

QUANTIFYING ANTITRUST REGIMES*

Michael W. Nicholson**

IRIS Center, University of Maryland

Abstract

This paper introduces means of quantifying global trend of proliferation in antitrust laws, particularly through measures to assess the presence of such laws across a large set of countries. The Antitrust Law Index maps the presence of “laws on the book” into a numerical measure of competition regimes by assigning binomial scores for the presence of particular laws in a jurisdiction, and then summing the individual components to yield a total score. The countries with the highest index values do not necessarily represent the strongest antitrust laws. The results do suggest that the impetus for adopting antitrust laws appears related to the imposed guidelines of supranational bodies, in particular the requirements of the European Union.

Keywords: antitrust law, international policy coordination, multinational firms

JEL Classification: L40, K21, F23

* Roger Boner, Xiaoyang Chen, Mary Coleman, Russ Damtoft, Alan Fisher, Russell Hillberry, Daniel Hosken, James Langenfeld, Kristina Martin, Morris Morkre, Russ Pittman, David Samuels, Roger Stoner, Chris Taylor, and an anonymous referee have provided helpful suggestions.

** 2105 Morrill Hall, University of Maryland, College Park, MD, 20742. E-mail: mmicholson@netsys.am

1. Introduction

International antitrust as a policy concern, encompassing domestic competition regimes and multinational economic effects, has grown along with the size and complexity of global business activity. Concurrent to the recent merger “wave” has been an increase in the number of countries that have antitrust laws, so that the number of mergers requiring filing in multiple jurisdictions increased exponentially in the 1990s.¹ Mergers and acquisitions between multinational firms have potential global impacts that increase with the degree of economic integration among countries. Moreover, anticompetitive activity by multinational firms generally has international spillovers, with policies in one country being transmitted by international business to consumers in any number of countries.

A relative dearth of analytical research accompanies this proliferation of antitrust laws and the increasing role of transnational governance. Empirical investigations into the causes and consequences of international antitrust policy lag behind these global trends, in large part suffering from a lack of quantification. Measures of governance have been developed in recent years to allow empirical studies of many political or legal activities, and this paper intends to add competition policy to the list.² Recent empirical studies have used various methods to quantify antitrust laws, employing survey methods or binary variables to indicate the presence of a policy. I discuss the value of such tools, and introduce some potential measures to assess the presence of antitrust laws across a large set of countries.

2. Fundamentals of Quantifying Antitrust Regimes

Jurisdictions with antitrust regimes have proliferated over the past decade. The number of countries with antitrust regimes has expanded from 35 in 1995 to over 100 in 2003, with many others in the process of drafting laws.³ Competition agencies have been established in each of the transition economies in Central and Eastern Europe, with a considerable amount of research focusing specifically on this trend towards market institutions in the former communist world.⁴ There has also been a

¹ See Rowley and Baker (2001), among others, for a discussion of the increase in jurisdictions with competition laws.

² The breadth of measures in governance is sufficiently large that Kauffman, Kraay, and Zoido-Lobaton (1999) compiled several hundred cross-country indicators. These include such subjects as corruption, rule-of-law, and the effectiveness of government.

³ See, for example, Centre for Competition, Investment, and Economic Regulation (2003).

⁴ See Fingleton, Fox, Neven, and Seabright (1998) and Dutz and Vagiliasindi (2000) as

trend towards institutional reform of antitrust in Latin America and East Asia. The rise in jurisdictions that regulate commercial activity has generated a greater demand in the international community for a coherent framework to handle the myriad national policies now in effect.

Much of the discussion on continued trends in multi-jurisdictional regulation focuses on transnational governance.⁵ This has led to multilateral efforts to improve coherence in international competition policy, with institutions such as the World Trade Organization (WTO), the World Bank, and the European Union engaging in such efforts.⁶ The International Competition Network (ICN) is a recently established group that has arisen to deal specifically with transnational issues in antitrust.⁷ Within this multilateral forum, various working groups seek international consensus on antitrust laws.

Consensus may prove difficult, since the optimal role of competition policy can depend on the relative size of countries, as well as their development levels and orientation towards market economies.⁸ Traditional Western goals of competition policy, such as promoting competition between firms, protecting consumers, and enabling economic efficiency, may sometimes come in conflict. For example, an antitrust policy that allows many mergers, and an associated increase in concentration for various industries, may generally be more efficient than one seeking to preserve a large number of small firms at all costs. One policy focuses on overall welfare, and the other on specific preferences about market structure. This demonstrates complexities in antitrust policy, both within and across national borders.

Antitrust laws in developed countries with consistent goals towards economic efficiency may also be quite diverse. As discussed in Jenny (1995), national competition laws include value judgments about domestic sociopolitical balance.

examples within a much larger literature.

⁵ See Graham and Richardson (1997) and Hoeckman (1997) as examples.

⁶ A primary concern of multilateral organizations like the WTO regarding competition policy involves the impact on market access. Liberal trade regimes can have procompetitive effects that substitute for antitrust enforcement. As trade restrictions are lifted, market power by domestic firms may be dissipated in the global economy. To the extent that competition policy relates to the contestability of markets, however, it may be at odds with similar traditional aspects of trade liberalization. In particular, Hoeckman (1997) notes that trade policy focuses on “competitors” (i.e., the factors of production), not necessarily “competition” itself.

⁷ See Djelic and Kleiner (2003) or www.internationalcompetitionnetwork.org.

⁸ See Gal (2003).

This often leads to politically fragile policies that are sources of legal uncertainty and are economically costly to society. Various influences on the regime carry inconsistent goals, with a resulting antitrust policy that may impose constraints on firms that impede the efficient allocation of scarce resources.

Consequently, one must be careful in keeping competition policy within the context of national or regional goals and preferences.⁹ In measuring an antitrust regime, tradeoffs must be made between general and specific approaches. An analysis of a single competition regime, or of policies in a few countries with similar backgrounds, can be quite detailed.¹⁰ As the analysis shifts outward to include more regimes across different regions, the specific details of a regime must be sacrificed to accommodate more universal policies.

The role and effectiveness of a competition regime carries important differences across countries that may reflect the business culture of various regions. The goals of national policy appear to have great similarities within regions such as North America and Latin America but great differences between those regions.¹¹ The situation is more complex in Europe, where most Eastern European countries are implementing policies in accord with the European Union, and thus in convergence with Western Europe, despite potentially conflicting business cultures.¹²

The rapid adoption of antitrust laws is being performed primarily by countries in a transition from state-dominated economies. These decentralizing economies also form the motivation for much analytical research on international antitrust. In particular, liberalizing Latin American countries and formerly communist European countries provide an opportunity to study and contrast massive economic transformations. Kovacic (2001) points out that decentralizing efforts generally occur in a social and political climate dependent on the state, with a business and consumer environment wary of free markets.

The term “Competition Culture” has been coined to describe the social and political climate for antitrust policy, which could include political will, regulatory

⁹ Some may object to a description of “national preferences”. This phrase is often employed by international economists to describe the vector of influences that determine policy in a particular country. It does not suggest or even assume homogeneity of preferences for all individuals subject to that policy.

¹⁰ Fingleton, et. al (1998), as discussed below, provide a comprehensive analysis of the four similarly-situated Central European countries.

¹¹ For example, competition policy in Latin American must account for a pervasive regulatory environment, which affects the enforcement of many policies. See de Leon (2002).

¹² See Pittman (1998).

expertise, efficient enforcement, control of corruption, and sufficient resources dedicated to the task. One study¹³ suggests that ineffective competition policy regimes could be attributed to a domestic culture that lacks certain foundations for a competitive environment, not limited to institutions and laws.¹⁴

3. Existing Measures of Antitrust

Various methods have been employed to quantify competition regimes. Survey evidence enables a comparison of regimes across countries using the experience of individuals working in these countries. More comprehensive analyses have used input measures, such as the public funding or level and skill of agency staff, to indicate the resources employed in antitrust enforcement. The effectiveness of regimes could be studied through observable outputs, such as the number of cases investigated in a jurisdiction. Research involving large cross-sections of countries has generally been limited to binary measures that indicate the presence or absence of antitrust laws. This section discusses the advantages and disadvantages of each of these methods of measurement, as well as some qualitative approaches. The next section develops an input measure based on national laws.

Breadth versus Depth of Surveys

Existing survey evidence demonstrates the interaction between the general and the specific approaches to measurement. Surveys involving a smaller set of countries can have greater depth of analysis. However, in order to increase the breadth of the survey and facilitate comparisons with a larger group of countries, many specifics must be relaxed to accommodate differences across regions.

The most trenchant survey analysis to date is on transition economies in Central and Eastern Europe, which was administered by Dutz and Vagliasindi (2000) in collaboration with the European Bank for Reconstruction and Development (EBRD).¹⁵ The survey covers the enforcement, advocacy, and institutional effectiveness of competition policy for eighteen countries. These countries share relatively similar geography, history, and culture, which enhances the value of

¹³ See Centre for Competition, Investment, and Economic Regulation (2003).

¹⁴ One must, of course, be careful not to relegate all cross-country differences to “culture”. The best step forward is to identify which aspects of competition culture carry the greatest weight, and study their impacts accordingly.

¹⁵ The survey was conducted in 1999, with the intent to reflect information from Central and Eastern European data in 1996 and 1997. The survey focuses on competition policy implementation. An overall index is developed from three main categories – Law Enforcement, Competition Advocacy, and Institutional Effectiveness.

comparisons between regimes.

Dutz and Vagliasindi find that the earliest adopters of antitrust laws – including Poland, Hungary, and the Baltic countries – have the most effective overall regimes. The results of the survey are used to analyze the impact of competition policy on product market competition. Using a dataset developed in a separate survey of 3,000 firms in twenty of the transition economies, the authors find that more effective policies improve the extent that new enterprises can expand in the economy. Institutional Effectiveness showed the strongest impact on domestic competition. Dutz and Valiasindi also find that pressure from foreign sources and stronger corporate governance are also indicators of product market competition, suggesting that such policies may substitute for competition policy.

The *Global Competition Review* publishes a survey, shown in Table 1, relating to the effectiveness of antitrust institutions in multiple jurisdictions.¹⁶ Respondents to this survey are generally business groups, lawyers, consumer organizations, and economists. The questions relate to a variety of topics, including the handling of mergers, cartels, technical expertise, procedure, autonomy, leadership, and a general ranking. Note that twenty-nine of the thirty-two countries covered by the GCR surveys are members of the OECD; none of the countries in the EBRD survey is a member.¹⁷ This reflects in part the different audiences and goals for each.

A comprehensive set of countries is covered in a survey conducted by the World Economic Forum (WEF), but is limited to a relatively subjective and simple valuation of the broad characterization of anti-monopoly policy. The WEF surveyed business leaders in 2001 to rate the effectiveness of antitrust policy in various countries, asking them to rate “antimonopoly” policy from “1=lax and not effective and promoting competition” to “7=effectively promotes competition”. The results are published in the *Global Competitiveness Report 2001-2002*, and replicated in Table 2.¹⁸

One must consider the objective in developing cross-country comparisons. Development or transition researchers will be interested in focusing on a smaller set of countries particular to specific issues. The EBRD survey was particularly suited to answering questions and concerns specific to transition economies. International

¹⁶ Global Competition Review (2000, 2001, 2003)

¹⁷ The other three are: Argentina, Israel, and South Africa. The GCR is expanding the coverage of its survey to include Latin American countries, and a wider range of topics. See Global Competition Review (2003).

¹⁸ Nicholson (2003) uses the results of this survey in a cross-country analysis of the impact of competition policy on foreign direct investment and cross-border licensing.

economists may seek explanations of broad trends, such as the impact of competition regimes across countries or regions. The WEF survey is a useful means for large cross-sectional studies, but lacks scholarly rigor for in-depth analysis.

Universality of Binary Variables

Empirical economists have made preliminary steps towards comparing antitrust regimes by employing binary variables indicating the presence of particular laws across time or type of regime. Such binary variables are coarse measures, but offer great value in their universality across countries. Evenett (2002) uses dummy variables to contrast the impact of merger review regimes. He finds that regimes that require notification of a merger prior to consummation have a negative and statistically significant impact on inflows of U.S. mergers and acquisitions. The results suggest that pre-merger notification regimes cut such inflows in half. No statistical difference is found between post-merger or voluntary regimes, and jurisdictions with no merger review.

Kee and Hoeckman (2003) investigate the impact of various competition laws on price mark-ups, using cross-country regressions that incorporate binary variables for the date in which laws were introduced. This measure is useful for measuring trends across time, but does not account for heterogeneity in the laws. For example, the law passed in the United States in 1890 is considered no different, as anything other than a time dummy, from the Pakistani law passed in 1970, the British law passed in 1948, and the current U.S. law. The measure does demonstrate the influence that competition laws may have on domestic markets, specifically through a measure of industry price markups over cost. The results suggest that antitrust laws do not have a direct impact on market competition, but do affect the market structure of a domestic economy, in particular the number of firms. This market structure, in turn, affects the industry markup.

Input and Output Measures

Input measures have great potential for empirical work, but trustworthy data is difficult to obtain for a large number of countries. Fingleton, Fox, Neven, and Seabright (1998) use such measures in a comprehensive examination of competition regimes in the four Visegrad countries of Central Europe – Czech Republic, Hungary, Slovakia, and Poland. They begin with comparisons of employment, output, and productivity across sectors for each of the countries, and then look at import penetration and foreign direct investment, which are factors that may serve as substitutes for enforcement of competition laws. Fingleton, et al. argue that the role of competition policy is exacerbated by the transition nature of these economies for

three main reasons: factors encouraging competition in established market economies, such as free trade and efficient capital markets, are relatively inefficient in transition economies; market structures in transition economies are more likely to justify antitrust concerns; and that competition policy may benefit the transition process itself.

The quantitative support offered for the discussion covers a wide range of the various means by which competition regimes could be assessed. The authors consider the input measures, such as the laws themselves and institutional resources (budget/staffing). They also consider output measures such as the number of cases investigated, sources of investigation, cases completed. Included in the assessment are appeals against the agency decisions, which could indicate either the efficiency of the institutions or the success of the review process in the country.

The comparisons are in many ways justified because each of the four countries is at a similar level of development, both in its levels of GDP as well as its institutions for governance. Things are considerably more complicated when making comparisons not only across different levels of development, but also across cultural divisions.

I provide some information on input measures in the appendix. The effectiveness of a regime often relates directly to the resources available for its enforcement. One way to characterize an effective regime is to examine the resources available to the institutions charged with its enforcement. Table 3 shows the extent of resources, in terms of budget and staff, for the competition agencies in 38 countries for which the data is available.

The resources invested by a country in its competition regime shown in the table may simply reflect the size of the economy. The United States, with the largest economy in the world, has (by far) the largest national budget for competition policy, with over \$300 million devoted per year.¹⁹ To control for market size, Table 3 also includes columns for budget per staff member and the budget as a percentage of national income.

Although few countries had more than 10% of the financial resources devoted to competition policy as compared to the United States when simply considering the overall budgeting, a few countries have higher values for budget per staff member, and most countries in the sample actually commit more resources as a percentage of their national income. Table 4 lists the values for budget per staff and budget as a

¹⁹ Global Competition Review (2003). The figure includes the budget for both the Federal Trade Commission and the Department of Justice.

percentage of national income, indexed to the value for the United States.

These may give some indication of the commitment by some countries to their competition policy. For example, relative to its national income, Latvia spends six times as much on antitrust enforcement as the United States. Latvia also commits a much higher value of its budget to the size of its staff relative to other similar countries such as Estonia and Lithuania. At the minimum, this intraregional comparison demonstrates that Latvia has a relatively larger commitment of budgetary resources to antitrust concerns.

The figures for budget-per-staff are uncorrelated with GDP, which suggests that the measure may prove a strong indicator of antitrust regimes, since wealthier countries are not necessarily funneling greater monetary resources into their institutions. However, this must be considered a coarse measure of actual policy. If competition policy at the national level benefits from economies of scale, then entities within larger national markets may exhibit efficiency gains from specialization within the institutions. Moreover, the larger Western economies also shoulder, in general, relatively stronger rule of law, intellectual property protection, control of corruption, and other indicators of institutional maturity, which may positively interact with antitrust regimes.²⁰

Qualitative Analysis

Finally, qualitative analysis can be employed for a discussion of national policies. Pittman (1998) poses a series of questions relating to the three major parts of competition laws – agreements among enterprises, abuse of dominant position, and mergers. He applies the questions to a discussion of a number of countries in Central and Eastern Europe, including the Czech Republic, Hungary, Poland, Slovakia, Russia, and Romania.²¹ He finds that not only did the first generation of these laws greatly resemble the competition law of the EU, but that amendments since their adoption have increased the similarities.²² He notes that important implications arise if: the law does not distinguish between horizontal and vertical agreements; no clear distinction is made between *per se* and “rule of reason” violations; and that a focus on market share instead of market power may lead to too much regulation.

²⁰ See Nicholson (2003) for a full description.

²¹ Lapachi (2002) uses this set of questions to discuss Georgia’s competition law.

²² The EU law is found in articles 81 and 82 of the Treaty of Rome, formerly articles 85 and 86.

4. Quantifying Antitrust Laws

A means of quantification of antitrust regimes that has proven useful for other forms of governance, including intellectual property rights, is based on an index of national laws for that policy. In this section, I introduce an Antitrust Law Index that maps the presence of laws on the book into a measure of competition regimes. The methodology employed for the Antitrust Law Index follows similar indices that measure the relative value of intellectual property rights.²³ The practice involves assigning binomial scores for the presence of particular laws in a jurisdiction. I determine a set of criteria for laws, and then register the presence of each criterion for a selection of countries. Summing the individual components yields a total score.

Laws on the Book

The analysis focuses on the determinants of the written law, and less on the actual implementation of the law.²⁴ A quantifiable description of laws is a first step towards understanding the impact of those laws. Moreover, the motivation for adoption of the laws is an interesting question in itself. Most countries in Latin America passed antitrust laws in the early 1960's, and Venezuela as early as 1919, but did not actively enforce those laws until the early 1990's. What was the push in the 1960's to adopt the laws? Countries are currently drafting antitrust legislation by the score, but very little analytical research investigates their effectiveness. What are the conditions currently in place to encourage this legislation? This expansion could be due to influence from multilateral organizations like the WTO, the pressures of an integrating global economy, regional political economy trends, or any number of other explanations. The Antitrust Law Index can be applied to discerning these trends.²⁵

Criteria

The analysis focuses on the causes of the written law and the legal process, and less on the actual implementation of the law. Three broad dimensions of competition policy are incorporated – Regime Structure, Merger Policy, and Anticompetitive Practices. Each of the dimensions breaks down into multiple subcategories, with each subcategory assigned a point value. Some of the subcategories are mutually exclusive, such as mandatory versus voluntary notification requirements for mergers.

²³ See Rapp and Rozeck (1990) and Ginarte and Park (1997).

²⁴ One should note that the analysis is agnostic between countries with common law or civil law traditions. Both legal systems are treated the same.

²⁵ One potential avenue for development of this research would be to identify changes in the laws across time. Such an index would be useful in analyzing dynamic trends.

Table 5 displays these criteria and the unit scale.

The Regime Structure includes the categories of scope, private enforcement and available remedies. This dimension gives an indication of the political and legal capacity for the antitrust regime. Merger Policy includes notification and assessment criteria. Dominance and Restrictive Trade Practices include related aspects of anticompetitive practices. These categories intend to describe a wide breadth of competition policy, with an ensuing index that captures the strength of national laws.

The first three categories in Table 5 relate to the Regime Structure. The scope indicates the breadth to which the laws apply. In particular, this covers whether the laws empower coverage for activities by foreign firms with activity that affects consumers in the domestic market. The criteria for a threshold for a response may also indicate the scope of laws, but currently it appears not to be directly comparable across countries. Stronger competition policy could also be indicated by the nature of the remedies or sanctions available. Units are awarded for the power to fine, to imprison, and to force divestiture.

Regime Structure also includes an indicator for the role of private enforcement in national antitrust laws, which offers a further check towards ensuring competitive markets. Third parties with a direct interest in alleged anticompetitive practices have a market-based incentive to seek fair outcomes in private litigation, and laws that allow for private enforcement suggest a greater role in the economy for competition policy. Thus, I include three indicators within the dimension for private enforcement – whether third parties can initiate action, can obtain remedies, or can take part in the proceedings of a case.

The second major dimension is Merger Policy. The notification requirements capture the regulations concerning two merging firms appraising the competition authority to their intentions. The two broad categories indicate whether notification is mandatory or voluntary. Some national laws do not mention notification at all, and receive zero units. One point is granted for voluntary or mandatory notification, but since mandatory regimes must necessarily be pre-merger or post-merger, such regimes always score higher.

The assessment criteria measure the tools used by antitrust authorities to indicate the potential impacts of a merger. I use three categories of merger control rules: market dominance, substantial lessening of competition, and public interest, as well as one for “other” criteria. The latter captures such policies as in Belgium, which, in addition to the dominance test, also includes the bargaining power of customers and suppliers and the maturity of the market for its substantive test.

Efficiency is also included within the assessment criteria.

Particular aspects of anticompetitive practices include single-firm dominance or collusive acts that restrict trade. Dominance covers the restrictions on the activities of a single firm that include: access limit, abusive acts, price setting, price discrimination, resale price maintenance, and obstacles to entry. Restrictive trade practices covers price-fixing, tying, market division, output restraint, market sharing, eliminating competitors, collusive tendering (or bid-rigging), and supply refusal. Although some areas of enforcement may not be associated generally with competitive harm, each indicates the extent of adopted legislation.

These two lists overlap in many of the same anticompetitive behaviors, with the major distinction drawn between unilateral or collusive actions. Some national laws break down the restrictions in a very similar fashion to those suggested above; usually, these are countries that have drafted laws within the past decade and likely used the model laws as a guide. Most countries have the particular practices covered either in the single-firm dominance section of their laws, the restrictive trade practices section, or both. Ultimately, the index below registers a point if the law states anywhere that, say, “resale price maintenance” is regulated, even if it is not listed directly within the single-firm dominance articles of the competition law.

Table 6 in the appendix lists the index for the 52 jurisdictions in the sample, from highest to lowest. The number of countries is determined by accessibility of the set of laws. The most striking aspect of the index is that the top is dominated by transition economies in Central and Eastern Europe. As mentioned above, many transition economies have simply adopted language from the Treaty of Rome for their domestic laws – language which mirrors the “model” laws used for the present selection criteria. This index of national laws, a plausible rendition of the legal basis for antitrust, provides little information about what is understood to be effective competition policy in various countries. Given the existence of these laws, the question is whether they are associated with effective policy.

Determinants of the Antitrust Law Index

Regarding the association with effective policy, consider the relationship between the legal index and the WEF survey value discussed above. The correlation between the legal index and the WEF survey, for the 43 overlapping countries, is -0.200. Countries with more laws are apparently less likely to have policy described as effective. One plausible explanation may be the resources that are available for these institutions, and the disparities in resources devoted to enforcement, which depends in part on the overall wealth of the national economy. Traditionally, indices related

to national governance are highly correlated with national wealth. Higher-income countries are usually associated with stronger IPRs, stronger control of corruption, and stronger rule of law.

This holds, to a degree, for the legal index. Regressing it against GNP yields:

$$\text{ANTITRUST} = 13.28 + 0.524*\text{GNP}, R^2=0.059 \quad (1)$$

with statistical significance at 90% confidence. This suggests that there may be some influence of national income on the score for the legal index.

Note that regressing the index against GNP and GNP-squared yields:

$$\text{ANTITRUST} = 14.05 - 1.616*\text{GNP} + 0.236*\text{GNP}^2, R^2=0.149 \quad (2)$$

with statistical significance for both variables at 95% confidence. This suggests a non-linear relationship between GNP and the legal index, such that very poor and very rich countries have more laws on the books, while middle-income countries have fewer competition laws.

Finally, Table 7 lists the mean index for five major regions of the world, along with standard deviations from the mean. Note that Africa features some of the highest indices, driven by the strength of the laws in Kenya and South Africa. Latin American countries apparently have laws that meet relatively fewer of the criteria.

5. Conclusion

The recent surge in global business activity has increased demand for analytical research into the causes and consequences of international antitrust policy. Empirical studies have lagged these trends, however, due in large part to difficulties in quantifying antitrust regimes. This paper has shown the various advantages of existing measures, and offers suggestions for future work. Rigorous quantification of antitrust regimes employs a wide variety of methods, including survey data, input and output measures, and binary variables.

This paper introduces an Antitrust Law Index to indicate the content and complexity of laws on the books. The countries with the highest index values do not necessarily represent the strongest antitrust laws. What can be said with some certainty, based on this analysis, is that Turkey and various Central and Eastern European countries have adopted laws that reflect the laws of certain high-income countries.

The impetus for adopting antitrust laws appears related to the imposed

guidelines of supranational bodies, in particular the requirements of the European Union. Alternatively, Aghion, Alesina, and Trebbi (2002) describe the endogenous development of political institutions, in which the degree of insulation by the government chief executive determines various features of the politico-economic environment. Differences in antitrust regimes could reflect a complex interplay among economic fundamentals, business culture, and the relative degree of democracy in each country. Competition regimes are affected by many non-economic factors.

Graham and Richardson (1997) outline cultural differences in such policy. They describe the market system as “socially populated, socially rooted, socially conditioned, and socially constructed”, and variances in regulatory practices such as competition policy may reflect social differences. Understanding the determinants of antitrust regimes will prove extremely useful for analyzing domestic market structures and for developing coherence in international agreements. Quantifying antitrust regimes can also serve to explain the relative value in drafting laws and policies to conform across national borders.

References

- Aghion, Philippe, Alberto Alesina, and Francesco Trebbi. 2003. Endogenous Political Institutions. Mimeo, Harvard University.
- Centre for Competition, Investment, and Economic Regulation (CUTS). 2003. *Pulling Up Our Socks*, Jaipur: Jaipur Printers P. Ltd..
- De Leon, Ignacio. 2002. *Latin American Competition Law and Policy*. Kluwer Law International.
- Djelic, Marie-Laure and Thibant Kleiner. 2003. The Multiplicity of Regulatory Actors in Transnational Space. Mimeo, Uppsala University.
- Dutz, Mark A. and Maria Vagliasindi. 2000. Competition Policy Implementation in Transition Economies: An Empirical Assessment. *European Economic Review* 44:762-772.
- Evenett, Simon J. 2002. How Much Have Merger Review Laws Reduced Cross Mergers and Acquisitions? Mimeo, World Trade Institute
- Fingleton, John, Eleanor Fox, Damien Neven, and Paul Seabright. 1998. *Competition Policy and the Transformation of Central Europe*. London: Centre for Economic Policy Research.
- Gal, Michal. 2003. *Competition Policy for Small Market Economies*. Cambridge, MA: Harvard University Press.
- Ginarte, Juan Carlos and Walter G. Park. 1997. Determinants of Patent Rights: A Cross-National Study. *Research Policy* 26: 283-301.
- Global Competition Review. 2000, 2001. Rating the Regulators.
- Global Competition Review. 2003. The 2003 Handbook of Competition Enforcement Agencies. London, United Kingdom.
- Graham, Edward M. and J. David Richardson, eds. 1997. *Global Competition Policy*. Washington, DC: Institute for International Economics.
- Hoekman, Bernard. 1997. Focal Points and Multilateral Negotiations on the Contestability of Markets, in Keith E. Maskus, et al., eds., *Robert M. Stern and His International Economic Legacy*. Ann Arbor: University of Michigan Press.

Jenny, Frederic. 1995. Competition and Efficiency, in Barry Hawk, ed., *International Antitrust Law & Policy: Annual Proceedings of the Fordham Corporate Law Institute*.

Kaufmann, Daniel, Aart Kraay, and Pablo Zoido-Lobaton. 1999. Aggregating Governance Indicators. World Bank Policy Research Working Paper No. 2195.

Kee, Hiau Looi and Bernard Hoekman. 2003. Imports, Entry, and Competition Law as Market Disciplines. CEPR Discussion Paper No. 3777.

Kovacic, William E. 2001. Institutional Foundations for Economic Legal Reform in Transition Economies: The Case of Competition Policy and Antitrust Enforcement. *Chicago-Kent Law Review* 77(1): 265-315.

Lapachi, Ketevan. 2002. An Examination of the Present Competition Law of Georgia Using Pittman's Criteria. *Antitrust Bulletin* 187-?.

Nicholson, Michael W. 2003. Intellectual Property Rights and International Technology Transfer: The Impact of Industry Characteristics. Mimeo, Federal Trade Commission.

Pittman, Russell. 1998. Competition Law in Central and Eastern Europe: Five Years Later. *Antitrust Bulletin* 179-197.

Rapp, Richard and Richard Rozek. 1990. Benefits and Costs of Intellectual Property Protection in Developing Countries. *Journal of World Trade* 24: 75-102.

Rowley, J. William and Donald I. Baker, eds. 2001. *International Mergers: the Antitrust Process, 3rd Edition*. London: Sweet & Maxwell.

World Economic Forum. 2002. *Global Competitiveness Report 2001-2002*. New York: Oxford University Press for the World Economic Forum.

Appendix

Table 1: Regime/Institution Score Received in Global Competition Review

Survey*

Country	2000	2001	2003	Country	2000	2001	2003
Argentina		2.5	1.5	Korea			3
Australia		3.5	4	Mexico			2.25
Austria		2.5	2.5	Netherlands	3	3	3.75
Belgium	2			New Zealand			4
Brazil		2	2.25	Norway			3
Canada	2	3	3.75	Portugal DG	1	2.5	n/a
Denmark	2	2.5	3.5	CC	1		n/a
Europ. Union	3	3	4	South Africa Comm		2	2.75
Finland		3.5	3.5	Trib		3.5	
France	2	3	3.75	Spain		3	3.5
Germany	5	4	4.25	Sweden	4	3.5	3.75
Greece		2.5	2	Switzerland	4	3	3
Ireland	2	3	3.5	U.K. FT	2	3.5	4.25
Israel			2.75	Comm	3	3.5	
Italy	4	4	3.75	U.S.A. DOJ	4	4.5	4.5
Japan		3	3.75	FTC	3	3.5	

*No survey was undertaken in 2002. The 2003 column indicates evaluations for the full regime, rather than particular institutions.

Table 2: Results of World Economic Forum Survey Results on Antimonopoly Policy

Country	Rating	Country	Rating	Country	Rating
Argentina	3.8	Israel	5.7	Romania	3.7
Australia	5.7	Italy	5.2	Russia	3.1
Belgium	5.8	Jamaica	3.9	Slovakia	3.8
Brazil	4.7	Japan	5.0	Slovenia	4.2
Canada	5.6	Korea	4.7	South Africa	4.8
Chile	5.1	Latvia	3.8	Spain	5.2
Costa Rica	3.7	Lithuania	3.4	Sri Lanka	3.8
Czech Rep	3.7	Mexico	4.0	Sweden	5.5
Denmark	5.7	Netherlands	6.2	Switzerland	5.0
Estonia	4.2	New Zealand	5.5	Taiwan	5.2
Finland	6.6	Norway	5.3	Thailand	3.9
France	5.8	Panama	4.0	Turkey	4.1
Germany	6.2	Peru	3.8	Ukraine	3.3
Greece	4.1	Phillipines	3.8	United Kingdom	5.8
Hungary	4.8	Poland	4.6	United States	6.0
Indonesia	3.6	Portugal	4.5	Venezuela	3.8
Ireland	5.0				

Table 3: Measures of Resource Inputs into Competition Policy, by Country

<i>Country</i>	<i>Agency Budget</i>	<i>Agency Staff</i>	<i>Budget/staff</i>	<i>Budget/National Income*</i>
Argentina	200,000	23	8,696	0.5
Armenia	126,740	22	5,761	12.7
Australia	38,000,000	391	97,187	79.5
Belgium	180,000	20	9,000	0.7
Brazil	5,615,000	167	33,623	4.6
Canada	21,300,000	325	65,538	25.8
Chile	1,950,000	38	51,316	14.3
Czech Rep	2,059,715	120	17,164	14.1
Denmark	8,300,000	65	127,692	54.2
Estonia	711,200	39	18,236	54.7
Finland	807,410	42	19,224	6.5
France	79,501,405	287	277,008	55.8
Germany	13,325,240	150	88,835	6.4
Indonesia	2,800,000	90	31,111	4.7
Ireland	4,260,000	37	115,135	41.0
Israel	4,459,267	82	54,381	35.7
Italy	32,000,000	121	264,463	22.5
Jamaica	596,000	6	99,333	66.2
Japan	51,900,000	607	85,502	16.0
Kenya	320,000	21	15,238	10.7
Korea	22,500,000	416	54,087	31.6
Latvia	3,480,000	25	139,200	193.3
Lithuania	796,600	55	14,484	27.5
Mexico	14,000,000	144	97,222	17.1
Netherlands	34,000,000	158	215,190	77.4
New Zealand	10,000,000	79	126,582	142.9
Norway	9,000,000	80	112,500	68.2
Panama	900,000	17	52,941	56.3
Poland	5,303,312	237	22,377	14.7
Romania	1,652,709	346	4,777	12.7
Slovakia	1,115,337	59	18,904	17.4
Slovenia	428,578	11	38,962	12.6
South Africa	9,131,863	111	82,269	19.3
Spain	2,700,000	95	28,421	3.3
Sweden	9,000,000	94	95,745	42.5
United Kingdom	101,682,682	708	143,620	71.1
United States	307,000,000	1378	222,787	31.4
Uzbekistan	500,000	343	1,458	8.3

Source: Global Competition Review (2003). Some calculations performed by Russ Damtoft. National Income measured in PPP GDP values from the World Development Indicators.

*In order to account for the differences in magnitude between budget dedicated to competition policy and national income (PPP) measures, the values for Budget/National Income are listed as percentages, multiplied by 10⁴. For example, New Zealand's value of 142.9 indicates that the budget for competition policy in New Zealand represents 0.0143% of its national income.

Table 4: Input Measures, as Indexed Relative to the United States

	<i>Budget/staff</i>	<i>Budget/NI</i>		<i>Budget/staff</i>	<i>Budget/NI</i>
Argentina	4	2	Kenya	7	34
Armenia	3	40	Korea	24	101
Australia	44	253	Latvia	62	616
Belgium	4	2	Lithuania	7	88
Brazil	15	15	Mexico	44	54
Canada	29	82	Netherlands	97	247
Chile	23	46	New Zealand	57	455
Czech Rep	8	45	Norway	50	217
Denmark	57	173	Panama	24	179
Estonia	8	174	Poland	10	47
Finland	9	21	Romania	2	41
France	124	178	Slovakia	8	56
Germany	40	20	Slovenia	17	40
Indonesia	14	15	South Africa	37	62
Ireland	52	131	Spain	13	11
Israel	24	114	Sweden	43	135
Italy	119	72	United Kingdom	64	226
Jamaica	45	211	United States	100	100
Japan	38	51	Uzbekistan	1	27

Source: Global Competition Review (2002)

Table 5: Criteria and Unit Values for Laws on the Books, per General Category

Please see the text of the paper for a description of how the criteria are determined.

General category of antitrust policy for the listed criteria in the next column.	Criteria listed within the national laws. If the below area is specifically mentioned by the national laws, then units are included for the legal index. If the criteria are not specifically mentioned, no units are awarded.	Total units awarded if the criteria are present.
Scope	Extraterritoriality	1
Remedies	Fines Prison sentences Divestitures	1 1 1
Private Enforcement	Third party initiation Remedies available to third parties Third party rights in proceedings	1 1 1
Merger Notification	Voluntary Mandatory Pre-merger Post-merger	1 1 2 1
Merger Assessment	Dominance Restriction of competition Public interest Other Efficiency	1 1 1 1 1
Dominance	Limits access Abusive acts Price setting	1 1 1
	Discriminatory pricing Resale price maintenance Obstacles to entry Efficiency defense	1 1 1 1
Restrictive Trade Practices	Price-fixing Tying Market division Output restraint Market sharing Eliminating competitors Collusive tendering/bid-rigging Supply refusal	1 1 1 1 1 1 1 1

Table 6: Antitrust Law Index (incorporating information for each regime)

The values shown for the index indicate an additive summary of the established laws for each country. See the text of the paper for how the summation is performed, as well as a specific example.

Country	Index	Country	Index	Country	Index
United States	21	Italy	15	Denmark	12
Ukraine	20	Czech Rep	14	Brazil	11
Turkey	19	Israel	14	Costa Rica	11
Belgium	18	Korea	14	Finland	11
Latvia	18	Slovenia	14	Norway	11
Poland	18	Taiwan	14	Germany	10
Romania	18	Venezuela	14	Jamaica	10
Argentina	17	Zambia	14	New Zealand	10
Lithuania	17	Australia	13	Panama	10
South Africa	17	Canada	13	Sri Lanka	10
Uzbekistan	17	Indonesia	13	Tunisia	10
France	16	Macedonia	13	Japan	9
Ireland	16	Mexico	13	United Kingdom	9
Kenya	16	Peru	13	Yugoslavia	8
Slovakia	16	Spain	13	Netherlands	7
Sweden	16	Thailand	13	Chile	4
Croatia	15	Armenia	12	Malta	4
Estonia	15				

Table 7: Regional Means (# countries in parenthesis)

This table lists the average value of the index, along with the standard deviation, for each region.

	<i>Avg. Index</i>	<i>St Dev</i>
North America (2)	17.75	3.89
Africa (4)	15.50	3.87
Europe (26)	14.85	4.10
Asia (9)	13.78	2.28
Australasia (2)	13.00	0.00
Latin America (9)	11.56	4.07