How Much Have Merger Review Laws Reduced Cross Border Mergers and Acquisitions?

Simon J. Evenett*

Director, Economic Research, World Trade Institute, Bern

Introduction

The 1990s saw substantial increases in the value of international trade in goods and services, in foreign direct investments (FDI), and in cross border mergers and acquisitions (M&A). Even so, there is a striking difference between the changes in the extent to which trade and FDI were regulated throughout the 1990s and the extent of regulatory oversight of M&A transactions. By and large, trade barriers fell and restrictions on FDI were reduced.[1] In contrast, governmental oversight of M&A expanded as the number of nations with merger review laws increased. Counts vary, but at least 50 jurisdictions had some type of merger review law in 1999, according to the FINAL REPORT of the United States' International Competition Policy Advisory Committee (ICPAC).[2] Given these developments appear to go against the general trend

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* The author can be contacted at simon.evenett@worldtradeinstitute.ch. The author is also the Moderator of the Brookings Roundtable on Trade and Investment Policy, a Non-Resident Fellow of the Economics Studies Program, The Brookings Institution, a Research Affiliate of the Centre for Economic Policy Research, London, and External Research Fellow of the Leverhulme Centre for Research on Globalisation and Economic Policy, University of Nottingham. Dr. Evenett co-edited ANTITRUST GOES GLOBAL: WHAT FUTURE FOR TRANSATLANTIC COOPERATION? with Alexander Lehmann and Benn Steil. This book was published by the Brookings Institution Press, Washington D.C. in October 2000.

[1] The statistical appendices of the annual WORLD DEVELOPMENT REPORT, published by the World Bank, report that tariff rates on merchandise trade have been falling for many nations throughout the 1990s. The United Nations Conference on Trade and Development's flagship publication on FDI, the WORLD INVESTMENT REPORT, provides both quantitative and qualitative evidence on the reductions in the restrictions on inward FDI, in particular for so-called Greenfield FDI. (Greenfield FDI involves the construction and operation by a foreign firm of a new commercial activity.)

[2] See Annex 2C, FINAL REPORT.

towards deregulating international commercial transactions, it is an important question whether this enhanced oversight of domestic and cross border merger and acquisitions is in fact improving the allocation of resources around the globe.

A curious feature of economic scholarship on international commerce is the contrast between the abundance of studies on the effects of impediments to trade in goods and services and to FDI, and the paucity of systematic quantitative studies on the effects of potential barriers to international trade in corporate assets[3], which is essentially what cross border mergers and acquisitions are.[4] No doubt this reflects in part the relative novelty of merger enforcement in many jurisdictions and the tendency for scholarship to lag behind substantial changes in policy regimes and unprecedented market outcomes, such as the recent global wave of cross border mergers and acquisitions. Nevertheless, it is troubling that policymakers and practitioners have little quantitative economic research to draw upon when deliberating in international fora such as the newly formed International Competition Network and more established bodies such as the Organisation

[3] I should add that cross border M&A flows are, on standard definitions, one of several types of FDI. While it is the case that the determinants of overall FDI have been examined in the economic literature, there are few studies that separately estimate the determinants of each type of FDI.

[4] As examples of the substantial volume of studies on impediments to trade and FDI one need only consult a series of studies published by the Institute for International Economics in Washington D.C. and the references contained therein. See, for example, Patrick A. Messerlin, MEASURING THE COSTS OF PROTECTION IN EUROPE: EUROPEAN COMMERCIAL POLICY IN THE 2000s, Yoko Sazanami, Shujiro Urata, and Hiroki Kawai, MEASURING THE COSTS OF PROTECTION IN JAPAN, Kimberly Ann Elliott and Gary Clyde Hufbauer, MEASURING THE COSTS OF PROTECTION IN THE UNITED STATES, Zhang Shuguang, Zhang Yansheng, and Wan Zhongxin, MEASURING THE COSTS OF PROTECTION IN CHINA, Namdou Kim, MEASURING THE COSTS OF VISIBLE PROTECTION IN KOREA. A recent overview of the techniques used to estimate the effects of nontariff barriers to trade can be found in Alan V. Deardorff and Robert M. Stern, MEASUREMENT OF NONTARIFF BARRIERS. For a recent analysis of the effects of national legal systems on flows of foreign direct investments, see Amanda Perry, LEGAL SYSTEMS AS A DETERMINANT OF FOREIGN DIRECT INVESTMENT: LESSONS FROM SRI LANKA. Several perspectives on the causes and consequences of foreign direct investment in East Asia can be found in Takatoshi Ito and Anne O. Krueger (editors) THE ROLE OF FOREIGN DIRECT INVESTMENT IN EAST ASIAN DEVELOPMENT.

of Economic Co-operation and Development, the United Nations Conference on Trade and Development, and the World Trade Organisation.

The goal of this chapter is to contribute to the debate on the cross border effects of merger enforcement by presenting what are, to the best of my knowledge, the first econometric estimates of the effects of three different types of merger review regimes on the total value of overseas M&A undertaken by American[5] firms in 1999.[6] These estimates will shed light on whether, controlling for other plausible determinants of cross border M&A, countries with certain types of merger review laws receive less M&A initiated by American firms than nations that do not have such laws. If, indeed, the econometric evidence points to sizeable reductions in cross border M&A attributable to a specific type of merger review, then this may well justify a detailed examination of whether benign M&A transactions as well as anticompetitive transactions are being deterred by current national merger enforcement policies. Alternatively, if the econometric estimates point to no statistically significant differences between the amounts of cross border M&A received by nations with merger reviews and those without merger reviews, then this finding might be interpreted in the following manner. First, that the merger review laws are accurately discriminating between M&A transactions on the basis of their competitive effects. And, second, that the uncertainty associated with such reviews has been reduced to such an extent that firms feel confident in proposing more benign M&A deals which could offset any reduction in total cross

[5] By an American firm I mean only that the firm's headquarters is located in the United States. It could well be the case that the owners of the firm, such as stock holders, are located outside the United States.
[6] The three different types are voluntary merger notification regimes, mandatory pre-closing merger notification regimes, and mandatory post-closing merger notification regimes. The rationale for studying these three types is discussed later in the text.

border M&A caused by fewer anticompetitive M&A deals being proposed in the first place.

My econometric findings are comforting in some respects and disquieting in others. Comforting in that there is support for the apparently widespread view among legal scholars, practitioners, and officials that mandatory pre-closing notification regimes have more bite than post-closing mandatory merger notification regimes and voluntary merger notification regimes. (In fact, my findings suggest that it is difficult—statistically speaking—to reject the hypothesis that nations which have either of the latter two regimes receive the same amounts of American cross border M&A than nations that do not have merger review laws at all.) Furthermore, the econometric estimates suggest that the combined effect of national and supranational merger enforcement regimes in the European Union (EU) is to reduce the value of total American cross border M&A received by approximately the same percentage as in non-EU members which have mandatory pre-closing notification regimes.[7] The disquieting aspect of my findings is the magnitude of that reduction in cross border M&A; in 1999 pre-closing merger notification regimes are found to cut in half the amount of such M&A received.

This chapter is organised as follows. In the next section I describe the cross border M&A wave witnessed in the late 1990s, the different types of merger review regimes in existence in 1999, and the number of jurisdictions which have each type of regime. This provides a sense of the magnitudes involved, and further motivates the empirical analysis

[7] Put another way, I do not find evidence to support the view that American cross border M&A is reduced more by the combined effect of EU merger enforcement (by the European Commission and at the national level) than in non-EU nations with pre-closing notification regimes.

which is described in the third section. Conclusions, such as they are, are offered in the final section.

A brief summary of the cross border M&A wave of the late 1990s

According the WORLD INVESTMENT REPORT 2001, the total value of cross border M&A worldwide in 1993 was US$83 billion. By 1995, such transactions had doubled in value to US$173 billion, an impressive increase but only a foretaste of what was to come. As Figure One makes clear, over the years 1995-2000 cross border M&A increased steadily in value, reaching a peak of US$1114 billion in 2000.[8] In addition, this was the first wave of cross border M&A that could seriously be considered global in its reach. Firms from Latin America, East Asia, and Continental Europe joined American and British firms in such transactions.[9] Another distinctive feature of this global merger wave was the large number of so called mega deals, that is deals whose value exceeded US$1 billion. According to the WORLD INVESTMENT REPORT 2001, in 2000 alone there were 105 cross border mega deals, including 13 deals whose total value exceeded US$10 billion. These transactions were in addition to a surge in M&A involving firms within the same economy—so called domestic M&A.[10]

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[8] The WORLD INVESTMENT REPORT 2002 has, as of this writing, not been published. This Report will no doubt confirm that cross border M&A fell in total value in 2001. The indicatons are that the total figure for 2001 will be less than half the value for 2000. See "WORLD FDI FLOWS TO DROP THIS YEAR," United Nations Conference on Trade and Development Press Release, 18 September 2001, document number TAD/INF/PR30. The data for Figure One was taken from Annex Table B.7. of the WORLD INVESTMENT REPORT 2001.

[9] Annex Table B.8 of the WORLD INVESTMENT REPORT 2001 provides a breakdown of the amount of cross border M&A undertaken by each economy's firms.

[10] For alternative renditions of these and other facts about this global M&A wave see Fredric L. Pryor, "Dimensions Of The Worldwide Merger Boom," forthcoming in the *Journal of Economic Issues*, and

Although analysing the reasons for this surge cross border M&A is not the purpose of this chapter, explanations given in the academic literature and in the business press tend to focus on the following factors:

1. Deregulation and privatisation, especially of utilities.

2. Liberalisation of *de jure* or *de facto* restrictions on the foreign ownership of domestic firms, most notably in Japan and Korea.[11]

3. Rising stock market valuations that made financing M&A transactions cheaper.[12]

My focus here is on the effect of national merger reviews on the total value of cross border M&A and, in particular, on the amount of overseas mergers and acquisitions undertaken by American firms. This requires collecting information on those nations with some form of merger review law. Furthermore, as merger laws differ considerably across jurisdictions, it would be very helpful to differentiate between national review laws on the basis of certain key characteristics. Fortunately, during its deliberations the ICPAC undertook such an exercise, published as Annex 2C of its FINAL REPORT. According to the table presented in this Annex, excluding (for now) the European Commission's review process because it is a supranational rather than a national process, in 1999 67

Bernard S. Black, "The First International Merger Wave (And The Fifth and Last US Wave)," *University of Miami Law Review*, volume 54, pages 799-818.

[11] For an analysis of cross border M&A in East Asia, see Ashoka Mody and Shoko Negishi, "Cross Border Mergers and Acquisitions in East Asia," *Finance and Development,* Volume 3, Number 1.

[12] According to the United Nations Conference on Trade and Development, in 2000 56 per cent of cross border M&A were 'effectively' financed by the exchange of stocks and shares. See "WORLD FDI FLOWS…"

economies had some form of merger notification system.[13] Of these, only nine nations had voluntary notification systems, the rest contained provisions for mandatory notification of M&A transactions that met pre-specified criteria. Table One reproduces Annex 2C of the FINAL REPORT, and shows that 48 economies had merger notification schemes that were both mandatory and required notification before a transaction could be completed. These are the economies with the "mandatory pre-closing notification systems" in the first column of this Table. Ten jurisdictions had mandatory notification schemes that allowed for notification after a deal was closed.

According to the ICPAC staff member primarily responsible for compiling Annex 2C, the classification presented there was based on information contained in statutes and on analyses contained in leading practitioners guides to merger practice around the globe.[14] Rather than classify the merger regimes myself—a task that is perhaps not well suited to someone whose professional training is solely in economics—I have employed this ICPAC compilation of merger regimes in the empirical analysis presented later. I should add that, to the best of my knowledge, no errata has been issued in response to any concerns raised about the potential misclassification of national regimes in Annex 2C of the ICPAC's FINAL REPORT.[15]

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[13] According to Annex 2C, Indonesia was due to implement a merger notification procedure in 2000. Given my focus on the effects of merger review laws on cross border M&A in the year 1999, I classified Indonesia as not having such a procedure in operation in 1999.

[14] Ms. Cynthia Lewis of the United States' Department of Justice played a key role in assembling Annex 2C. I thank Ms. Lewis for kindly answering my questions about the provenance of this Annex.

[15] It is my understanding that White & Case LLP conducts an annual SURVEY OF WORLDWIDE MERGER NOTIFICATION REQUIREMENTS. The 2001 Survey, published in May 2001, is said to cover 130 jurisdictions. Seventy seven countries were found to have merger review laws in place in 2000, up from 58 countries in 1999. Since Table One suggests that 67 jurisdictions had some form of merger notification system in 1999, there may well be some discrepancies between the ICPAC compilation and the survey conducted by White & Case. In the short time available to write this chapter (less than seven weeks)

The classification presented in Table One indicates that a majority of jurisdictions have chosen to implement systems involving mandatory pre-closing merger notification. The widespread preference for such regimes may well reflect the following considerations, raised in Chapter 3 of the ICPAC's FINAL REPORT:

> 'Advance notice is viewed as useful to competition authorities because it permits them to evaluate and either prohibit or restructure potentially anticompetitive transactions before the transaction is implemented. In this way, competition authorities avoid the widely acknowledged difficulties that accompany attempts to restore competition by "unscrambling the eggs" after allegedly anticompetitive transactions have been completed…
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> Reliance on premerger notification systems to provide advance notice of proposed transactions is based in large part on the recognition that competition authorities have neither the time nor the resources to monitor all business transactions in an attempt to identify those that pose a threat to competition. Nor do they have the ability to detect those "midnight mergers" that are consummated without public notice. Moreover, it is not practical to place the burden of notification on concerned competitors and customers. Reliance on these entities to provide advance notice may prove imperfect either because these entities may not know about transactions before their consummation or because the transactions costs incurred by these entities in notifying the competition authorities may outweigh any benefits obtained by having the proposed transactions reviewed.
>
> For these reasons, many jurisdictions view premerger notification regimes as the most efficient way of systematically obtaining advance notice of potentially anticompetitive transactions.'

The empirical analysis described below will be able to confirm whether mandatory pre-closing notification regimes have a different effect on the value of cross border M&A than voluntary and mandatory post-closing merger notification regimes.

I tried to obtain the White & Case survey but to no avail. In future research I intend on comparing these two compilations of merger review regimes more thoroughly. For details of the White & Case survey see the following web page: http://www.whitecase.com/pr_2001_merger_control_survey.html, accessed January 29, 2002.

Econometric strategy and data employed

The principal objective of my econometric strategy was to estimate the effects on the total value of U.S. cross border M&A that an economy received in 1999 of the three different types of merger notification regimes identified in the last section. Other factors, however, also determine the amount of U.S. cross border M&A an economy may receive and it is essential that the econometric strategy control for, as best is possible, those non-merger review related factors. Put another way, the econometric strategy employed here attempts to estimate the variation in U.S. cross border M&A that can be attributed to different types of merger review regime after stripping out all of the variation that can be attributed to other plausible determinants of such M&A.

The first step taken was to assemble the largest possible dataset on economies which had received US cross-border M&A in 1999. Several financial companies track announcements of proposed (and completed) US cross-border M&A, and here I used the data reported in the 2000 MERGERSTAT REVIEW. This source reports that 52 economies and territories received US cross-border M&A in 1999, with the total value of such transactions equalling $173.5 billion. Three smaller territories (Bermuda, St. Kitts and Nevis, and Puerto Rica) were excluded from the dataset assembled here because they were, in fact, either U.S. territories or where the reported M&A data may well be misreported financial transfers (with potentially no corporate assets changing hands.)[16]

[16] Eliminating these three territories leaves 49 economies in my dataset. The 49 economies are: Argentina, Australia, Austria, Bahrain, Belgium, Brazil, Canada, Chile, Costa Rica, the Czech Republic, Denmark, the Dominican Republic, Egypt, El Salvador, Finland, France, Germany, Ghana, Hong Kong Peoples Republic of China, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Lithuania, Malaysia, Mexico,

I then modified the traditional gravity equation approach to estimating the determinants of international trade flows to quantify the factors responsible for US cross-border M&A in 1999. The gravity equation approach posits that the value of the economic transactions between two entities depends on their economic mass and the distance between them.[17] In the present context, this amounts to positing that the distance between a foreign nation and the United States and the former's national income are determinants of the total value of US cross-border M&A received by that nation.[18] The intuition is that a larger foreign market provides, other things being equal, greater opportunities for the US acquisition of foreign corporate assets; and that greater distance from the United States makes running a foreign subsidiary or acquisition more difficult and detracts from the desirability of buying or merging with a foreign nation's corporate assets. Data on the 49 economies' gross domestic products was taken from the World Bank's WORLD DEVELOPMENT INDICATORS CD-ROM. Following standard practice, the distance from Washington, D.C., to the administrative capital of each economy was used as the proxy for distance from the United States.

Netherlands, New Zealand, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, United Kingdom, and Venezuela.

[17] When applied to international trade flows, the gravity equation has performed remarkably well in the sense that it accounts for considerable amounts of the variation in observed trade flows. Recent research has extended the use of gravity equations to estimate the determinants of cross border portfolio flows and to foreign direct investment.

[18] Strictly speaking, the gravity equation approach suggests that the level of US national income is also a determinant of the value of outward U.S. cross border M&A. However, the fact that my dataset contains information on such cross-border M&A transactions for one year (1999) means that the level of U.S. national income cannot account for the variation in the value of M&A received across different foreign economies. Consequently, I do not include U.S. national income as an explanatory variable in my econometric analysis.

Four other control variables were employed. The first variable attempts to correct for a potential omission from the gravity equation approach described above. That approach would posit that two countries with the same national income would, other things being equally, be equally attractive destinations for American M&A even if one country's average income per capita was much lower than the other's. American firms who supply goods other than necessities are less likely to want to break into a country's markets if on average its population is poor. This suggests that the average income per capita might be an independent determinant of the amount of U.S. cross border M&A received. Consequently, I employed data on gross domestic product per capita to capture this potential effect. Such data is also available on the World Bank's WORLD DEVELOPMENT INDICATORS CD ROM.

The second control variable is a proxy for the retained corporate profit rate (that is, the proportion of its profits a firm can expect to keep after paying taxes and other government-assessed fees and levies.) Economies which have higher retained profit rates are hypothesized to be more desirable places to undertake cross border M&A. I proxy for this rate with one minus the maximum corporate tax rate charged in an economy, data on which is available in the World Bank's SIMA database. The third control variable is the foreign economy's tariff rate. The logic here is that higher tariffs reduce the profitability of exporting to an economy and enhance the attractiveness of establishing local subsidiaries. However, an alternative hypothesis is that national tariff rates proxy for the degree of policy-induced *internal and external* distortions to an economy, and to the extent that such internal distortions reduce the profitability of firms, this will discourage cross border M&A.[19] I took the average tariff rate as the proxy for the restrictiveness of a nation's trade barriers, data which is available on the WORLD DEVELOPMENT INDICATORS CD-ROM too. The final control variable is whether an economy has a British colonial heritage. This is thought to be important for two reasons. First, in such economies English is more likely to be the language of business, making it easier for an American corporation to run any firm it might acquire in these locales. Second, the likelihood that an economy employs a common law system is greater with if it was at some point a British colony—and this is precisely the system that operates in the United States and may be more familiar to American legal counsel. Both conjectures suggest that having a British colonial heritage will raise the amount of US cross border M&A. A dummy variable in introduced to capture this effect (taking the value of one if the economy has such a heritage.)

In the first specification estimated here I employed the full sample of 49 economies and, with the information in Table One, created three separate dummy variables to indicate whether a nation has a mandatory pre-closing merger notification regime, a mandatory post-closing merger notification regime, and a voluntary merger notification regime.[20] This effectively creates three new independent variables.

Before stating the first econometric specification employed it will be helpful to introduce the following notation:

[19] Underlying this alternative hypothesis is the assumption that governments which are more likely to erect tariff barriers to protect domestic firms are likely to use domestic regulations that benefit domestic firms too.

[20] In each case, if a nation had the merger regime in question the dummy variable took a value of one, otherwise it took a value of zero.

MA_i	Denotes the total value of US cross border M&A into economy i in 1999.
GDP_i	Denotes the value of gross domestic product of economy i in 1999, measured in US dollars.
$GDPC_i$	Denotes the value of gross domestic product per capita of economy i in 1999, measured in US dollars.
$DIST_i$	Denotes the distance of economy i's capital from the Washington, D.C., in kilometers.
π_i	Denotes the retained corporate profit rate in economy i.
$(1+t_i)$	Denotes one plus economy i's average tariff rate on imported goods.
$BRIT_i$	Denotes a dummy variable which equals one if economy i has a British colonial heritage.
$MPRE_i$	Denotes a dummy variable which equals one if economy i has a mandatory pre-closing merger notification regime in 1999.
$MPOST_i$	Denotes a dummy variable which equals one if economy i has a mandatory post-closing merger notification regime in 1999.
$MVOL_i$	Denotes a dummy variable which equals one if economy i has a voluntary merger notification regime in 1999.
e_i	Denotes a random error term, assumed to have zero mean and finite variance.
c	Denotes a constant.

The first two specifications estimated were:

$$\ln(MA_i) = c + \beta_1\ln(GDP_i) + \beta_2\ln(GDPC_i) + \beta_3\ln(DIST_i) + \beta_4\ln(\pi_i) + \beta_5\ln(1+t_i) + \beta_6 BRIT_i$$
$$+ \beta_7 MPRE_i + +\beta_8 MPOST_i + \beta_9 MVOL_i + e_i$$

where ln(X) denotes the natural logarithm of a variable X and $\beta_1,\ldots,\beta_9$ are parameters to be estimated. My choice of estimation technique reflected the fact that the sample assembled here includes only American cross border M&A, and represents only a small fraction of all of the possible bilateral (country-to-country) relationships in the industrialised world (let alone the relationships between the industrialised world and East Asia and Latin America, which I noted earlier participated fully in the latest wave of cross border M&A.) In such circumstances, there is a concern that the parameter estimates obtained from standard regression techniques, such as ordinary least squares, are not representative of the underlying population of data from which the sample was drawn. Statisticians have devised so called bootstrap techniques to handle such small samples, and I have used them here.[21]

The parameter estimates and standard errors from the first specification are reported in the second and third columns of Table Two. The parameter estimates for the control variables confirm that if a nation has a higher national income, a higher income per capita, is closer to the United States, was previously a British colony, and has lower corporate tax rates (and therefore higher retained profit rates), then the amount of cross border M&A undertaken by American firms in that nation is higher. It is reassuring that all of the control estimates are precisely estimated, that is the standard error of each estimate (which indicates the degree of uncertainty in the parameter estimate) is much much smaller than the size of the parameter estimate (in absolute value.) Consequently, each of the control variables in specification one is said to be statistically significant. Having controlled for these determinants of cross border M&A, my interest is in the sign and magnitude of the estimated effects of the three different merger regimes. In Table Two I have highlighted in bold those parameter estimates for merger notification regimes that are statistically significant (at the five per cent level.) In specification one only mandatory pre-closing notification regimes have a statistically significant and negative effect on American cross border M&A. In fact, the estimate implies that a country with such a merger review regime would receive approximately 42 per cent less American

[21] Bootstrap techniques are increasingly being used in economic research. For a very recent and accessible survey on the applicability and use of such techniques in economic research, see David Brownstone and Robert Valletta, "The Boostrap and Multiple Imputations: Harnessing Increased Computer Power for Improved Statistical Tests," *Journal of Economic Perspectives*, Volume 15, Number 4, pages 121-141.

M&A than a nation without any form of merger notification regime.[22] In contrast, the parameter estimates for mandatory post-closing and voluntary merger notification regimes are statistically insignificant, which implies that one cannot reject the hypothesis that these two regimes have no effect on the amount of cross border M&A received.

An objection to specification one is that it only takes into account national merger reviews, and does not allow for the European Commission's (EC) merger review procedures to have a separate effects on cross border M&A. Specification two includes a dummy variable which takes the value of one if a nation is a member of the European Union. As can be seen in Table Two, including this additional independent variable has little effect on the magnitude of the other estimated parameters. Mandatory pre-closing notification regimes still have a statistically significant and negative effect on cross border M&A. Interestingly, the estimated effect of the EC's merger regulation cannot be statistically distinguished from zero. The standard error on this estimate (0.1060) is almost twice the estimated parameter which, if this specification were the final word, would lead one to suspect that the EC's merger review regime had no restrictive impact on American cross border M&A whatsoever. However, as I shall argue below, specifications one and two may not adequately capture the combined effects of national and supranational merger enforcement within the European Union.

Specifications one and two contain the implicit assumption that the effect of each type of merger review procedure is the same in the EU and in non-EU nations. This assumption

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[22] The natural logarithm of (1-0.42) is approximately equal to –0.5498, the parameter estimate on the mandatory pre-closing merger notification regime in specification one.

seems doubtful as members of the EU divide their merger enforcement responsibilities with the EC, using various thresholds to determine whether a merger is to be reviewed in Brussels or by the relevant national authorities. Consequently, it is inappropriate to assume that a mandatory pre-closing merger notification regime in a non-EU country has the same effect on cross border M&A as a similar regime implemented by an EU member. For this reason, I estimated specification three which includes separate independent (dummy) variables for each of the three types of merger review regime in the EU and in non-EU economies. The estimated parameters for each merger review regimes in the EU should, in this specification, be interpreted as the combined effect of merger enforcement by EU member states of the regime in question and of the EC merger enforcement. The results are quite interesting. Within the EU, both mandatory merger notification schemes now have statistically significant and negative effects on the amount of American cross border M&A. On these estimates, these mandatory regimes reduce such M&A by approximately 47 per cent, a sizeable reduction.

The estimated effects in the non-EU economies are somewhat anomalous. Mandatory pre-closing notification regimes outside the EU are found to reduce cross border M&A by more than in the EU (compare –0.9240 to –0.6585). However, mandatory post-closing notification regimes outside the EU are found to increase such M&A compared to a country with no merger regime at all! One possible explanation for this curious finding is that those non-EU economies without merger regimes may well have other restrictive policies on foreign ownership and investments, and histories of state intervention, that deter foreign M&A more than a post-closing merger notification regimes. This argument may be all the more plausible if the latter are merely ‘rubber stamps’ in nations that are actively seeking foreign investments.

Looking across specifications one, two, and three, I was struck by the evidence which suggests that mandatory pre-closing merger notification regimes are really where the action is, so to speak. To investigate this conjecture further I formed a second sample that included nations without merger review laws and those which had mandatory pre-closing notification regimes. Such a sample includes 36 jurisdictions. Using the same control variables, I estimated the effect of such pre-closing regimes distinguishing between those countries inside and outside the EU. The resulting parameter estimates are reported as specification four in Table Two. These estimates provide further support for the claim that pre-closing merger notification regimes substantially reduces cross border M&A. In fact, in this specification the implied reduction of American M&A caused by European pre-closing regimes was 63 per cent.

Since the EC’s merger notification system is a pre-closing regime too, one might want to modify specification four to see there is an independent effect of this supranational regime. However, a dummy variable indicating EU membership would in the sample used in specification four be perfectly collinear with the dummy variable indicating EU membership with a pre-closing merger notification regime. As is well known, regression tools breakdown in the presence of perfect collinearity. Consequently, I took different tack. Suppose we are prepared to assume that mandatory post-closing and voluntary merger notification regimes have no effect on cross border M&A. Then, in a sample of data that included all the EU members, all the non-EU economies with pre-closing regimes, and all the economies with no merger review laws, then there will be some EU members *in this new sample* that are covered by EC merger enforcement but do not have national pre-closing merger notification regimes.[23] This enables me to separately identify the effect of EC merger enforcement from the effects of national enforcement of pre-closing merger notification regimes by those EU members that have such regimes.[24] Specification six includes separate independent variables for these two effects and the estimated parameters are reported in the last two columns of Table Two.[25]

The estimation results for this last specification suggest that EC merger enforcement does indeed reduce cross border M&A by approximately 30 per cent. The parameter estimates on EC merger enforcement and on national enforcement by EU members using pre-closing regimes are approximately the same (compare –0.3579 to –0.3260), and are greater than the parameter estimating the effect of pre-closing regimes outside the EU. In the latter case, the estimated parameter implied that such regimes reduce cross border M&A into non-EU country by 50 per cent. Interestingly, the parameter estimates for the European merger regimes imply that the *combined* effect of an EU member's pre-closing merger notification regime and Brussels' merger enforcement also cuts in half the amount of cross border M&A received. These findings further support the contention that pre-

[23] This sample includes data from 44 jurisdictions.

[24] In other words, a dummy variable indicating EU membership will not be perfectly collinear with a dummy variable indicating the presence of a national pre-closing merger notification regime in an EU member.

[25] Specification five is included for comparative purposes. Specification five includes the same independent variables as specification four, but uses the same sample as specification six. Therefore, specification five excludes the independent variable that identifies the effects of EC merger enforcement. Again, the parameter estimates for specification five suggest that pre-closing merger notification regimes have substantial negative effects on cross border M&A.

closing regimes, whether implemented at the national or supranational level, substantially impede cross border mergers and acquisitions.

To obtain a better sense of what specification six's parameter estimates imply I calculated the increase in a nation's corporate tax rate and tariff rate that would depress American cross border M&A by the same amount as introducing a pre-closing merger notification regime. As the estimated effects of these pre-closing regimes differ between EU and non-EU members, and among EU members (depending on whether an EU member has its own national pre-closing regime), the corporate tax rate and tariff increases—that would have had the same effect as imposing the pre-closing merger regime that currently prevails in a jurisdiction—will vary somewhat across economies. The results are reported in Table Three. In the case of a non-EU country introducing a pre-closing merger notification regime would have the same effect on the amount of cross border M&A received as a 8.41 per cent increase in corporate tax rates. A 7.37 per cent increase in tariff rates would discourage such M&A by the same amount too. These findings and the others in Table Three attest to the strong impact of pre-closing merger regimes.

These results should be interpreted with care. One could take a very strong line, perhaps arguing as follows: in an era when policymakers appear to be very keen to attract foreign investors, one wonders how much of the beneficial effects of tariff cutting and tax reforms throughout the 1990s have been undermined the introduction of pre-closing merger notification regimes. Such a line of argument would call into question the wisdom of so many (principally developing countries) governments decisions' to introduce such regimes in the first place. Yet, one should not forget that these regimes, at their best, do prevent anticompetitive M&As from distorting market outcomes. Perhaps the right lesson to take away from these findings is that, unless one is prepared to believe that almost all of the substantial amounts of cross border M&A that are deterred by pre-closing merger notification regimes would have had anticompetitive effects, then there must surely be a concern that a considerable number of benign M&A transactions are being caught in the merger review net. This reinforces the case for examining means to both reduce the costs of complying with merger reviews and to better discriminate between M&A proposals that are likely to be anticompetitive or not.

Conclusion

Unlike other potential barriers to international commerce, few attempts have been made to quantify the effects of merger review laws. In this chapter I have estimated the effects of three types of merger notification regimes on the amount of American cross border M&A in 1999. The econometric estimates confirm the view that the most stringent merger review laws require mandatory notification of transactions before they are closed. In addition, in many jurisdictions the effects of such laws are to cut the amount of cross border M&A in half, suggesting that merger notification regimes are a substantial impediment on the international trade in corporate assets.

Table One: ICPAC Classification of Economies' Merger Notification Systems, 1999

Mandatory Notification System		Voluntary Notification System
Pre-closing	Post-closing	
Albania	*Argentina*	Australia
Argentina	Denmark*	Chile
Austria*	*Greece**	Cote d'Ivoire
Azerbaijan	*Japan*	France*
Belarus	*Macedonia*	New Zealand
Belgium*	*Russia*	Norway
Brazil	*South Africa*	Panama
Bulgaria	*South Korea*	United Kingdom*
Canada	Spain*	Venezuela
Columbia	*Tunisia*	
Croatia		
Cyprus		
Czech Republic		
European Union		
Estonia		
Finland*		
Germany*		
*Greece**		
Hungary		
Ireland*		
Israel		
Italy*		
Japan		
Kazakhstan		
Kenya		
Latvia		
Lithuania		
Macedonia		
Mexico		
Moldova		
Netherlands*		
Poland		
Romania		
Russia		
Slovak Republic		
Slovenia		
South Africa		
South Korea		
Sweden*		
Switzerland		
Taiwan		
Thailand		
Tunisia		
Turkey		
Ukraine		
United States of America		
Uzbekistan		
Yugoslavia		

Key:

1. Italics denote that an economy has both a mandatory pre-closing and post-closing regime administered by its central government.

2. * denotes the economy in question is a member of the European Union, and therefore covered by the Merger Regulation.

Source: FINAL REPORT, Annex 2C..

Table Two: Estimated parameters

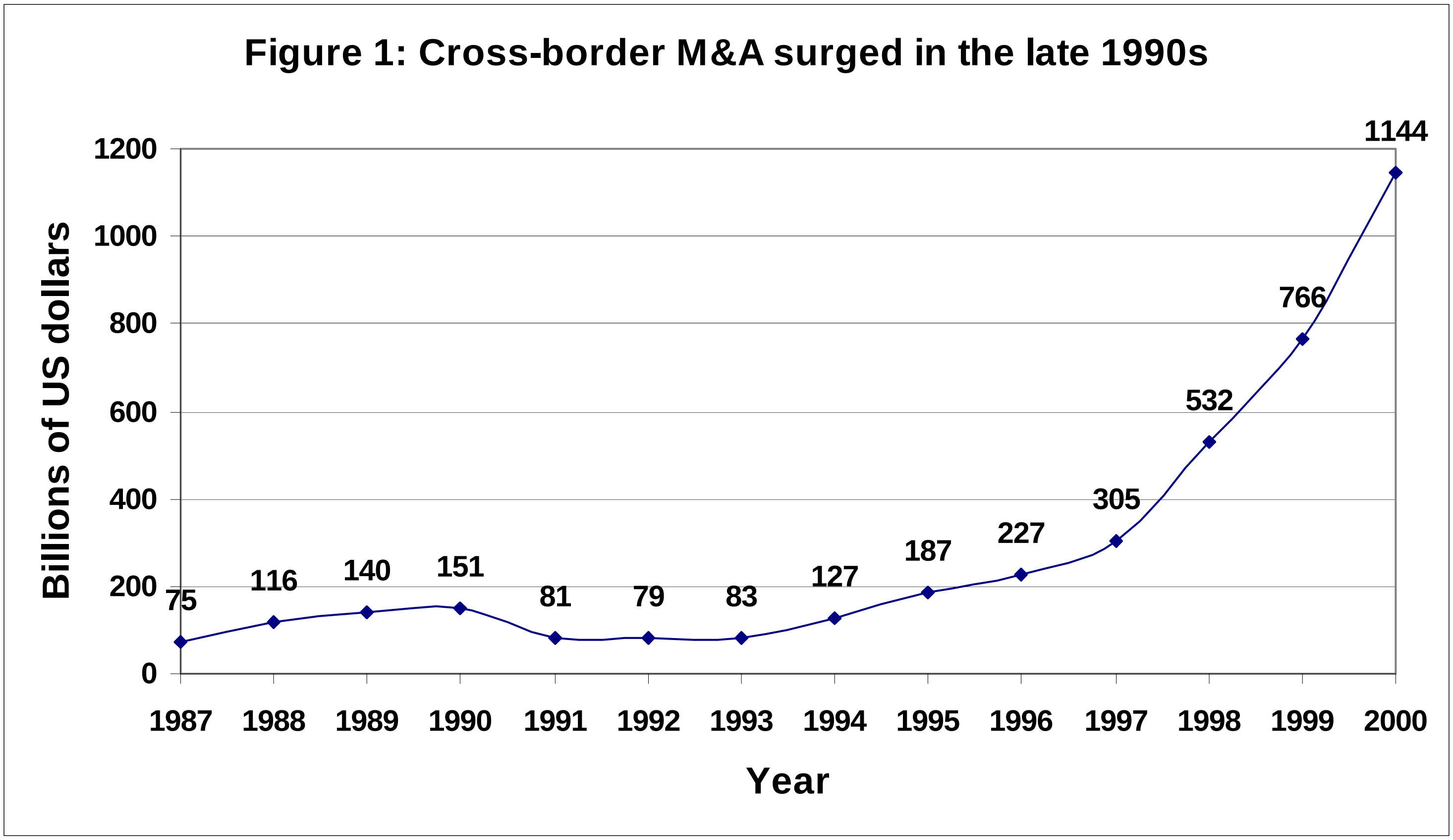
	Specification number	1		2		3		4		5		6	
	Independent variable	Median parameter estimate	Standard error	Median parameter estimate	Standard error	Median parameter estimate	Standard error	Median parameter estimate	Standard error	Median parameter estimate	Standard error	Median parameter estimate	Standard error
	Constant	-1.6397	1.2708	-1.3813	1.3727	-1.2263	1.3618	-0.3618	1.3736	-1.0578	1.2471	-1.0009	1.3194
	GDP	0.8881	0.0295	0.8846	0.0296	0.8467	0.0314	0.8734	0.0300	0.9453	0.0315	0.9294	0.0293
	GDP per capita	0.7138	0.0757	0.6826	0.0909	0.8492	0.1040	0.8980	0.1079	0.6746	0.1032	0.7056	0.1037
	Distance	-0.6212	0.0671	-0.6132	0.0675	-0.6884	0.0666	-0.9387	0.0489	-0.8133	0.0054	-0.8065	0.0575
	Retained profit rate	4.8567	0.3803	4.9178	0.3989	4.5879	0.4008	3.4783	0.3828	4.3943	0.4177	4.3117	0.4177
	One plus tariff rate	-7.5902	0.6369	-7.6796	0.6364	-6.8105	0.6858	-5.8733	0.6631	-7.6659	0.6651	-7.4806	0.6828
	Former British colony	1.1112	0.0669	1.1246	0.0696	0.9815	0.0773	0.5121	0.0916	0.9805	0.0796	0.9574	0.0780
All nations	*Mandatory pre-closing regime*	**-0.5498**	**0.0915**	**-0.5261**	**0.0919**								
	Mandatory post-closing regime	0.1467	0.1020	0.1666	0.1059								
	Voluntary regime	0.0449	0.1244	0.0731	0.1365								
	Covered by EU merger regulation			0.0694	0.1060							**-0.3579**	**0.1723**
Non-EU members	*Mandatory pre-closing regime*					**-0.9240**	**0.1210**	**-1.2524**	**0.1309**	**-1.0184**	**0.1143**	**-0.8022**	**0.1167**
	Mandatory post-closing regime					**0.6704**	**0.1408**						
	Voluntary regime					-0.1752	0.1605						
EU members	*Mandatory pre-closing regime*					**-0.6585**	**0.1753**	**-1.0075**	**0.1853**	**-0.8953**	**0.1613**	**-0.3260**	**0.1116**
	Mandatory post-closing regime					**-0.6240**	**0.1794**						
	Voluntary regime					0.1204	0.2021						

	1	2	3	4	5	6
Number of observations	49	49	49	36	44	44
R-squared calculated using median parameter estimates	0.6921	0.6921	0.6993	0.6561	0.6964	0.6980

Notes: Indepdendent variables in italics were estimated using dummy variables. All other independent variables are the logarithms of the data collected (as described in the text.) Those parameter estimates and standard errors in bold indicate statistically significant estimates for merger notification regimes at the one percent level.

Table Three: Summary of the effects of merger review procedures on the value of cross border M&A, 1999

Merger review regime and type of economy	Estimated reduction in inflows of US M&A due to merger notification regime(s)	Increase in corporate tax rate that would generate same fall in inward US M&A as the merger notification regime(s) in place	Increase in national tariff rates that would generate same fall in inward US M&A than the merger notification regime(s) in place
Economy is not a member of the EU but does have a mandatory pre-closing notification regime.	55.17	8.41	7.37
Economy is a member of the EU but does not have a national mandatory pre-closing notification regime.	27.82	4.37	3.72
Economy is a member of the EU and does have a national mandatory pre-closing notification regime	49.54	7.60	6.62



Source: WORLD INVESTMENT REPORT 2000, Table B.7.