains the relationship between regional integration and M&A subset of FDI. This model by Neary (2009) suggests that a decrease in trade costs within an economic bloc encourages competition and can trigger cross-border merger waves. The argument that falling trade costs stimulate FDI is in line with the trade liberalization channel suggested by Blomstrom and Kokko (1997). Furthermore, Neary's (2009) theoretical model extends to capital market liberalization, such as the special case of a monetary union. The author argues that financial integration reduces transaction costs such as exchange rate risk, and therefore facilitates movement of capital across borders.

Neary's (2009) theory is tested by Coeurdacier et al. (2009), who investigate whether trade liberalization within the EMU and financial integration within the European Union (EU) promote M&A within the region and with the rest of the world. Using sectoral data for manufacturing and service sectors of major economies, Coeurdacier et al. (2009) find that financial integration within the EU had a strong impact on horizontal M&A in the manufacturing sector while trade liberalization within the EMU did not benefit the service sector.

Brakman et al. (2007) test the implications of Neary's (2007) proposition that M&A are driven by comparative advantage. Using sectoral data for the period 1980 to 2005 from five Organization of Economic Cooperation and Development (OECD) countries, the results by Brakman et al. (2007) show that acquiring firms operate in strong sectors. However, target firms also come from strong sectors, not weak sectors, which they call 'target paradox'. These findings support Neary's (2007) hypothesis that low-cost firms which have comparative advantage have an incentive to merge or takeover high-cost weak sectors.

To conclude this section, the review of literature has shown that there are a number of empirical studies on country-specific determinants of M&A in developed countries. However, the literature on developing countries is scarce, and in Africa only a few studies have been found so far. The section also finds evidence that regional integration promotes FDI and M&A. However, many of these studies relate to aggregate FDI stock and not to flows or M&A. The entry mode choice of FDI matters; therefore, we need to specifically consider the case of the M&A mode of entry. The two empirical studies that link M&A and economic integration use sectoral, and not aggregate data, and these studies are of developed countries.

3. Theoretical model

We introduce a theoretical model developed by Head and Ries (2008) from the inspection game presented in Fudenberg and Tirole (1991). This model implies a trade-off between the gain of transferring the control of a subsidiary to a better owner and the costs entailed by the fact that an owner is located remotely from the target country. If not controlled, the manager of the subsidiary will not have a strong incentive to optimize the worth of the affiliate.

In this model, the management of a headquarter (hereafter HQ) decides whether or not to control the management of an overseas affiliate (hereafter AF) while the affiliate opts whether to shirk or to work. Profits depend on the contributions of HQ and AF. HQ brings e in any case whereas AF only yields f when choosing to work. At the same time, HQ decides whether to trust AF or to monitor whether it has worked or not.

Table 1 shows the payoffs for HQ and AF. AF receives w from HQ, unless the latter monitors him and uncovers shirking; in such a case, AF gets nothing. When AF works, he generates a gross output of $e + f$. However, working implies g as a cost of effort to AF while the monitoring costs for HQ are equal to h .

Table 1: The inspection game

		Headquarters chooses	
		Trust ($1 - z$)	Monitor (z)
Affiliate management chooses	Shirk (y)	$w, e - w$	$0, e - h$
	Work ($1 - y$)	$w - g, e + f - w$	$w - g, e + f - w - h$

		Headquarters chooses	
		Trust ($1 - z$)	Monitor (z)
Affiliate management chooses	Shirk (y)	$w, e - w$	$0, e - h$
	Work ($1 - y$)	$w - g, e + f - w$	$w - g, e + f - w - h$

We follow Fudenberg and Tirole (1991) and Head and Ries (2008) by assuming that $f > w > g > h$. In those conditions, there is no Nash equilibrium in pure strategies. In a Nash equilibrium with mixed strategy, AF cheats with probability y and HQ monitors with probability z . HQ's expected revenues are $e + f(1 - y)$, while its

expected costs are given by $hz + w(1 - yz)$. Therefore, the expected payoffs of HQ and AF are respectively:

$$v_{hq} = e + f(1 - y) - hz - w(1 - yz) \quad (1)$$

$$v_{af} = w(1 - yz) - g(1 - y) \quad (2)$$

Agents select their respective probabilities by considering the others' as fixed. Consequently, the first-order conditions for HQ and AF are respectively:

$$\frac{\partial v_{hq}}{\partial z} = -h + wy \quad (3)$$

$$\frac{\partial v_{af}}{\partial y} = g - wz \quad (4)$$

The equilibrium mixed strategy therefore implies the following probabilities:

$y = h/w$ and $z = g/w$. Replacing these probabilities by their respective expressions into HQ's payoff, we have

$$v_{hq} = e + f(1 - h/w) - w \quad (5)$$

Optimizing this objective function with respect to w yields the solution $w^* = \sqrt[3]{fh}$

This solution implies that there is a contract between HQ and AF, implying that AF will be paid $\sqrt[3]{fh}$ except when HQ notices that AF has cheated. We now have the expression of the optimal payoff function

$$v_{hq} = e + f - 2\sqrt[3]{fh} \quad (6)$$

As outlined by Head and Ries (2008), the most important result that flows from that expression is that higher verification costs lower the value of the affiliate to the HQ. This result is even boosted when AF's effort is more valuable. Stated otherwise, if two HQs of equal value-added e were bidding, the HQ with lower monitoring costs would provide the highest auction.

We can now move one step forward to our econometric specification by assuming that monitoring costs, h , are an increasing function of a vector of measures of geographical and cultural distances and of economic proximity,⁵ denoted D_{ij} . We can express this “remoteness function” as follows:

$$h_{ij} = [k (D_{ij}) / 2]^2 \quad \text{with } k' > 0$$

Replacing h in equation (6) with the formula of the remoteness function yields the following expression of the payoff function of an HQ in country i monitoring a target in country j

$$v_{ij} = e + f - 2\sqrt[3]{fk} (D_{ij}) \quad (7)$$

We model the ownership outcome as a process where the HQ that expects the highest affiliate valuation makes the highest bid and wins the auction for control of the affiliate. We denote π_{ij} as the probability that the HQ from country i takes control of a randomly drawn affiliate or target in country j . K_j is the asset value of the entire stock of targets in country j . The expected value of M&A between country i and j is given by the following equation:

$$E(M\&A_{ij}) = \pi_{ij}K_j \quad (8)$$

Owing to many large target sizes, which create lumpiness in data, the realized value of M&A will differ from the expected value of M&A.

To specify π_{ij} we assume that acquiror country i has m_i HQs, each of which has different valuations for a given target country j . We introduce heterogeneity in valuations through HQ value-added term, e . We assume that the cumulative density of e takes Gumbel Type 1 Extreme Value form: $\exp(-\exp(-(x - \mu)/\sigma))$.

Using discrete choice theory (Anderson et al., 1992: 39), one can show that π_{ij} is given by multinomial logit formula:

$$\pi_{ij} = \frac{\exp[\mu_i/\sigma + \ln m_i - (\sqrt{f}/\sigma)k(D_{ij})]}{\sum_l \exp[\mu_l/\sigma + \ln m_l - (\sqrt{f}/\sigma)k(D_{lj})]} \quad (9)$$

If we substitute equation (9) into (8) we obtain the expected bilateral value of M&A as:

$$E(M\&A_{ij}) = \frac{m_i \exp[\mu_i/\sigma - (\sqrt{f}/\sigma)k(D_{ij})]}{\sum_i m_i \exp[\mu_i/\sigma - (\sqrt{f}/\sigma)k(D_{ij})]} K_j \tag{10}$$

Let the inspection cost function $k(D_{ij}) = (D_{ij})^\theta$ where δ is distance costs of remote inspections and where $\theta = \delta \sqrt{f}/\sigma$. The compound parameter θ measures friction costs due to distance between countries. As shown, θ is directly related to the distance costs of inspection (δ) and the value added by a manager who chooses not to shirk (f).

Using the new notation, we can then specify the bid competition, a measure of remoteness, for targets in country j as $B_j = \sum_i s_i^m \exp(\mu_i/\sigma - D_{ij}\theta)$, with $s_i^m = m_i / \sum_i m_i$ the country's share of world bidders.

We therefore express equation (10) as:

$$E(M\&A_{ij}) = \frac{\exp(\mu_i/\sigma - D_{ij}\theta)}{B_j} s_i^m K_j \tag{11}$$

A higher bid competition implies that it is easier for assets in country i to be acquired by rivals from other countries, therefore reducing the expected bilateral M&A from country i . B_j is similar to the "multilateral resistance term" developed in the trade literature by Anderson and Van Wincoop (2003) and represents the market potential or supplier access. We can rewrite the right-hand side of equation (11) as follows:

$$E(M\&A_{ij}) = \exp[\mu_i/\sigma + \ln s_i^m + \ln K_j - \ln B_j - D_{ij}\theta] \tag{12}$$

$$E(M\&A_{ij}) = \exp \left[\underbrace{\mu_i/\sigma + \ln s_i^m}_{\text{Outward effect}} + \underbrace{\ln K_j - \ln B_j}_{\text{Inward effect}} - D_{ij}\theta \right] \tag{13}$$

Defining the outward and the inward effects as:

$$\text{Out}_i = \mu_i/\sigma + \ln s_i^m \tag{14}$$

$$\ln_j = \ln K_j - \ln B_j \tag{15}$$

we have

$$E(M\&A_{ij}) = \exp [Out_i + In_j - D_{ij}\theta] \quad (16)$$

Moving from expected values determined by the theory to actual values of M&A, we get:

$$M\&A_{ij} = E (M\&A_{ij}) \varepsilon_{ij} \quad (17)$$

$$M\&A_{ij} = \exp [Out_i + In_j - D_{ij}\theta] \varepsilon_{ij} \quad (18)$$

Extending this expression to a panel data framework, we have

$$M\&A_{ijt} = \exp [Out_{it} + In_{jt} + \alpha_t - D_{ijt}\theta] \varepsilon_{ij} \quad (19)$$

where α_t represents time fixed effects.

Assuming that:

$$Out_{it} \approx \beta_1 \log GDP_{it} + \alpha_i \quad (20)$$

$$In_{jt} \approx \beta_2 \log GDP_{jt} + \alpha_j, \quad (21)$$

we then have

$$M\&A_{ijt} = \exp [\alpha_i + \alpha_j + \alpha_t + \beta_1 \log GDP_{it} + \beta_2 \log GDP_{jt} - D_{ijt}\theta] \eta_{ij} \quad (22)$$

Taking logs on both sides

$$\log (M\&A_{ijt}) = \alpha_i + \alpha_j + \alpha_t + \beta_1 \log GDP_{it} + \beta_2 \log GDP_{jt} - D_{ijt}\theta + v_{ijt} \quad (23)$$

with $v_{ijt} = \log(\eta_{ijt})$ and $D_{ijt} = [\text{RTA fixed effects}, Z_{ijt}]$ where Z_{ijt} is a set of control variables linked to transaction costs associated with M&A. Therefore, we have the final specification.

$$\begin{aligned} \log(M\&A_{ijt}) = & \alpha_i + \alpha_j + \alpha_t + \beta_1 \log GDP_{it} + \beta_2 \log GDP_{jt} \\ & + \beta_3 \text{BothinRTA}_{ijt} + \beta_4 \text{OneinRTA}_{ijt} + \varphi Z_{ijt} + v_{ijt} \end{aligned} \quad (24)$$

Where: $M\&A_{ijt}$ is a bilateral M&A between target and acquirer countries at time t , α_i and α_j are target and acquirer countries individual effects which capture unobservable characteristics of target and acquirer countries. α_t is the effect specific to year t but common to all the pairs of countries to capture common shocks (such as 2008 global financial crisis). GDP_{it} and GDP_{jt} is target - and acquirer country GDP at time t . Z_{ijt} is a set of control variables linked to transaction costs associated with M&A, which include distance, institutions and cultural and financial variables. These variables are described in much more detail in the following section 3.1. $\text{BothinRTA}_{ijt} = 1$ if both acquirer and target countries are members of a regional economic bloc, such as the SADC at time t ; $\text{OneinRTA}_{ijt} = 1$ if target country is a member of regional bloc but acquirer country is not a member at time t and v_{ijt} is the error term.

Description of explanatory variables and a priori expectations

We first discuss the expectation of the relationship between regional integration and M&A before we turn to the relationship between M&A and control variables.

The effect of regional integration on M&A

We closely examine the effects of regional integration, represented by RTA in equation 24, on M&A. We scrutinize the relationship from the point of view of the source or the acquirer country of M&A.

The acquirer countries of M&A can be categorized into two. First, the acquirer and the target countries can be participating members of a regional economic bloc. In such a case, the acquirer can purchase targets within the regional bloc or RTA, resulting in intra-regional M&A. We assigned the value 1 to the dummy variable BothinRTA_{ijt} in equation 24 to such an acquirer. Second, the acquirer country can be a non-member of a regional economic bloc or RTA. A non-member can invest in one country in the regional bloc to take advantage of benefits of integration within the bloc. This is the case of inter- or extra-regional M&A described by OneinRTA_{ijt} variable in equation 24. OneinRTA_{ijt} helps us to analyse investment coming from outside the region.

If the source of M&A is a participating member of a regional bloc, the expectation is that the removal or reduction of trade barriers would enhance trade within the region. However, the removal of trade barriers would discourage horizontal M&A, which had been previously incentivised by tariff jumping. As a result, trade becomes a substitute for horizontal FDI and M&A. The other effect of the removal of trade barriers is that it expands the regional market and stimulates intra-regional FDI and M&A, hitherto stifled by tariff jumping. Notable beneficiaries are likely to be vertical intra-regional and efficiency-seeking M&A, usually from more developed members of a RTA. As a result, the net effect of trade liberalization on intra-regional FDI and M&A depends on the type and motive of the investment (Barrell and Velde, 2002; Blomstrom and Kokko, 1997).

The source of M&A can also be from outside the region; that is, inter-regional. In such a case, removal of trade barriers due to the creation of a RTA expands the market, making it more profitable for M&A deals. This channel is more likely to be exploited by market-seeking horizontal FDI and M&A from outside the region and, usually, the deals target countries with more developed regional member countries. An example of a more developed regional member who may attract investors from developed countries is South Africa in the Southern Africa Development Community (SADC).

Regardless of the source of investment – that is, whether from the region or from outside – the choice of location of M&A is likely to be near the largest market and where the costs of production are lowest (Te Velde and Bezemer, 2006). This choice of location might explain why inter-regional inward FDI and M&A in the SADC tends to be concentrated in South Africa.

The investment provisions channel takes place through liberalization of capital controls within a RTA. Reduction or elimination of restrictions on foreign investment is expected to bring direct benefits to M&A. Investment provisions include explicit protection and treatment of FDI and M&A, such as guarantees against appropriation of investment and foreign investors being given national treatment. Explicit protection of investment is best described by protection of property rights and the presence of dispute-resolution mechanisms. Implementation of such provisions improves the investment climate and creates certainty in the policy environment. Blomstrom and Kokko (1997) argue that strong property rights are an important aspect of RTAs among developing economies where political risk often inhibits foreign investment.

Other explanatory variables

Institutions and M&A: Apart from regional integration, we select control variables, some of which are measures of institutional quality related to M&A. The selected institutional variables are the level of corruption, the rule of law and political stability. These variables have previously been considered as important determinants of

M&A (Alfaro et al., 2007; Di Giovanni, 2005; Hyun and Kim, 2010; Rossi and Volpin, 2004). Foreign investors are attracted to countries with good institutions because weak institutions increase the cost of capital. Coeurdacier et al. (2009: 12) argue that “reliable institutions enhance transparency and sound legal and political systems offer a less uncertain environment to investors.” Claims exist that differences in institutions matter, that investors are attracted to countries with a similar institutional environment. For instance, investors from countries with good institutions prefer to invest in countries with strong institutions, and vice versa. Moreover, Hyun and Kim (2010) argue that the quality of institutions in the host country matters. In this paper, we consider institutions in both source (Di Giovanni, 2005) and host countries (Hyun and Kim, 2010).

Financial development and M&A: Financial depth indicates the ease with which investors can source funds from financial markets, either in home or/and host countries. Raising funds from internal markets in source countries is much cheaper than raising funds from external markets in target countries as a result of asymmetric information (Froot et al., 1991). In developing countries, the banking sector plays the primary role of providing funds for investment. However, stock and bond markets are increasingly becoming an important source of finance for M&A in these countries. Di Giovanni (2005), Hyun and Kim (2010), and Jongwanich et al. (2013) have established that the level of financial development is important for M&A transactions. Vasconcellos and Kish (1998) find that apart from cash payments, M&A transactions are increasingly being financed through exchange or issuance of equity and bonds. In the 1960s and 1990s merger waves, the medium of payment for M&A transactions was often stock as opposed to cash (Shleifer and Vishny, 2003).

Exchange rate and M&A: Various authors have included real or/and nominal exchange rate in the analysis of determinants of M&A flows. Di Giovanni (2005), Hyun and Kim (2010), and Jongwanich et al. (2013) find that the relationship between real exchange rate and M&A is mostly negative and statistically insignificant. However, Coeurdacier et al. (2009) find that the introduction of a single currency in the EMU facilitated the movement of capital resulting in a positive significant effect on M&A flows in the manufacturing sector. Kamaly (2007) also finds a positive and significant relationship between nominal exchange rate changes and M&A in 60 developing countries. In the Asian region, Jongwanich et al. (2013) find that the nominal exchange rate had a negative and significant effect on M&A flows. This discussion seems to suggest that there is no consensus in the empirical literature regarding the relationship between exchange rates and M&A flows.

International trade and M&A: International trade and FDI are closely related. The neo-classical trade theory predicts that firms would rather establish a subsidiary in a foreign country to avoid paying tariffs. Therefore, trade and FDI are substitutes. This negative relationship is supported by the proximity-concentration trade-off (Brainard,

1993) which explains that as transport costs and trade barriers increase, firms are more likely to set up foreign affiliates and produce abroad, rather than export. However, Neary (2009) observes that during the 1990s, both trade and FDI increased at the same time, with FDI growing much faster than trade. This increase in both trade and FDI in the 1990s contradicts the proximity-concentration trade-off and suggests a complementary relationship. Findings by Di Giovanni (2005) and Hyun and Kim (2010) support the complementary relationship between trade and cross-border M&A flows.

4. Data description and sources

We construct a dataset for gross bilateral M&A flows using the Zephyr database published by Bureau van Dijk and IBM business directory. An advantage of using this unique database as opposed to other data sources is that it is comprehensive on M&A activity and is relatively unexploited. Since the value of M&A deals is not reported or confirmed in most cases, the dataset uses other sources of information to calculate an estimate of the value of a deal. This feature of the database enables us to have more data on the value of M&A deals especially for developing countries such as those in Africa. The database covers deal information such as announced and completion date of acquisition. Where the deal completion date is not given, the database provides an assumed completion date. Since we use only completed deals as opposed to announced deals in our empirical analysis, this aspect of completed deals is very important. Other aspects of the data are standard. For instance, the dataset provides details of the target and the acquiror company, but more important is the target and the acquiror country and region, primary SIC code, major industrial sector, and deal information such as deal value and other balance sheet information.

Figures 2 and 3 in the appendix describe the number and the value of deals where Africa is involved – that is, inflows and outflows of M&A. Figure 2 shows the case where African companies have been sold or targeted (M&A inflows) and Figure 3 shows the case where Africa has purchased or acquired firms in the world (M&A outflows), which include intra-African M&A. Figures 2 and 3 depict similar trends. We observe that in the years 2000 to 2002, relatively fewer deals involved African country targets. However, from 2003 there was a sharp increase in M&A deals reaching a peak in 2005 in terms of number of deals and a peak in 2006/07 in the case of value of deals. The impact of the 2008 global financial and economic crisis is clearly evident, with a drastic decline in both the number and the value of deals from the year 2006/07 peak. After reaching a trough in 2009 in both the number and the value of deals, we observe a recovery from year 2010 especially with the number of deals. In Figure 2 we observe that in years 2010 to 2012, deal values remained above the 2009 level.

Figures 4 and 5 in the appendix show pie charts of the sectoral distribution of M&A deals in Africa. The top six sectors for both target and acquiror are similar, but the contribution of sectors is different. Banking, insurance and financial services are the most attractive sector with approximately a quarter of all deals by value where Africa is the target and 22% where Africa is the acquiror. Mining and extraction are

the second most attractive sectors in Africa, motivated by resource-seeking M&A deals - with share of 18% (13%) where Africa is target (acquiror). The ranking of the top sectors changes slightly from position 7, with computers, information technology (IT) and internet sector prominent for African acquirors whereas food and tobacco manufacturing sector is important for African targets. Figures 6 and 7 in the appendix show trends of the top sectors by value of completed deals across time for both targets and acquirors. Table 1 in the appendix shows disaggregated country data for African country targets in terms of deal numbers and values. We observe that South Africa is a major target country in Africa, followed by Egypt, Nigeria, Morocco and Kenya.

Country data for macroeconomic variables such as GDP, stock market capitalization, value of stocks traded, and domestic credit provided by the financial sector are obtained from the World Bank Development Indicators (WDI) database. Data on geographic variables, cultural variables and trade are obtained from the Centre d'Études Prospectives et d'Informations Internationales (CEPII) database. We obtain data for Economic Integration Agreements (EIA) from the Kellogg Institute for International Studies. Data for institutions is from the World Bank Governance Indicators (WGI) and the data for nominal exchange rates is from Penn World Table.

The treatment of zeros

One problem with specification of equation 24 is that for many country pairs, the value of gross bilateral flows of M&A between countries in a given year is zero; that is, no deals occurred between country i and country j . Zero bilateral flows is a problem if a gravity model is to be estimated in logarithmic form since the log of zero is undefined. Linnemann (1966) was the first economist to observe that half of bilateral trade data is actually zero! Therefore, estimation of a gravity model with zero data for trade or investment had been a problem for 40 years. However, this problem has been addressed more recently by Silva and Tenreyro (2006; 2009). It is important to keep zero observations of M&A deals to avoid losing information on why deals do not actually occur between countries. Keeping zero observations might help us to understand why some countries do not receive M&A at all.

A gravity model estimated in logarithmic form implies that zero investment flows are dropped out of the estimation, which substantially limits the sample size. If we drop all zero deal values, we might underestimate the effects of explanatory variables on M&A. Therefore, we have to keep these zero deal values to avoid loss of valuable information and to avoid model misspecification. Silva and Tenreyro (2006) emphasize the importance of correctly treating zero observations of the dependent variable in a gravity equation. Silva and Tenreyro (2006) also warn that heteroscedasticity can still be a problem in such an equation even after including country fixed effects.

Silva and Tenreyro (2006) recommend the use of Poisson Pseudo Maximum Likelihood (PPML) to deal with both problems of zero observations and heteroscedasticity. By nature (original form), the Poisson model is a non-linear model,

which takes exponential form. Therefore, if we have the dependent variable as the level of M&A, we do not have to take the log of zero but we can linearize the right-hand side of the model by taking logarithms where necessary. This process gives us a linear-log model which enables us to keep zero observations of the dependent variable, but still log explanatory variables. The Poisson model has been employed in levels of trade data when estimation of non-linear form of the gravity model is done. However, the traditional Poisson estimator has convergence issues which have been addressed by the use of PPML.

PPML has been recommended by Silva and Tenreyro (2010b) as a robust approach especially in the presence of heteroscedasticity, which makes OLS estimators biased and inconsistent. Silva and Tenreyro (2010a) show that PPML gives consistent estimates of the original non-linear model. Even though Poisson is used for count data, PPML does not require the data to be distributed as Poisson, and so can be applied to non-linear models such as gravity models (Bacchetta et al., 2012). The estimator has been applied in gravity equations by Silva and Tenreyro (2010a) for studying the effects of currency unions.

The Poisson estimator has other desirable properties. The estimator is consistent in the presence of fixed effects that can be included as dummy variables. Bacchetta et al. (2012) argue that this is an unusual property of non-linear maximum likelihood estimators, which usually have poorly understood properties in the presence of fixed effects. Gravity models that are consistent with theory require the inclusion of fixed effects; as a result, this property of the Poisson estimator becomes quite important. Most other estimators do not allow the inclusion of fixed effects.

5. Empirical results and discussion

As shown in Table 2 column 1, the traditional gravity variables perform very well with the correct signs and statistical significance. The results suggest that economic size of both the target and the acquiror countries is relevant and positively related to M&A flows. The coefficients of the target country GDP and the acquiror country GDP are above one; theory predicts GDP elasticities to be close to one. We also note that the coefficient for the acquiror or the source country GDP is higher than that of the target or host country GDP as expected, because acquirors tend to come from bigger economies, which are usually developed countries. We can interpret the coefficients of GDP to mean that a 1% increase in the target country GDP (the acquiror country GDP) will result in approximately 1.8% (2.6%) increase in M&A flows.

In line with the theoretical expectation is that geography matters. Physical distance between the country pairs is significant and negatively related to M&A flows. Greater distance between countries discourages M&A because of high monitoring costs. Far away affiliates become expensive and difficult to supervise as shown in the theoretical model explained in Section 3. However, distance does not capture physical distance alone but also information costs associated with cultural differences. For instance, Di Giovanni (2005) argues that the cost of investment increases with distance as a result of asymmetric information. The coefficient of distance is approximately -0.6 and implies that a 10% increase in distance decreases bilateral M&A flows by 6%. Furthermore, our regression results indicate that distance tends to influence the magnitude and significance of the border effect (contiguity). For instance, in Table 2 column 2 and column 5 where both distance and contiguity are included, contiguity is insignificant and has a much lower coefficient. When distance is excluded from the regression in column 4, contiguity is statistically significant. This result can be explained by the finding of Disdier and Head (2008) who observe that contiguity tends to over-estimate distance, and that adjacency is negatively related to distance.

Table 2: PPML: The effect of economic integration agreements on the value of cross-border M&A from 2000 to 2014

Variables	1	2	3	4	5
Log distance	-0.638***	-0.601***			-0.431***
	(0.055)	(0.063)			(0.055)
Log GDP target	1.836***	1.809***	1.582***	1.524***	1.626***
	(0.308)	(0.327)	(0.312)	(0.306)	(0.315)
Log GDP acquiror	2.562***	2.539***	2.361***	2.347***	2.459***
	(0.325)	(0.307)	(0.304)	(0.304)	(0.309)
Common language		0.478***		0.556***	0.482***
		(0.141)		(0.130)	(0.130)
Contiguity		-0.027		0.511***	0.056
		(0.162)		(0.151)	(0.162)
Common colony		0.904***		1.265***	1.009***
		(0.259)		(0.275)	(0.254)
Former colony		0.344***		0.411***	0.5042***
		(0.124)		(0.124)	(0.126)
Economic Union			1.148***	0.784***	0.365***
			(0.161)	(0.195)	(0.197)
Customs Union			2.548***	1.943***	1.5534***
			(0.319)	(0.319)	(0.318)
Common Market			1.051***	1.287***	0.619***
			(0.144)	(0.144)	(0.158)
Preferential Trade Agreement			0.875***	0.858***	0.541**
			(0.276)	(0.250)	(0.242)
Free Trade Agreement			0.792***	0.508***	0.183
			(0.143)	(0.140)	(0.147)
Non-Reciprocal PTA			0.289*	0.343**	0.342**
			(0.161)	(0.147)	(0.155)
Observations	362,052	362,052	369,358	369,358	369,358
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.382	0.376	0.379	0.379	0.383

where *** means significant at 1%, ** means significant at 5% * means significant at 10%. Standard errors are in brackets.

Table 3: PPML: The effect of customs unions and institutions on the value of cross-border M&A in Africa from 2000 to 2014

Variables	1	2	3	4	5	6
Log Distance	-0.432***	-0.431***	-0.433***	-0.428***	-0.427***	-0.429***
	(0.084)	(0.085)	(0.085)	(0.083)	(0.084)	(0.084)
Log GDP acquiror	1.965***	2.171***	2.160***	1.958***	2.165***	2.152***
	(0.498)	(0.463)	(0.452)	(0.497)	(0.463)	(0.450)
Log GDP target	1.732***	1.980***	1.796***	1.714***	1.961***	1.774***
	(0.636)	(0.658)	(0.593)	(0.635)	(0.655)	(0.591)
Common language	0.260*	0.261*	0.264*	0.243*	0.245*	0.247*
	(0.149)	(0.148)	(0.148)	(0.148)	(0.147)	(0.147)
Contiguity	-0.162	-0.175	-0.175	-0.158	-0.171	-0.171
	(0.175)	(0.175)	(0.175)	(0.174)	(0.174)	(0.174)
Common colony	0.492*	0.500*	0.499*	0.455*	0.462*	0.461*
	(0.273)	(0.273)	(0.274)	(0.266)	(0.266)	(0.267)
Former colony	0.375***	0.384***	0.386***	0.374***	0.383***	0.385***
	(0.127)	(0.126)	(0.126)	(0.125)	(0.124)	(0.124)
BothinEAC	5.799***	5.804***	5.625***			
	(1.300)	(1.284)	(1.320)			
OneinEAC	-0.604	-0.588	-0.739			
	(0.985)	(0.969)	(1.001)			
BothinSACU	3.156***	2.945***	2.785***			
	(0.673)	(0.661)	(0.665)			
OneinSACU	-0.299	-0.419	-0.582			
	(0.311)	(0.294)	(0.293)			
BothinWAEMU	-4.460	-6.933				
	(3.095)	4.271				
OneinWAEMU	-3.251	-5.674	1.243			
	(2.621)	(3.928)	(1.719)			
Customs union				1.704***	1.687***	1.718***
				(0.3025)	(0.298)	(0.300)
Corruption acquiror	0.814**			0.159		
	(0.347)			(0.101)		
Corruption target	0.479**			0.486**		
	(0.219)			(0.219)		
Rule of law acquiror		0.083			0.077	
		(0.348)			(0.347)	
Rule of law target		-0.388			-0.398	
		(0.419)			(0.416)	

continued next page

Table 3 Continued

Variables	1	2	3	4	5	6
Political stability acquiror			0.311			0.320*
			(0.194)			(0.194)
Political stability target			0.464***			0.456***
			(0.191)			(0.190)
Trade	0.271***	0.273***	0.269***	0.268***	0.272***	0.270***
	(0.054)	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)
Exchange rate	-0.302	-0.325	-0.190	-0.183	-0.315	-0.292
	(0.330)	(0.340)	(0.274)	(0.271)	(0.337)	(0.327)

Characteristics capturing cultural similarity such as common official language, common colony and former colony have a positive and significant effect on M&A flows as shown in Table 2 column 2. This result concurs with the previous literature such as Erel et al. (2012) who find that culture matters. Similar cultural features such as common official language or/and shared ethnicity reduce frictions in business transactions since participants are able to communicate easily and understand each other's business practices. When countries share an official language and colonial links, they also tend to have adopted a similar legal system.

Among the cultural variables, it seems that having been previously colonized by the same power has a bigger effect (as the coefficient is higher) in promoting M&A among the country pairs than the other cultural variables. The cultural variables also have the expected signs and are statistically significant when we use count data; that is, the number of M&A as the dependent variable as shown in Table 6 in the Appendix. Sharing a common border does not seem to matter, as the variable is not significant, a finding similar to Pozzolo (2009). However, we have previously noted that contiguity is affected by the inclusion of distance in the regression due to high correlation. In Table 2 column 4, we see that sharing a common border matters but only when we exclude distance between country pairs from the regression.

We now take a closer look at our variable of interest, the effect of economic integration on M&A flows. A key finding from the literature review is that the effect of RTAs depends on the level of integration within regional economic blocs and the kind and extent of trade and investment provisions that have been implemented by member countries (Te Velde and Bezemer, 2006). But before we discuss findings from regional economic integrations in Africa, it is important to highlight what is to be expected from different types of EIA.⁶ The highest level of economic integration is a monetary or economic union such as the EU. The EU allows movement of not only trade and capital but also of labour. Monetary and fiscal systems are also harmonized. The lowest level of an economic integration is a non-reciprocal preferential trade agreement where developing countries are given trade and customs concessions by developed countries, for instance, Generalized System of Preferences (GSP).

Using bilateral data for EIA which covers EIA across the world, constructed by Baier et al. (2014) at the Kellogg Institute for International Studies, we estimate the effect of six different types of EIA on M&A. The estimation will provide empirical results on the expected effect on M&A from different types of EIA. Unlike previous EIA data, for instance by Rose (2004), that indicate only the presence or absence of an EIA, the EIA data indicates the level or the depth of integration. The different EIA are defined as follows: no EIA (0), non-reciprocal preferential trade agreement, or NR-PTA (1), preferential trade agreement or PTA (2), free trade agreement (3), customs union (4), common market (5), and economic union (6). These definitions are conventional and are also explicitly defined in the data for each country pair, based on Frankel et al. (1997).

The results for EIA are shown in Table 2 columns 3, 4 and 5. In general, we find that the six types of EIA have a positive significant impact of M&A flows. Customs unions have the greatest impact on M&A. Therefore, they rank the highest, with a coefficient ranging from 2.5 to 1.5. NR-PTAs have the lowest impact, with the coefficient of approximately 0.3. This finding contradicts Di Giovanni (2005) who found that, generally, customs unions and free trade areas decreased M&A in the 1990s.

We now analyze the effect on M&A of six regional economic blocs in Africa, which are at different levels of integration. First, we discuss the effect in two customs unions – the first one is Southern Africa Customs Union (SACU), which is the oldest RTA in Africa and has a smaller common monetary union that excludes Botswana. The second customs union is the East African Community (EAC), which has three main protocols: customs union (2005), common market (2010), and more recently, monetary union (2013). Second, we discuss the effect in three large groups of countries that are Free Trade Areas (FTAs). These are Southern Africa Development Community (SADC), Common Market for Eastern and Southern Africa (COMESA) and Economic Community of West African States (ECOWAS). With the exception of Tanzania, Mozambique, Botswana and South Africa, all member countries of SADC are also members of COMESA, giving rise to overlapping memberships. Third, we examine the effect of EIA in one monetary union, the West African Economic and Monetary Union (WAEMU) which has a common currency, the CFA franc.

The discussion that follows refers to the two RTA variables specified in equation 24; that is, $BothinRTA_{ijt}$ representing intra-regional exchanges and $OneinRTA_{ijt}$, which stands for inter-regional exchanges, with the results depicted in Table 3. The two dummy variables represent the effect on M&A when both the target and the acquirer countries have a RTA ($BothinRTA_{ijt}$), and the case where only the target country belongs to a RTA but the acquirer country does not ($OneinRTA_{ijt}$). It is important to determine the effect of a specific EIA in Africa on M&A flows because this effect has not yet been established. However, the theoretical expectation is that falling trade costs within a regional economic bloc should encourage competition and foster M&A (Neary, 2009). Moreover, the empirical finding in Table 2 is that EIA generally encourage M&A.

A customs union entails liberalization of trade within the regional bloc and the establishment of a common external tariff for non-member countries. Results in

Table 3 columns 1, 2 and 3 for the value of M&A and results for the number of M&A in Table 2 in the appendix show that coefficients for BothinSACU and BothinEAC have the expected positive signs, which are statistically significant. This finding implies that within SACU and EAC customs unions, there is an environment favouring M&A among member countries (intra-regional). This result makes sense if we consider the increased levels of intra-regional investment by South Africa and Kenya in SACU and EAC, respectively. The increase in intra-African FDI concurs with the leaders' efforts towards regional integration as referred to in the UNCTAD (2014) report. The report further notes that within EAC and SADC, intra-regional FDI is a significant part of intra-African FDI, comprising half of intra-African investment in EAC, and 90% in SADC, mainly due to investment by the dominant members of the EIA - Kenya and South Africa. Furthermore, Njoroge and Ouma (2014) find that deepening regional integration in East Africa has facilitated cross border bank expansion in the region.

These results are in line with the general finding about customs unions as shown in Table 2. However, the magnitude of the coefficient for BothinEAC is at least three times that of customs unions in general as shown in Table 3 columns 4, 5 and 6 and twice that of BothinSACU. This result is not a surprise because Allard et al. (2016: 20), who examine trade flows using a gravity model, find that "cross-border exchanges within EAC are five times larger than average regional trade flows within Sub-Saharan Africa." Therefore, the finding of a relatively large coefficient for EAC compared to SACU in the case of M&A may not be peculiar. The coefficients for OneinEAC and OneinSACU are both negative and statistically insignificant. The result for the coefficient of OneinRTA_{ijt}, where the target country is the only member of a regional economic bloc with the acquiror country a non-member, suggests that customs unions do not attract significant investment from outside the region. The finding is contrary to Coeurdacier et al. (2009) for the manufacturing sector in the EU, but similar to the finding for the services sector in the EU, which did not attract extra-regional M&A flows. The results for the number of M&A and customs unions are in Table 2 in the appendix. Given the results that EAC and SACU do not seem to attract M&A from non-member countries, this result can be attributed to the relatively small size of the customs unions. Therefore, being small and deeply integrated is good for investment creation within the unions (BothinRTA) but may discourage investment from outside the unions due to the relatively small size.

We now turn to the second type of regional economic bloc. A Free Trade Area (FTA) entails complete removal of trade barriers among member countries, but each member remains responsible for her trade policy with non-member countries. When we examine FTAs in Africa, we find that COMESA has investment provisions for intra-regional FDI whereas SADC has investment provisions and initiatives for extra-regional FDI. But, do these explicit investment provisions have any effect on intra- and extra-regional M&A flows? We separate the analysis of COMESA and SADC to deal with the problem of overlapping memberships. Results of COMESA FTA and SADC FTA are shown in Tables 4 and 5, respectively, for the value of M&A and Tables 3 and 4, respectively, in the appendix for the number of M&A.

Table 4: PPML: The effect of FTAs and institutions on the value of cross-border M&A in Africa from 2000 to 2014

Variables	1	2	3	4	5	6
Log distance	-0.404*** (0.083)	-0.402*** (0.084)	-0.403*** (0.084)	-0.431*** (0.082)	-0.431*** (0.083)	-0.431*** (0.083)
Log GDP acquiror	1.970*** (0.500)	2.165*** (0.465)	2.160*** (0.453)	1.963*** (0.505)	2.170*** (0.472)	2.157*** (0.458)
Log GDP target	1.742*** (0.644)	1.985*** (0.664)	1.799*** (0.598)	1.723*** (0.635)	1.967*** (0.657)	1.780*** (0.591)
Common language	0.216 (0.139)	0.214* (0.139)	0.216* (0.139)	0.259* (0.144)	0.261* (0.143)	0.261* (0.143)
Common colony	0.481* (0.271)	0.490* (0.271)	0.490* (0.271)	0.494* (0.272)	0.501* (0.272)	0.504* (0.272)
Former colony	0.374*** (0.128)	0.383*** (0.126)	0.385*** (0.126)	0.376*** (0.131)	0.384*** (0.130)	0.388*** (0.130)
BothinCOMESA	-1.795 (2.677)	-3.252 (3.674)	-0.445 (3.082)			
OneinCOMESA	0.055 (2.977)	-5.097 (3.664)	-2.040 (3.237)			
BothinECOWAS	4.793 (3.022)	0.860 (3.618)	-0.445 (3.051)			
OneinECOWAS	-0.875 (2.845)	-4.800 (3.499)	-2.040 (3.237)			
Free Trade Area				0.003 (0.207)	0.002 (0.207)	0.015 (0.208)
Corruption acquiror	0.823*** (0.348)			0.816*** (0.347)		
Corruption target	0.487* (0.182)			0.481* (0.218)		
Rule of law acquiror		0.082 (0.349)			0.083 (0.347)	
Rule of law target		-0.387 (0.419)			-0.385 (0.419)	
Political stability acquiror			0.359* (0.177)			0.311 (0.195)
Political stability target			0.455** (0.154)			0.456*** (0.191)
Trade	0.257*** (0.051)	0.261*** (0.051)	0.269*** (0.052)	0.268*** (0.054)	0.272*** (0.053)	0.270*** (0.053)

continued next page

Table 4 Continued

Variables	1	2	3	4	5	6
Exchange rate	-0.188 (0.275)	-0.323 (0.341)	-0.299 (0.331)	-0.187 (0.273)	-0.321 (0.339)	-0.297 (0.329)
Observations	156,927	156,927	156,822	156,927	156,927	156,822
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.39	0.39	0.39	0.39	0.38	0.38

Table 5: PPML: The effect of SADC and institutions on the value of cross-border M&A in Africa from 2000 to 2014

Variables	1	2	3	4	5	6
Log distance	-0.406*** (0.083)	-0.403*** (0.084)	-0.404*** (0.084)	-0.431*** (0.082)	-0.431*** (0.083)	-0.431*** (0.083)
Log GDP acquiror	1.970*** (0.500)	2.177*** (0.465)	2.165*** (0.453)	1.963*** (0.505)	2.170*** (0.472)	2.157*** (0.458)
Log GDP target	1.742*** (0.644)	1.983*** (0.663)	1.799*** (0.598)	1.723*** (0.635)	1.967*** (0.657)	1.780*** (0.591)
Common language	0.214 (0.140)	0.211* (0.140)	0.213* (0.140)	0.259* (0.144)	0.261* (0.143)	0.261* (0.143)
Common colony	0.515** (0.272)	0.524* (0.272)	0.524* (0.273)	0.494* (0.272)	0.501* (0.272)	0.504* (0.272)
Former colony	0.377*** (0.128)	0.386*** (0.126)	0.388*** (0.126)	0.376*** (0.131)	0.384*** (0.130)	0.388*** (0.130)
BothinSADC	–	3.115* (1.757)		–	4.152** (2.037)	
OneinSADC	-4.467*** (1.598)	-1.350* (0.797)	-5.496*** (1.900)			
Free Trade Area				0.003 (0.207)	0.002 (0.207)	0.015 (0.208)
Corruption acquiror	0.823** (0.348)			0.816*** (0.347)		
Corruption target	0.486*** (0.218)			0.481** (0.218)		
Rule of law acquiror		0.081 (0.349)			0.083 (0.347)	
Rule of law target		-0.389 (0.419)			-0.385 (0.419)	
Political stability acquiror			0.359*** (0.177)			-0.312 (0.195)

continued next page

Table 5 Continued

Variables	1	2	3	4	5	6
Political stability tar			0.455**			0.455***
			(0.154)			(0.191)
Trade	0.259***	0.263***	0.261***	0.268***	0.272***	0.270***
	(0.051)	(0.051)	(0.052)	(0.054)	(0.053)	(0.053)
Exchange rate	-0.188	-0.323	-0.299	-0.187	-0.321	-0.297
	(0.274)	(0.341)	(0.331)	(0.273)	(0.339)	(0.329)
Observations	156,927	156,927	156,822	156,927	156,927	156,822
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.39	0.37	0.39	0.39	0.38	0.38

Notes: Where *** means significant at 1%, ** means significant at 5% * means significant at 10%. Standard errors are in brackets.

The general results for FTAs in Tables 4 and 5 columns 4, 5 and 6 using the value of M&A as the dependent variable indicate that FTAs in general have a positive but insignificant effect. However, when we consider the number of M&A as the dependent variable in Tables 3 and 4 columns 4, 5 and 6 in the appendix, we observe that FTAs in general have a positive and significant effect on M&A. Di Giovanni (2005) found that both customs unions and FTAs had a significant negative effect on cross-border M&A flows in the 1990s.

Regarding the effect of SADC FTA on intra-regional M&A, we find in Table 5 that BothinSADC has a negative and significant coefficient, suggesting that SADC FTA discourages M&A within the economic bloc. This result is somehow unexpected given the significant influence in terms of trade and investment, of South Africa and Mauritius in the region, and initiatives such as Southern Africa Regional Power Pool (SAPP). Perhaps these provisions and initiatives are targeted on the greenfield mode of entry for FDI. Perhaps the benefit of FDI from the regional grouping could be going to few member countries, and not benefiting the region as a whole. The result for OneinSADC, which indicates the effect of SADC FTA on extra-regional M&A, is not encouraging either. We observe that even though the SADC investment protocol has specifically provided for extra-regional FDI, this provision does not have any significant positive influence on M&A flows to the region. In other words, the investment provision discourages FDI in the form of M&A from the SADC region. The results for SADC FTA in Table 4 in the appendix using the number of M&A indicate a positive but insignificant effect.

The results for BothinCOMESA and OneinCOMESA in Table 4 and Table 3 in the appendix have inconsistent signs and are statistically insignificant. They show a negative result for the value of M&A and positive result for the number of M&A. OneinCOMESA is positive and significant in only one regression. Even though not a robust result, it might suggest some investment creation effect. Even though COMESA

has specifically provided for intra-regional FDI, the investment provisions do not have a significant effect on M&A flows.

However, ECOWAS' findings are different when we consider the number of M&A in Table 3 in the appendix. Both in ECOWAS produces positive and significant results with a high coefficient. The coefficient implies that if both countries are members of ECOWAS (Both in ECOWAS), the number of M&A would increase by 6 whereas if only one country is a member of ECOWAS (One in ECOWAS) the number of M&A would increase by 3. The coefficient of One in ECOWAS is positive though marginally significant (10%), suggesting investment creation within the Free Trade Area. Theoretically, a large regional economic bloc creates economies of scale and encourages competition, therefore promoting FDI/M&A. The relatively large positive impact from ECOWAS could be attributed to an increase in cross-border private investment in the ECOWAS region, especially in the banking, oil and entertainment sectors (Ogbonna et al., 2013). For instance, Nigerian banks have expanded into ECOWAS countries, and the bank expansion is expected to further encourage intra-regional trade and investment (Dada and Adeleke, 2015).

Lastly, we consider the results for WAEMU, an economic and monetary union in West Africa, which has a common currency.⁵ Using the value of M&A, we find in Table 3 columns 1, 2 and 3 that Both in WAEMU and One in WAEMU both have a negative insignificant effect. However, when we consider the number of M&A in appendix Table 2 columns 1, 2 and 3, we find that Both in WAEMU has a positive significant effect whereas One in WAEMU is positive but insignificant. This result for WAEMU using the number of M&A as the dependent variable is very similar to that obtained for the ECOWAS region. It is noted that the eight (8) mainly French-speaking members of WAEMU are also included in the ECOWAS economic bloc.

The results for institutional variables - the level of corruption, rule of law and political stability are shown in Tables 3, 4 and 5 for the value of M&A and tables 2, 3 and 4 in the appendix for the number of M&A. We could not include the three (3) institutional quality measures together in the same regression because they are highly correlated.

The results for the indicator of the level of corruption are consistent in various regressions and suggest a positive significant relationship between corruption in both the acquiror and the target countries, and M&A flows. Since the index for the level of corruption is measured on a ten-point scale, with a score of ten indicating very little corruption and a score of zero indicating a very corrupt government, we can therefore interpret the positive relationship to mean that low levels of corruption in the acquiror and the target countries encourage M&A flows. These results are consistent with the findings of Tunyi and Ntim (2016) who find that low level of corruption attracts FDI in the form of M&A to Africa.

The coefficient for the rule of law is positive for the acquiror country but negative for the target country, but insignificant in both cases in Tables 3, 4 and 5 using the value of M&A. However, rule of law for the target country matters when we consider the number of M&A. The index for political stability for both the acquiror and the target

countries is positive and statistically significant in all the regressions. The magnitude of coefficient is approximately 0.35; therefore political stability in both the acquiror and the target countries is equally important for M&A flows.

The coefficient for bilateral trade flows turns out to be significant in all the regressions. The positive sign suggests that trade and M&A move in the same direction; as a result, they complement one another. This outcome is supported by Hyun and Kim (2010). Using a variety of estimation techniques, Di Giovanni (2005) also comes up with a similar finding that trade and M&A are positively and significantly related, and therefore complement each other. However, the inclusion of bilateral trade flows in the regression, with regional integration as an explanatory variable, might potentially lead to endogeneity problem. Bezuidenhout and Naudé (2010) is the only study that has investigated the relationship between FDI and trade in Africa. Bezuidenhout and Naudé (2010) find a complementary positive relationship between FDI inflows and exports from SADC.

We also controlled for factors related to the level of financial development as these factors have previously been found to be fundamental drivers and at times mode-distinguishing determinants of FDI flows. Results in Table 5 in the appendix suggest that market capitalization of the acquiror country as a ratio of GDP is an important consideration for M&A flows. This result is in line with the finding of Vasconcellos and Kish (1998) that M&A are driven by the market value of firms, suggesting that stock markets are important for M&A. However, we find that the value of stocks traded as a percentage of GDP and credit provided to the private sector as a ratio of GDP are insignificant. Stocks traded as a percentage of GDP is positive and significant at 10% level. These results may be influenced by limited data in many developing countries, especially those in Africa. These countries do not have established stock markets. Indeed, we observe that the sample size significantly diminishes as a result of the inclusion of financial market variables.

The results for nominal exchange rates show a negative but insignificant relationship. This relationship is maintained in various model specifications. The negative relationship is also observed by Jongwanich et al. (2013), though the coefficient is significant for the Asian region.

6. Conclusion

This paper examined the effect of regional integration on M&A flows in Africa for the period 2000 to 2014. We introduced a measure of economic proximity, such as participation in regional integration, in a structural gravity model developed by Head and Ries (2008). We compiled a global dataset for gross bilateral flows of completed M&A transactions obtained from the Zephyr database. Results from a gravity model estimated using PPML suggest that economic size of both the target and the acquiror country is relevant and positively related to M&A flows. Physical distance between two countries is important and negatively related to M&A flows, as expected. Former colony had a bigger effect in promoting M&A than the other cultural variables.

Using bilateral data for EIA in the world, we found that, in general, all types of economic integrations encourage M&A flows, with customs unions having the greatest impact. We investigated the effect on M&A flows of six regional economic blocs in Africa which are at different levels of integration. We found that EAC and SACU customs unions promoted M&A within member countries but not outside the region. Among FTAs, we found that both SADC and COMESA did not seem to encourage both intra- or extra-regional M&A. The result for WAEMU and ECOWAS indicates some influence of the economic blocs on the number of M&A.

We also found that low level of corruption and political stability in both the acquiror and the target country has a significant positive influence on M&A deals in Africa. Rule of law for the target country seems to matter in some cases. Our findings suggest that trade complements M&A flows in Africa. Lastly, the size of financial markets in acquiror countries are an important consideration for M&A flows to Africa.

Notes

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2. School of Economics, University of Johannesburg.
3. For example, Ahern et al. (2015), Di Giovanni (2005), Erel et al. (2012), Hyun and Kim (2010), and Rossi and Volpin (2004).
4. These transmission channels are explained in Section 3.1.
5. An interesting measure of economic proximity is participation in regional integration such as RTA.
6. For detailed explanation see (Frankel et al., 1997).

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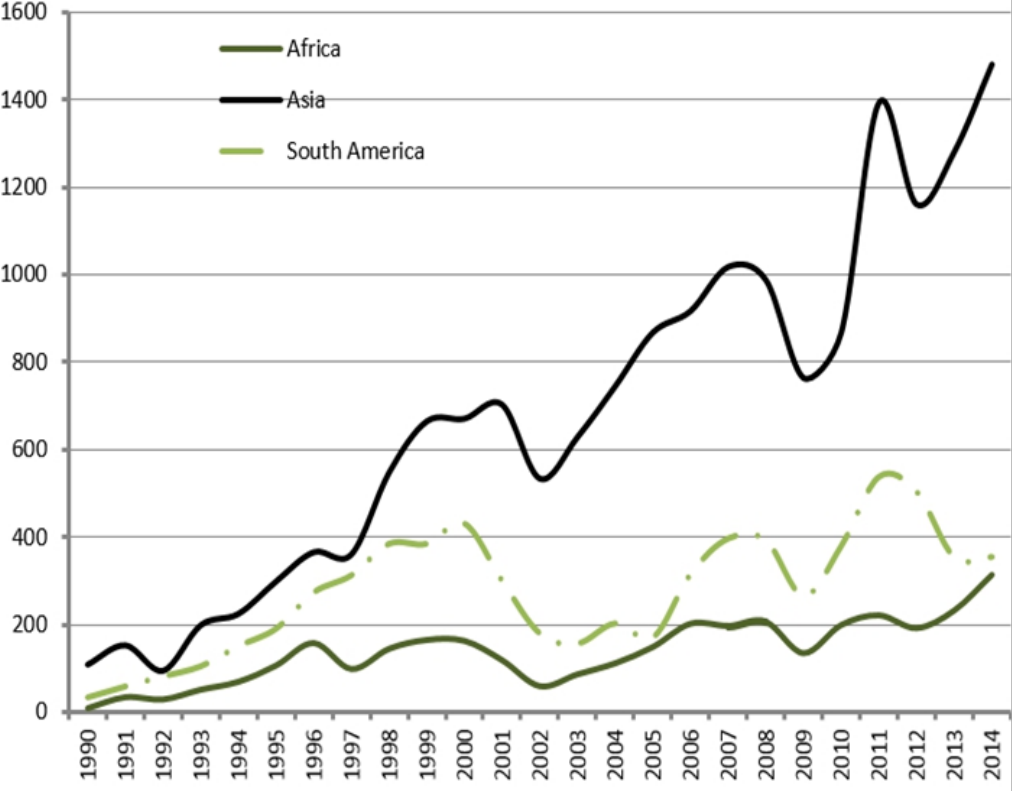
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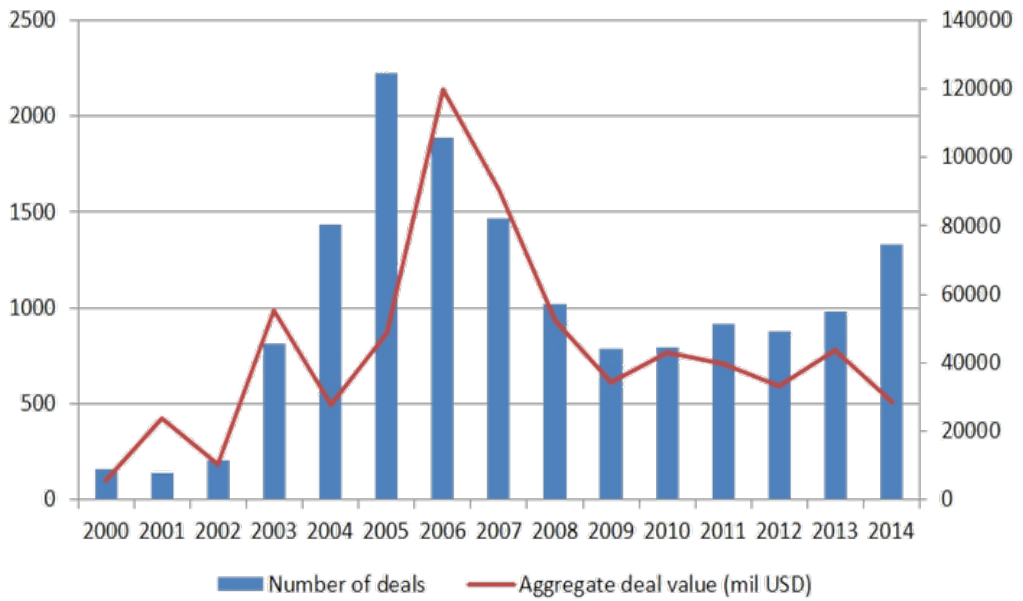
Appendices

Figure 1: Mergers and Acquisitions targeting developing countries: Number of completed deals from 1990 to 2014



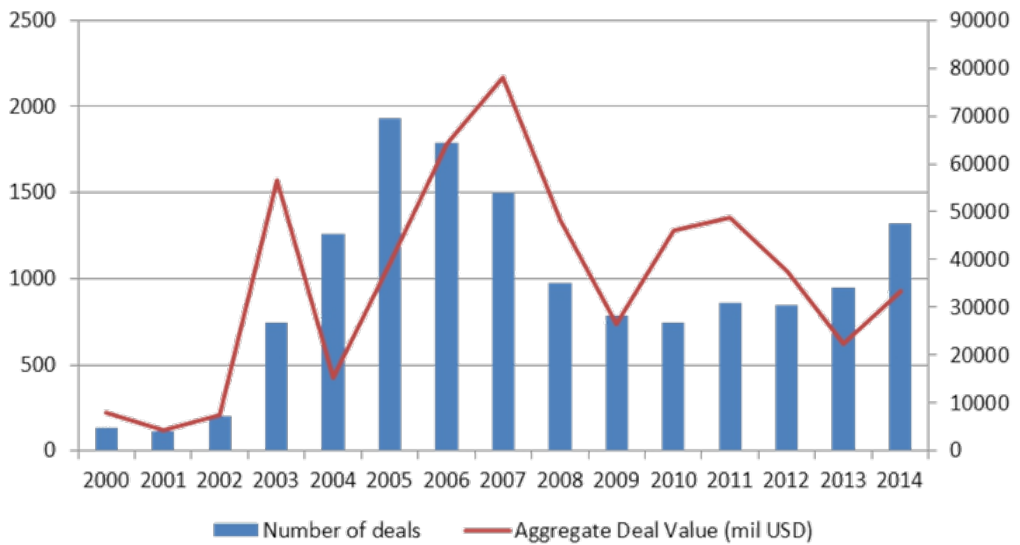
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Figure 2: Completed M&A deals with Africa as the target from 2000 to 2014



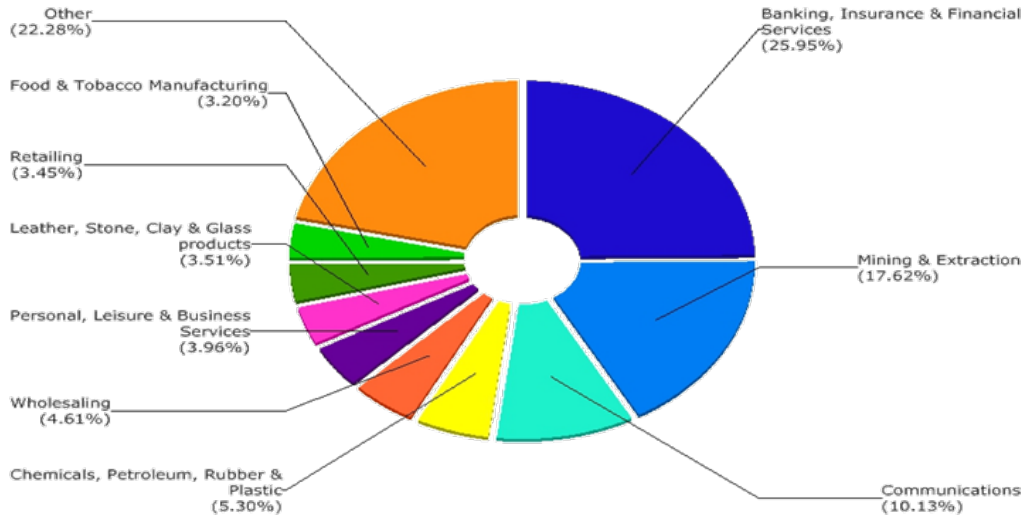
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Figure 3 Completed M&A deals with Africa as the acquirer from 2000 to 2014



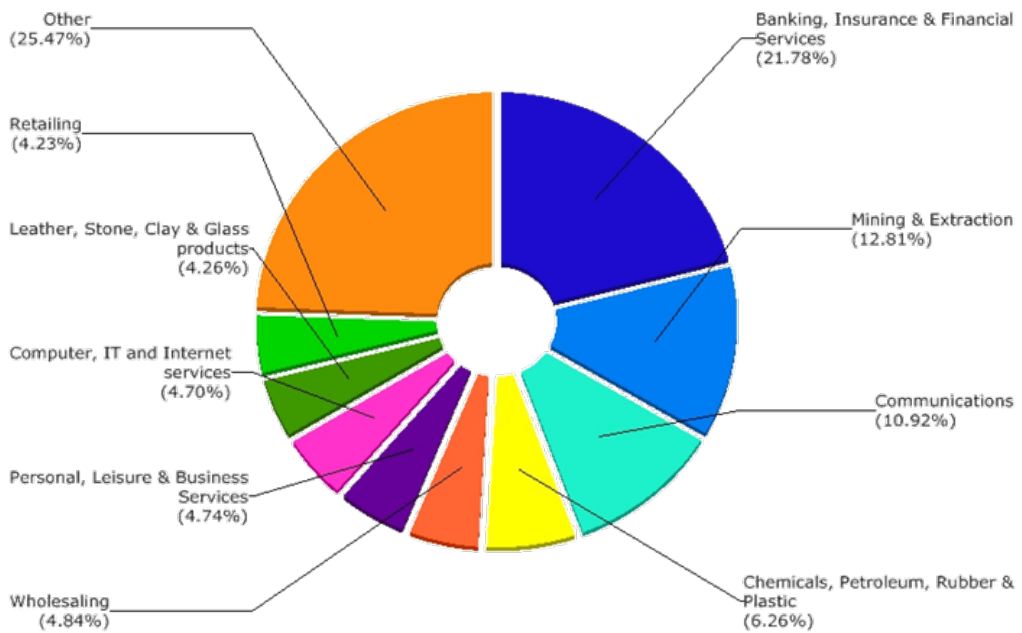
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Figure 4: Sectoral distribution by value completed M&A deals with Africa as the target from 2000 to 2014



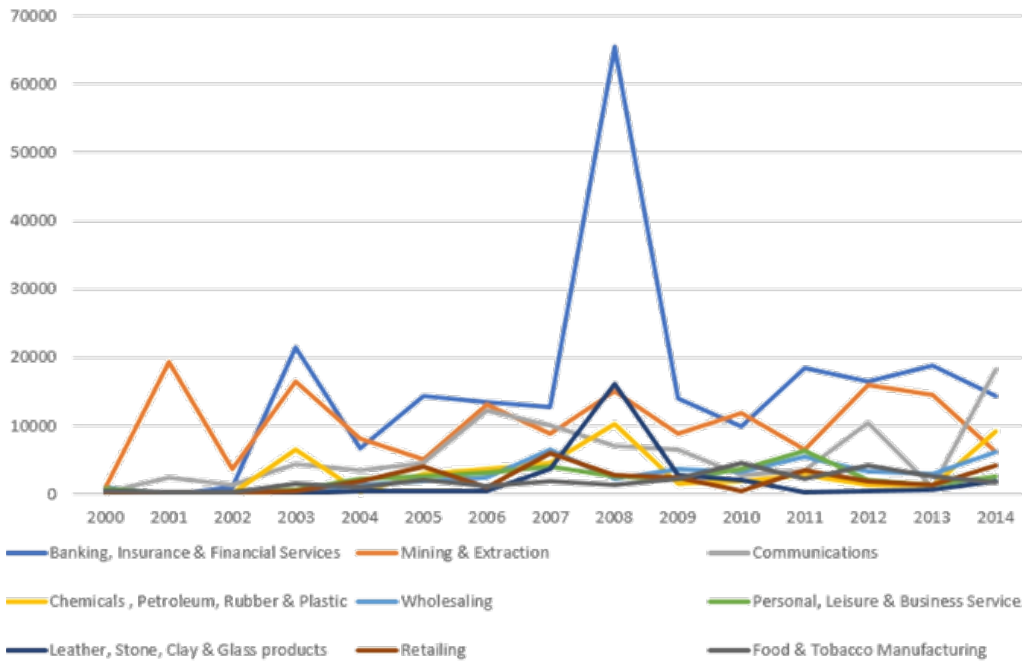
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Figure 5: Sectoral distribution by value completed M&A deals with Africa as the acquiror from 2000 to 2014



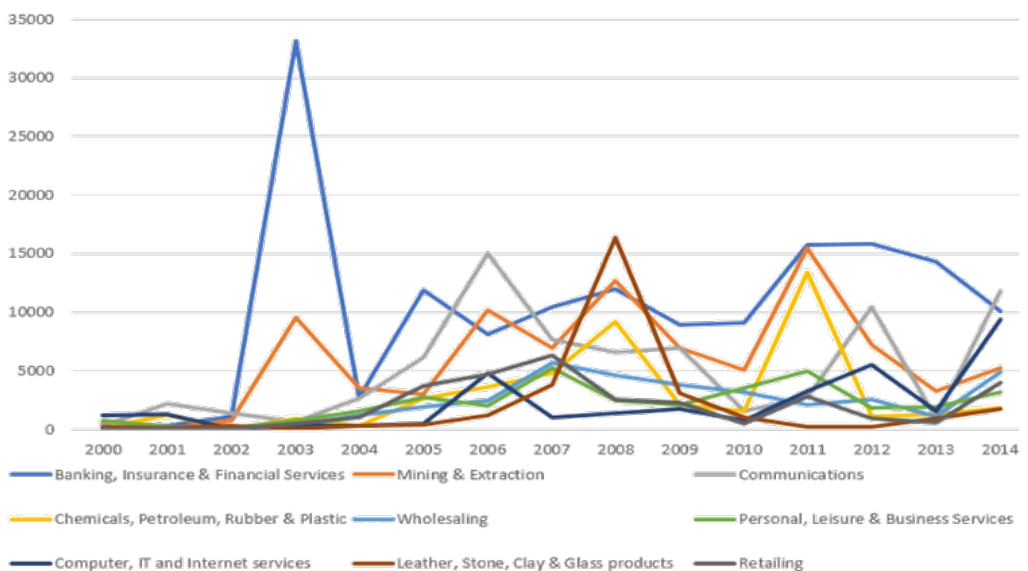
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Figure 6: Trends of sectoral distribution by value completed M&A deals with Africa as the target from 2000 to 2014



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Figure 7: Trends of sectoral distribution by value completed M&A deals with Africa as the acquirer from 2000 to 2014



Compiled using Zephyr database

Table 1: Number and value of cross-border M&A in Africa at country level from 2000 to 2014

Target country	Number of deals	Number with known values	Aggregate deal value (million US\$)	% Number with known value
South Africa	8,966	5,873	284,936	66
Egypt	2,078	1,611	105,071	78
Nigeria	750	423	59,237	56
Morocco	420	273	41,092	65
Kenya	391	198	9,661	51
Zimbabwe	362	196	104,010	54
Mauritius	341	217	9,741	64
Ghana	176	89	6,712	51
Namibia	149	76	2,033	51
Zambia	138	60	2,490	43
Algeria	135	54	10,089	40
Uganda	125	56	1,642	45
Tanzania	124	56	2,560	45
Mozambique	112	52	7,641	46
Botswana	100	53	1,609	53
Cote D'Ivoire	86	39	1,375	45
Congo DRC	80	32	3,087	40
Angola	62	21	2,802	34
Rwanda	60	31	357	52
Libya	60	18	2,674	30
Sudan	53	24	5,296	45
Madagascar	38	20	1,345	53
Ethiopia	37	26	671	70
Seychelles	36	27	922	75
Cameroon	36	16	782	44
Togo	35	18	2,601	51
Malawi	31	16	418	52
Liberia	28	21	2,956	75
Sierra Leone	27	13	1,966	48
Gabon	25	16	2,578	64
Swaziland	25	10	188	40
Congo	24	11	2,480	46
Senegal	23	7	890	30
Guinea	22	11	2,762	50
Mauritania	18	6	513	33

continued next page

Table 1 Continued

Target country	Number of deals	Number with known values	Aggregate deal value (million US\$)	% Number with known value
Mali	18	16	743	89
Burkina Faso	18	9	344	50
Cape Verde	14	6	83	43
Benin	11	7	1,887	64
Chad	11	6	524	55
Burundi	11	2	107	18
Lesotho	8	5	132	63
Gambia	8	3	93	38
Total	15,504	9,857	721,710	

Compiled using Zephyr database

Table 2: PPML: The effect of customs unions and institutions on the number of M&A in Africa 2000-2014

Variables	1	2	3	4	5	6
Log distance	-0.538*** (0.065)	-0.537*** (0.065)	-0.538*** (0.065)	-0.534*** (0.064)	-0.533*** (0.065)	-0.534*** (0.065)
Log GDP acquiror	2.497*** (0.246)	2.533*** (0.244)	2.601*** (0.250)	2.485*** (0.246)	2.521*** (0.243)	2.590*** (0.249)
Log GDP target	0.859*** (0.186)	0.904*** (0.175)	0.932*** (0.185)	0.853*** (0.186)	0.899*** (0.175)	0.926*** (0.185)
Common language	0.607*** (0.097)	0.607*** (0.097)	0.608*** (0.097)	0.598*** (0.097)	0.597*** (0.097)	0.599*** (0.097)
Contiguity	0.153 (0.107)	0.149 (0.107)	0.150 (0.107)	0.157 (0.107)	0.154 (0.107)	0.155 (0.107)
Common colony	0.576*** (0.236)	0.579*** (0.236)	0.578*** (0.236)	0.579*** (0.235)	0.582* (0.235)	0.581*** (0.235)
Former colony	0.528*** (0.086)	0.529*** (0.086)	0.530*** (0.086)	0.526*** (0.085)	0.528*** (0.085)	0.529*** (0.085)
BothinEAC	2.776*** (0.680)	2.824*** (0.683)	2.738*** (0.683)			
OneinEAC	0.032 (0.400)	0.080 (0.401)	0.002 (0.404)			
BothinSACU	0.614*** (0.605)	0.610*** (0.604)	0.534*** (0.608)			
OneinSACU	-0.094 (0.100)	-0.117 (0.101)	-0.176* (0.102)			

Table 2 Continued

Variables	1	2	3	4	5	6
BothinWAEMU	4.311***	4.560***	3.238**			
	(1.746)	(1.780)	(1.562)			
OneinWAEMU	1.445	1.700	0.377			
	(1.651)	(1.692)	(1.532)			
Customs Union				1.007***	0.997***	1.013***
				(0.156)	(0.157)	(0.155)
Corruption acquiror	0.157			0.159		
	(0.101)			(0.101)		
Corruption target	0.252***			0.252***		
	(0.078)			(0.078)		
Rule of law acquiror		0.254			0.247	
		(0.192)			(0.192)	
Rule of law target		0.228**			0.223**	
		(0.120)			(0.120)	
Political stability acquiror			0.199***			0.200***
			(0.057)			(0.057)
Political stability target			0.192***			0.191**
			(0.048)			(0.047)
Trade	0.273***	0.275***	0.274***	0.275***	0.276***	0.275***
	(0.047)	(0.048)	(0.048)	(0.047)	(0.047)	(0.047)
Exchange rate	0.061	0.064	0.073	0.065	0.068	0.077
	(0.148)	(0.154)	(0.154)	(0.148)	(0.153)	(0.153)
Observations	174,450	174,450	174,199	174,450	174,450	174,199
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.75	0.75	0.75	0.75	0.75	0.75

Table 3: PPML: The effect of FTAs and institutions on the number of M&A in Africa: 2000 to 2014

Variables	1	2	3	4	5	6
Log distance	-0.566***	-0.564***	-0.566***	-0.509***	-0.508***	-0.509***
	(0.067)	(0.065)	(0.067)	(0.063)	(0.063)	(0.063)
Log GDP acquiror	2.495***	2.532***	2.600***	2.413***	2.453***	2.521***
	(0.248)	(0.245)	(0.251)	(0.252)	(0.247)	(0.251)
Log GDP target	0.849***	0.893***	0.921***	0.825***	0.867***	0.899***
	(0.186)	(0.175)	(0.185)	(0.177)	(0.166)	(0.176)

continued next page

Table 3 Continued

Variables	1	2	3	4	5	6
Common language	0.649***	0.647***	0.649***	0.573***	0.572***	0.573***
	(0.095)	(0.095)	(0.095)	(0.098)	(0.098)	(0.098)
Common colony	0.555**	0.558**	0.557**	0.671***	0.675*	0.673***
	(0.240)	(0.240)	(0.241)	(0.232)	(0.232)	(0.232)
Former colony	0.536***	0.537***	0.538***	0.559***	0.561***	0.562***
	(0.086)	(0.085)	(0.085)	(0.086)	(0.086)	(0.086)
BothinCOMESA	2.071	4.678**	2.306			
	(1.561)	(2.122)	(1.587)			
OneinCOMESA	1.163	3.769*	1.394			
	(1.431)	(2.588)	(1.458)			
BothinECOWAS	6.575***	4.435***	6.852***			
	(2.108)	(1.741)	(2.179)			
OneinECOWAS	3.861*	1.717*	4.138*			
	(2.060)	(1.695)	(2.129)			
Free Trade Area				0.266***	0.267***	0.267***
				(0.095)	(0.095)	(0.095)
Corruption acquiror	0.154			0.168*		
	(0.100)			(0.099)		
Corruption target	0.248***			0.251***		
	(0.078)			(0.077)		
Rule of law acquiror		0.254			0.254	
		(0.192)			(0.194)	
Rule of law target		0.230**			0.252**	
		(0.120)			(0.119)	
Political stability acquiror			0.359**			0.196***
			(0.177)			(0.057)
Political stability target			0.339**			0.199***
			(0.154)			(0.046)
Trade	0.281***	0.283***	0.282***	0.270***	0.272***	0.271***
	(0.047)	(0.047)	(0.047)	(0.047)	(0.048)	(0.048)
		48				
Exchange rate	0.064	0.067	0.077	0.059	0.058	0.069
	(0.149)	(0.154)	(0.154)	(0.146)	(0.150)	(0.151)
Observations	174,450	174,450	174,199	174,450	174,450	174,199

Notes: Country dummies for acquiror and target countries and time dummies are included but not reported. Observations are clustered within country pairs. Pseudo R2 is approximately 0.75

Table 4: PPML: The effect of SADC, FTAs and institutions on the number of M&A in Africa: 2000 to 2014

Variables	1	2	3	4	5	6
Log Distance	-0.565*** (0.067)	-0.564*** (0.067)	-0.565*** (0.068)	-0.509*** (0.063)	-0.508*** (0.063)	-0.509*** (0.063)
Log GDP acquiror	2.495*** (0.248)	2.531*** (0.245)	2.599*** (0.251)	2.413*** (0.252)	2.453*** (0.247)	2.521*** (0.251)
Log GDP target	0.849*** (0.186)	0.893*** (0.175)	0.920*** (0.185)	0.825*** (0.177)	0.867*** (0.166)	0.899*** (0.176)
Common language	0.649*** (0.095)	.648*** (0.095)	0.649*** (0.095)	0.573*** (0.098)	0.572*** (0.098)	0.573*** (0.098)
Common colony	0.570*** (0.272)	0.573*** (0.238)	0.572*** (0.239)	0.671*** (0.232)	0.675* (0.232)	0.673*** (0.232)
Former colony	0.535*** (0.086)	0.537*** (0.085)	0.538*** (0.085)	0.559*** (0.086)	0.561*** (0.086)	0.562*** (0.086)
BothinSADC	2.249* (1.269)	2.729 (1.741)	2.595 (1.763)			
OneinSADC	1.491 (1.182)	1.971 (1.690)	1.840 (1.711)			
Free Trade Area				0.266*** (0.095)	0.267*** (0.095)	0.267*** (0.095)
Corruption acquiror	0.154 (0.100)			0.168* (0.099)		
Corruption target	0.249*** (0.078)			0.251*** (0.077)		
Rule of law acquiror		0.255 (0.192)			0.254 (0.194)	
Rule of law target		0.230** (0.120)			0.252** (0.119)	
Political stability acquiror			0.198** (0.057)			0.196*** (0.057)
Political stability target			0.190*** (0.047)			0.199*** (0.046)
Trade	0.282*** (0.047)	0.283*** (0.047)	0.282*** (0.047)	0.270*** (0.047)	0.272*** (0.048)	0.271*** (0.048)
Exchange rate	0.064 (0.149)	0.067 (0.154)	0.077 (0.154)	0.059 (0.146)	0.058 (0.150)	0.069 (0.151)
Observations	174,450	174,450	174,199	174,450	174,450	174,199

Notes: Country dummies for acquiror and target countries and time dummies are included but not reported. Observations are clustered within country pairs. Pseudo R2 is approximately 0.76; where *** means significant at 1%, ** means significant at 5% * means significant at 10%. Standard errors are in brackets.

Table 5: PPML: The effect of customs unions, institutions and financial development on the value of M&A in Africa 2000-2014

Variables	1	2	3	4	5	6
BothinEAC	5.363***	5.411***	5.327***			
	(1.490)	(1.485)	(1.495)			
OneinEAC	-0.999	-0.950	-1.027			
	(1.064)	(1.052)	(1.064)			
BothinSACU	2.672***	2.575***	2.507***			
	(0.700)	(0.693)	(0.694)			
OneinSACU	-0.458	-0.523	-0.593			
	(0.319)	(0.306)	(0.306)			
BothinWAEMU						
OneinWAEMU	-2.527	-3.171	-2.438			
	(3.355)	(3.235)	(3.209)			
Customs Union				1.007***	1.758***	1.766***
				(0.332)	(0.330)	(0.327)
Corruption_acquiror	0.449*			0.450		
	(0.264)			(0.264)		
Corruption target	0.424*			0.431*		
	(0.227)			(0.229)		
Rule of law acquiror		-0.112			-0.121	
		(0.383)			(0.381)	
Rule of law target	-	0.044		-	0.067**	
		(0.404)			(0.403)	
Political stability acq			0.082			0.212
			(0.165)			(0.194)
Political stability target			0.192			0.212
			(0.048)			(0.194)
Trade	0.398***	0.403***	0.402***	0.397***	0.402***	0.402***
	(0.061)	(0.060)	(0.061)	(0.060)	(0.060)	(0.060)
Exchange rate	-0.3791	-0.416	-0.412	-0.373	-0.407	-0.405
	(0.294)	(0.276)	(0.273)	(0.295)	(0.277)	(0.274)
Domestic credit acq	-0.102	-0.102	-0.087	-0.095	-0.108	-0.090
	(0.129)	(0.131)	(0.133)	(0.129)	(0.131)	(0.133)
Domestic credit tar	-0.131	-0.131	-0.088	-0.128	-0.128	-0.086
	(0.180)	(0.185)	(0.186)	(0.179)	(0.047)	(0.047)
Market cap acq	0.294*	0.370**	0.363**	0.295*	0.371**	0.365**
	(0.167)	(0.164)	(0.163)	(0.168)	(0.165)	(0.164)

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Table 5 Continued

Variables	1	2	3	4	5	6
Market cap tar	-0.097	-0.037	-0.045	-0.100	-0.039	-0.047
	(0.152)	(0.152)	(0.152)	(0.152)	(0.152)	(0.152)
Stocks traded acq	-0.016	-0.023	-0.029	-0.012	-0.019	-0.028
	(0.092)	(0.097)	(0.096)	(0.092)	(0.097)	(0.095)
Stocks traded tar	0.205**	0.193*	0.176*	0.207**	0.195*	0.178*
	(0.103)	(0.105)	(0.102)	(0.102)	(0.105)	(0.102)

Notes: Controls in Table 2 column 2 are included but not reported. Country and time dummies are included but not reported. Observations are clustered within country pairs. N=80,345 Pseudo R2 is 0.45

Table 6: PPML: The effect of Economic Integration Agreements on the number of cross-border M&A from 2000 to 2014

Variables	1	2	3
Log distance	-0.914***	-0.780***	-0.7351***
	(0.048)	(0.049)	(0.058)
Log GDP target	0.904***	0.873***	0.862***
	(0.120)	(0.117)	(0.135)
Log GDP acquiror	2.175***	2.148***	2.144***
	(0.159)	(0.156)	(0.174)
Common language		0.665***	0.610***
		(0.097)	(0.130)
Contiguity		0.270***	0.239**
		(0.103)	(0.102)
Common colony		0.776***	0.839***
		(0.258)	(0.260)
Former colony		0.558***	0.600***
		(0.090)	(0.088)
Economic Union			0.1248
			(0.129)
Customs Union			0.898***
			(0.171)
Common Market			0.044***
			(0.107)
Preferential Trade Agreement			0.425***
			(0.169)
Free Trade Agreement			0.309***
			(0.089)

continued next page

Table 6 Continued

Variables	1	2	3
Non-Reciprocal PTA			-0.066
			(0.184)
Observations	407,700	407,700	407,700
Country fixed effects	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Pseudo R ²	0.652	0.756	0.754

Notes: Where *** means significant at 1 %, ** means significant at 5 % * means significant at 10 %. Standard errors are in brackets.



Mission

To strengthen local capacity for conducting independent, rigorous inquiry into the problems facing the management of economies in sub-Saharan Africa.

The mission rests on two basic premises: that development is more likely to occur where there is sustained sound management of the economy, and that such management is more likely to happen where there is an active, well-informed group of locally based professional economists to conduct policy-relevant research.

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