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Examining the Performance of Competition Policy Enforcement Agencies: A Cross-Country Comparison

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Abstract

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An examination of a cross-section of 102 nations reveals marked differences in the performance of their competition policy enforcement agencies. Likely explanatory factors considered include gross domestic product per capita, the intensity of competition, physical size, the level of corruption, national experience with a modern antitrust law and whether the common law prevails.

Competition policy agencies operate poorly in jurisdictions characterized by corruption and poor competitive intensity. In fact, differences in levels of corruption and variations in the intensity of competition account for approximately 78 percent of the observed variance in agency performance. Group characteristics, however, vary by region and have varying impact on the observed performance gap. Rather than a generalized approach to the promotion and diffusion of competition policies, our results suggest that distinct policies for each region are likely to be more successful.

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INTRODUCTION

Almost all Eastern European countries, several of the former Soviet republics, a number of African and practically all Latin American countries have adopted competition policy programs or are in the process of doing so. At last count, nearly 100 countries around the world had instituted active competition policy programs (Fox, Lawrence & Peritz 2004).

As the table below shows, approximately half of the inaugurations occurred within the last two decades. There is now a sufficient time lapse since competition programs were first implemented in developing countries to examine their comparative performance.

Table 1. Number of Jurisdictions Enacting a Competition Law for the First Time

Years	Jurisdictions
1985-1990	8
1991-1995	25
1996-2000	16
Total: 1985-2000	49
Source: World Trade Report, 2004	

A cursory examination of relevant data suggests that despite considerable efforts by multilateral lending agencies, international development agencies and national donor agencies to maintain program homogeneity and consistency, agency performance has been erratic and varied. For example, Table 2 displays the average score of various country groupings drawn from a multinational survey assessing national competition policy performance.

Table 2. Antitrust Performance Scores by Grouping

Country Group	Average Score	Number of Countries in Group
Africa	3.44	25
Asia	3.94	14
Eastern Europe	3.68	15
Latin America	3.16	20
OECD	5.2	25
Entire Group of Countries in Data Set	3.96	102

But for the Organization for Economic Cooperation and Development (OECD) countries, all groupings assembled in the table above display below-average performance. Some display deplorable performance; the difference between the Latin America's countries' group mean – the lowest of the groupings - and the OECD countries' group mean – the highest - is almost 2 standard deviations.

Why is there such dramatic variance in performance? After all, antitrust is firmly grounded in conventional economics (e.g. Kovacic & Shapiro 2000) and a sufficiently well understood methodology (e.g. Gellhorn, Ernest, Kovacic & Stephen Calkins 2004; Fox, Lawrence & Peritz 2004). Importantly, with varying degrees of effort and financial assistance competition policy advocates have worked hard to recommend the same core set of policy goals and objectives to developing and transition economies (e.g. OECD 1998; UNCTAD 2000). The competition policy proscriptions adopted by most countries

reflect core proscriptions against price-fixing, and horizontal cartels.

To be sure, one would naturally expect some performance heterogeneity. Even if the competition programs had been identical in all their facets across all nations it would not ensure that programs would be administered uniformly. Varying consumer and producer interests and their respective ability to condition or influence the administration of competition policy varies across states; government regulation would reflect these preferences; so not all countries would chose the same administrative path and intensity even if they were all privy to the same toolkit and had comparable administrative abilities. Thus, one would expect variance to exist if only as a result of variations in instrument preferences or political will.

As will be shown later, there are several distinct variables that account for a considerable portion of the variance in performance; a variation that is asymmetric across regions. A well-known decomposition technique allows us to separate the relative influence of the various distinct, exogenous variables by regions.

Succinctly, the purpose of this analysis is to examine competition agency comparative performance using survey data available for 102 countries for the year 2003-2004. Competition policy performance data is drawn from the Global Competitiveness Report (World Economic Forum 2004).

There are many benefits to an agency performance review (e.g. Kovacic 2004; Kovacic 2001). Candid examinations of performance assessing their relevance, shortcomings and problems are useful for determining whether competition program should be reproduced at all elsewhere, whether they should be modified prior to adoption or whether they should be adopted verbatim. Competition programs examined both in isolation and within the context of a nation's broader political and economic reforms enable decision-makers to properly allocate resources and to address policy issues. Obviously, comparative performance measures are useful for the day-to-day management of the competition agency as well.

Comparative performance assessment helps characterize and understand the nature, magnitude and determinants of the most significant deficiencies in order to figure out where to target scarce reform resources. Performance measures that identify problem areas are therefore useful for competition policy program design, program sequencing and for making reform efforts politically acceptable to governments or other institutions that may otherwise be reluctant to admit the presence of debilitating anticompetitive practices.

Second, performance assessments might be used to determine how well the novel competition programs projects are working in practice, i.e. whether they are having their intended salutary effects. Again, such performance measures have both substantive and political uses. Valid and reliable data on how well reform projects are achieving their goals aids in the adaptation of existing projects and in the design of new ones. Politically, succinct and clear assessments facilitate persuading skeptical donors and host

governments that a reform program has a demonstrable effect on some aspect of system performance.

Third, valid and reliable performance indicators can be used to construct better theories about the operation of competition in the local jurisdiction, the relationship between the competition policy approach and larger economic or social development goals, and the impacts of various kinds of intervention and reform. Good data is useful in generating and refining good theories. Competition theories, in turn, influence both the design of specific reform programs and overall reform strategy.

Fourth, ongoing interest in international collaboration and concerns over alleged increases in transnational anticompetitive practices places domestic competition agencies at the center of these efforts (e.g. Davidow & Shapiro2003; Hoekman & Mavroidis 2003; Fox 2003; and Epstein & Greve 2004). Obviously, under-par performers jeopardize the success of the collective initiative.

Our results raise important concerns regarding the effectiveness of competition policy programs in developing economies. Competition policy programs appear to be operating poorly in jurisdictions characterized by corruption and poor competitive intensity. As will be discussed in greater detail below, competition policy has two components: a law enforcement one and an advocacy one. Law enforcement targets violations of competition laws; advocacy addresses impediments to competition that are state sanctioned, such as non-tariff barriers to trade, regulatory barriers, among others. State sanctioned elements can be indistinguishable from corrupt practices.

The results obtained are consistent with the view that to the extent that the state is responsible for many competition problems the primary focus of these agencies should be advocacy rather than law enforcement. However, our results are also consistent with the view that competition enforcement and advocacy may be deliberately underutilized or that the polity has made a conscious decision to limit their applicability. Still, the existence and persistence of the observed performance gap must be of concern to multi-jurisdictional cooperation advocates and to competition advocates in general.

LITERATURE REVIEW

National competition policy programs and agency performance in developed economies have been repeatedly and closely scrutinized but little has been done in transition and developing countries (e.g.Preston 1993); only a handful of attempts examine the comparative performance of competition regimes perhaps because of data limitations.

Importantly, direct comparisons between the various studies are difficult. Some of the studies opt for the traditional performance assessment of measuring outputs versus inputs, resources allocated to the agency compared to the number of cases investigated or the number of mergers reviewed over a particular time-period. Other studies examine outcomes such as whether price-cost margins have declined or whether

profitability has decreased as a result of the implementation of competition laws (e.g. Kee & Hoekman 2003). Our study fills a gap in the literature; it neither examines outcomes, nor output metrics.   The assessment of performance is entirely the results of an independent survey of business-people. However, despite the methodological differences between our work and prior examinations, prior efforts offer valuable commentary and guidance.

Serbrisky (2004) published the findings of a World Bank assessment of 48 competition agencies in transition and emerging countries in Africa, Asia, Europe and Latin America. Anticipating, (and informing), our results Serbrisky concludes that "The view of competition authorities as a homogenous group across countries and regions can be strongly discarded. The analysis shows … that there are significant heterogeneities among competition agencies' mandates, exempted sectors, professional endowments and capacity needs."(p.3) Note that Sebrisky's review implicitly suggests that agency performance would improve if the shortcomings in endowments could be remedied. This is not necessarily the case. Our results show that varying performance across countries is possible because a transition economy government may choose to rely on other instruments of competition even if the agencies are fully staffed and well supplied.

The OECD has an ongoing "peer-review" program whereby member country agencies come under scrutiny by officials (or their proxies) from other member countries (OECD). So far, although assessments include selected non-member countries such as South Africa, few developing country agencies have been appraised. The examined agency's performance is not explicitly benchmarked against agency performance in other countries and no attempt is made to devise or contrast the result to some independent metric. Further, the OECD studies do not attempt to determine how the scrutinized agency performs vis-à-vis its stated policy objectives.

While the studies above assess performance by examining outputs, the following examine outcomes. Dutz and Vagliasindi (1999) find a robust positive relationship between more effective competition policy implementation and intensity of competition captured by what they refer to as "economy wide enterprise mobility." Specifically, the authors note that their results clearly imply that factors related to institutional effectiveness are critical in ensuring that competition policy has its intended economy-wide impact. This result is consistent with our results: antitrust agencies perform less well in jurisdictions riddled by corruption. Our study encompasses 102 nations whereas Dutz & Vagliasindi were limited to 18 countries.

Kee and Hoekman (2003) investigate the impact of competition law on industry markups over time and across a large number of countries. Conventional industrial organization economic theory suggests that competition will reduce the gap between price and marginal cost in the presence of supracompetitive pricing. They find both domestic and foreign competition to be major sources of market discipline in concentrated markets, but that the direct effect of competition law is insignificant. Competition policy may be a policy choice in countries impaired by anticompetitive practices indicating a simultaneity between price cost markups and competition policy.

Once the authors account for the possible endogeneity they find competition laws have an indirect effect on markups by promoting a larger number of domestic firms. However, it is not clear why the mere presence of antitrust laws encourages entry.   Because entry barriers may not be a result of proscribed anticompetitive practices but rather as result of state-sanctioned non-tariff barriers it is not readily apparent how competition agencies are capable of challenging the practices. It is possible that the agency's advocacy functions may have some successes in challenging non-tariff barriers. It is more likely that novice agencies with little political base and scarce institutional clout would refrain from challenging practices sanctioned by more powerful ministries or agencies. Indeed, the U.S. Federal Trade Commission, an agency with almost a century of political experience and a strong constituency is not unfamiliar with this reticence (e.g. Cooper, Pautler & Zywicki 2005). Thus, we suspect that Kee and Hoekman may be capturing association rather than causation.

Fingleton, Fox, Neven, and Seabright (1996) examine the competition regimes in the four Visegrad countries of Central Europe: the Czech Republic, Hungary, Slovakia, and Poland. In a chapter titled "The Performance of the Institutions," the authors conclude that institutional performance is mixed. Among the concerns: competition agencies may not be doing enough to establish clear and understandable guidelines and interpretations of the law; the effectiveness of the agencies may be limited by lack of political will and operational timidity. Again, our results support Fingleton, et al.'s conclusions for a considerably broader group of countries. Specifically, the observed "performance" gap may be consistent with scant political will (that manifests itself by engineering delays in the implementation of relevant legislation or places political pressure on the agency).

THEORY AND APPROACH

The contrast in performance scores between the group of comparatively more affluent OECD nations and other national groupings presented in Table 1 above suggests that national affluence (GDP per capita) may have something to do with the observed variance. Extensive research in the theoretical and quantitative analysis of property rights, corruption and economic performance suggest many other plausible explanatory variables explain competition agency performance variance.

Affluence: One would expect GDP per capita to account for a significant portion of the performance gap. After all, richer countries are more likely to afford the professional administration of their law enforcement system and the competition laws in particular. In addition, much recent empirical literature shows a strong positive correlation between the quality of a nation's governance institutions and income per capita. However, because competition policy programs in developing and transition economies have been seeded with considerable direct and indirect assistance (FTC 2003), national affluence may not be an explanatory factor.

Legal System: Recent finance scholarship finds that countries with legal systems based on the common law have more developed financial markets than countries

with systems based on traditions other than civil-law. Mahoney (2001), arguing that finance is not the sole or principal, channel through which legal origin affects growth finds that common-law countries have experienced faster economic growth than civil-law countries. At their core, these findings suggest that the common law produces faster growth through greater security of property and contract rights.

More to the point, Waller (1994) has noted the inherent difficulties in transferring modern antimonopoly practices to jurisdictions with legal traditions different from common law traditions. Newberg (1994) offers similar criticism, arguing that the absence of an antimonopoly tradition and jurisprudence fails to provide the legal structure necessary to support a vibrant and dynamic competition policy and necessarily impairs the functioning of an effective competition policy. Newberg also notes that a civil law tradition that takes no formal notice of legal precedent would render the competition environment less predictable. Thus, to the extent these observations are applicable to competition law we expect those agencies in common law countries to perform better than those in non common law countries.

However, there are counterarguments that would negate the seeming advantages of common-law countries. Because competition policy is firmly grounded in mainstream economics, the core learning and administration of policy in non-common law countries is unlikely to vary from common law jurisdictions (Ghoneim 2003). In addition, although competition agencies in civil-law jurisdictions are not bound by legal precedent many have adopted a policy of institutional deference to their own decisions to provide guidance and administrative clarity to private parties and thereby minimize transactional uncertainty. Thus, to the extent that economics offers consistent decision-making and the agencies respect their own internal precedents the potential for procedural pitfalls noted by Professors Waller and Newburg can in principle be overcome.

Experience: Many developing and transition economies have had little or no experience with competition before adopting a competition law and a competition enforcement agency. In some jurisdictions there was scarce understanding of the role of the agency and often no relevant jurisprudence to accommodate the role of an agency. Understandably, efficient public administration of a competition policy is a skill that requires time and one may expect performance to be positively correlated with years of experience. Many countries have had anti-monopoly laws in the books for many years. However, their use and effect remained largely dormant because of differences between preferred economic paradigms at the time which often frowned upon market-based policies. Many of these nations have revised their competition legislation to adapt their administration to conform to the objectives of pro-market reforms and liberalization programs. In these cases, in the empirical work presented below, the "beginning" year was taken to be the year when the recent competition law was implemented. In a number of instances, competition legislation proceeded over several years, accommodating revisions and other changes; these changes were not accounted for in this study. This information is obtained from the survey of competition laws by the International Bar Association's Global Competition Forum (GCF).

Corruption: Poor agency performance can be attributed to corruption, either at the enforcement agency, or in the business milieu, or both. Commentators have argued that antitrust laws alter the relative cost between private cartelization and government-sponsored cartelization. This suggests that shortly after the adoption of a competition policy and assuming the agency is effective and active, we would observe an increase in rent-seeking efforts as interest groups maneuver to protect existing anticompetitive rents without running afoul of the agency.   Strictly speaking, this is not corruption. Unfortunately, acts considered corrupt are sufficiently amorphous, especially those occurring in nations with poor governance structures or those nations historically known to coddle corruption, that it is difficult to distinguish legitimate, and legal, rent-seeking: lobbying. Amidst this environment of rampant and historical corruption, it is possible that a domestic agency observer would perceive the efforts of the agency as inconsequential and wrongly assign it poor marks in tallying a corruption "survey." In fact the agency cannot be faulted for what is necessarily a broader problem of utilizing the wrong tool for the wrong problem. A law enforcement agency is unsuited to challenge legitimate and perfectly, albeit anticompetitive, legal lobbying efforts (Rodriguez & Williams 1995). Thus, one expects, ex ante, to find a corruption measure or indicator a significant factor in determining agency performance without necessarily impugning the competition agency.

Size: It has been argued repeatedly that the best remedy for anticompetitive practices is free and unfettered trade, a remedy even more applicable and salutary in small economies. However, there have been any number of commentators who have carefully examined small economies and concluded that there are attributes exclusive to small economies that render them immune to the benefits of increased trade (e.g. Briguglio & Kaminarides 1993; Gal 2001). For example, trade has little impact on non-tradeables. Significant participants in local markets are likely to have historically accumulated market power preserved by regulatory and tariff barriers placed by friendly governments. In principle the undoing of regulatory barriers to entry of the new free-market regime will result in domestic challenges that will beget competition. In reality, the power and influence of entrenched power groups is unlikely to abate with regulatory changes.

Another key proposition of free-trade skeptics is that small economies can support fewer firms. Logically, only a few firms are capable of achieving the minimum efficient scale in a small closed economy given the modest levels of demand (e.g. Boza 2003). The conventional counterargument points out that eliminating tariffs and other barriers to trade naturally leads to broader geographic markets and the potential for growth at the same time as consumers gain from the resulting lower prices and increased choice. Obviously, the small-economy firms can enter the much larger geographic market that resulted from open borders and proceed to compete vigorously. But to achieve the larger optimal scale associate with the now broader geographic market requires time and capital. Because the small economy firm has its domestic constituency, it typically finds it less costly to protect itself and lobby for non-tariff barriers or any similar protectionist measure rather than compete.

   Intensity of Competition: More intense competition is likely to reduce or ameliorate the tasks of the competition agency. A competitive marketplace is also likely to mask the performance of the agency. Survey data for which antitrust performance is available is gathered by the Global Competitiveness Report corresponding for the countries

   What forges a vigorously competitive marketplace? Liberal trade policy had long been defended by the proposition that imports discipline domestic producers' market power to raise prices. In broad geographic markets, international competition forces domestic firms to be competitive.   Clearly one would expect a variable controlling for intensity of competition, one that includes the vibrancy of domestic competition as well as the effect of trade, to be influential in explaining comparative agency performance (e.g. Fishlow 1990; Globerman 1990; and Leamer 1988).

COMPETITION AGENCY PERFORMANCE: CROSS-COUNTRY EVIDENCE

   In this section we parse the influence of the various explanatory variables discussed above on competition agency performance by assuming a linear relationship between independent explanatory variables and competition agency performance, the dependent variable.

   Data on antitrust agency performance is obtained from the Global Competitiveness Report (2004). The Global Competitiveness Report publishes the results of a standardized survey assessing the effectiveness of antitrust institutions in 102 nations across the world. Data sources and treatment is presented in a Data Appendix.

In order to examine performance across the cross section controlling for the exogenous variables discussed in the previous section we specify the following model:

$PERFORMANCE_i =$

   a $+ ß_1 COMMMON\ LAW_i + ß_2 INCOMEPERCAPITA_i$

          $+ ß_3\ INTENSITY\ OF\ COMPETITION + ß_4 CORRUPTION_i$

          $+ ß_5\ LN\ SIZE_i + ß_6 EXPERIENCE_i\ + e_i$

where i indexes countries in the sample, The model examines the relationship between competition policy performance (PERFORMANCE) and national legal tradition (COMMON LAW); control variables include: GDP per capita; national experience with a modern competition law (EXPERIENCE), the intensity of competition (INTENSITY OF COMPETITION); a variable that controls for the physical size of a nation (SIZE) and the corruption metric described in the previous section (CORRUPTION). GDP per capita and size were entered in natural logarithms.

   We are concerned over the possible simultaneity   of   the   competition

performance variable and the income per capita variable, competition intensity and the corruption variable.   A perceptions-based measure of antitrust performance, such as the one used here, is potentially subject to a number of biases. One common critique argues that survey respondents - perhaps unwittingly - confound correlation and causality; i.e. that corruption and competition policy performance may be jointly determined (Glaeser, Florencio Lopez-de-Silanes, & Andrei Shleifer 2004).   This simultaneity precludes interpreting corruption as a causative factor.   Perceptions of competition policy governance may be biased (favorably) in countries where corruption is less of a factor because respondents assume that the absence of as evidence that competition policy performance is good regardless of the actual operational impact of the competition agency; a similar (biased) association could exist between income per capita and competition policy performance.   This type of bias has been called a "halo effect." Another example of this bias is the one associating countries characterized by scant competitive vigor with poor competition policy performance. Moreover, since corruption may be imperfectly measured the OLS estimates suffer from attenuation bias as well as simultaneity bias.

We use ethnic and linguistic fractionalization data as a measurement for the corruption perceptions variable; we also use population size, in logarithms. Alesina, Devleeschauwer, Easterly, Kurlat & Wacziarg 2003) and Fearon (2003) argue that societies that are more ethnically or linguistically fractionalized have more corrupt governments, largely because bureaucrats may have larger incentives to embezzle money to favor members of their own group. It seems reasonable to assume that ethnic and linguistic fractionalization is uncorrelated with the disturbance in the performance equation because the degree of ethnic and linguistic fractionalization is determined, for the most part, by historical colonial practices of politically segmenting countries with little regard to ethnic group presence. The use of population size as a measurement is justified as a proxy for the realization of increasing returns through market size (e.g. Ades & De Tella 1999).

Results are presented in the table below. The second column of the table below provides ordinary least squares estimates of the extended model coefficients; the fourth column provides comparable two-stage least squares results.

Table 3. Competition Performance Regression Results

Explanatory Variable	OLS Coefficient Estimates	t-stat	2SLS Coefficient Estimates	t-stat
Common-Law Present	0.2609	1.6	0.0996	0.4
Experience	-0.0012	-0.44	-0.002	-0.55
Intensity of Competition	0.7006	6.37	0.8466	3.17
Corruption	-0.1037	1.72	-0.2648	-2.27
Ln of Income per Capita	0.2684	2.38	-0.1024	-0.37
Ln of Size	0.086	2.51	0.0873	2.32
Constant	-3.273	-3.28	-1.381	-0.72
R2	0.7867		0.82	
F-stat	87.98		50.32	
Number of observations	99		93	

Ln represents natural logarithms of the explanatory variable. Standard errors are robust. The 2SLS equation treats income per capita, competition intensity and corruption as endogenous. The instruments are ethnic and linguistic fractionalization and the log of population.

The results of a Hausman test for endogeneity cannot be rejected. However, we cannot reject the null of no joint-significance on an F-test for the joint significance of the coefficients of the residuals obtained from individual regressions of each of the suspected endogenous variables on the instruments and the remaining exogenous variables (e.g. Wooldridge 2000). We thus rely on the OLS results for further analysis.

The variables in the ordinary least squares regression provided explain approximately 78 percent of the variation in performance. Two variables stand out in their significance: the intensity of competition and the level of corruption present; this result suggests that the competition agency in nations characterized by vigorous competition and less corruption perform comparatively well.

There are surprising and unexpected results as well. The common law binary variable which identifies jurisdictions characterized by a common law tradition is of marginal significance (it is significant at the 90 percent level), a somewhat unexpected result given the copious studies examining similar differences in the Law & Finance literature. However, antitrust is largely a common law doctrine. Both antitrust legislation and the practice of antitrust have been adopted largely intact by developing and transition economies, even non-common law jurisdictions. These two features may account for the modest statistical significance of the common-law variable.

Similarly, experience with competition policy explains nothing of the variance in performance; this is surprising but not   unexplainable. Because competition policy

was an entirely novel initiative in many developing countries when it was adopted, there was no baseline against which to compare an agency's performance. This may in fact be an artifact of the experience data and should not necessarily read to suggest that experience does not enhance performance. On the other hand, many of the incipient agencies were provided with considerable financial and technical support ensuring above average performance, at least at the outset. In addition, many competition agencies were advised to commence enforcement actions with manageable, relatively uncomplicated cases, to facilitate training and constituency building. The benefit of an experienced staff is best observed in disentangling complex cases; these may be yet to come in many cases. To the extent that this latter reasoning is true,one would not expect experience to account for any sizable portion of the performance gap. Only a closer examination of the complexity and difficulty of an agency's cases would settle this matter, a study that is best left for another time. As anticipated, income per capita does not seem to make a difference in explaining the performance gap. Size appears to matter, providing some support for the belief that small economies are more susceptible to price discipline resulting from trade rather than from antitrust activity.

Explanations for Performance Differences in Regional Groups and Income Groups

The regression analysis results presented above does not identify the relative importance of the various explanatory variables in contributing to the significant differences in agency performance across the various regional groupings and among three income groupings. Such an analysis would inform whether policy decisions should distinguish existing and planned programs and resource allocations between the countries arranged within the two sets of groupings.

To explore these issues we resort to the Blinder-Oaxaca decomposition procedure, a technique for parsing inter-group differences in dependent variable into those differences due to the averages between observable characteristics across groups and those due to different assessments of the characteristics of groups. We use the Blinder-Oaxaca decomposition to examine the performance gap between the various regional groupings and also between three income groupings. The technique is discussed in greater detail elsewhere (e.g. Blinder1973; Neumark 1988; and Oaxaca 1973). For our purposes, a succinct summary suffices. The Blinder-Oaxaca decomposition is an algebraic technique used to divide the difference in performance gap into two components. Thus, the observed performance gap between the OECD and Africa consists of the following:

1. The Characteristics (or Endowment) Component represents the portion of the performance gap due to differing characteristics between the two groups. For example, the OECD countries tend to have more experience with competition policy than African countries; one would expect their performance to be concomitantly higher. This is a characteristics effect.

2. The Coefficient Component represents the portion of the performance differential due to different estimated assessment of similar characteristics.

Therefore, if OECD countries are considered better performers than African countries because of the common presence of common law, it would be a coefficient effect. Put differently, the coefficient effect estimates the extent to which survey respondents differentially assess the characteristics of the OECD nations and the African nations. The coefficient effect also captures possible respondent biases as well as an agency's managerial or governance capacity that is not captured by the GDP per capita variable.

The difference between performance outcome, Y, for group i and j can be expressed as:

$$Yi\text{-}Yj = \text{ß}j(Xi - Xj) + Xj(\text{ß}i\text{-}\text{ß}j)$$

where Xi is a vector of means for the group characteristics and ßi is a vector of coefficient estimates for group i. The first term in the decomposition represents the part of the gap that is due to group differences in average values of the explanatory variables. The second term represents the part due to differences in the assessments of the particular group characteristic. The endowment effect can be further decomposed into the separate contributions from group differences in the explanatory variables, this is the focus of this section of the paper. However, instead of using the coefficient estimate for group j (ßj), we use the Neumark pooled sample estimates of the coefficients to weigh the first term (e.g. Neumark 1988). This Neumark coefficient is obtained from a pooled sample of the two groups.

Specifically, we decompose the variance in agency performance across the various regions of the world using the OECD as the benchmark; results are reported in Table 4, below. The individual contributions from group differences in affluence, experience, presence of corruption, and other explanatory variables are reported in the table below. This table provides both the amount attributed to each variable and its relative proportion in explaining the difference in performance gap between the regional groups and the OECD.

Table 4. Decomposition of Competition Agency Performance

Explanatory Variable	Africa	Asia	Eastern Europe	Latin America
Agency Performance	3.44	3.943	3.68	3.155
OECD	5.2	5.2	5.2	5.2
Gap	1.76	1.257	1.52	2.045
differences due to endowments	1.767	1.293	1.504	1.93
Contributions from differences in:				
Common-Law Present	-0.036	-0.007	0.034	0.008
	-2.0%	-0.5%	2.3%	0.4%
Antitrust-Law Present	0.108	0.166	0	-0.036
	6.1%	12.8%	0.0%	-1.9%
Ln Experience	0.056	-0.04	-0.015	0.171
	3.2%	-3.1%	-1.0%	8.9%
Intensity of Competition	0.669	0.09	0.427	0.587
	37.9%	7.0%	28.4%	30.4%
Corruption	0.8	0.444	0.61	0.836
	45.3%	34.3%	40.6%	43.3%
Ln of Income per Capita	0.175	0.596	0.424	0.355
	9.9%	46.1%	28.2%	18.4%
Ln of Size	-0.006	0.043	0.023	0.008
	-0.3%	3.3%	1.5%	0.4%

The presence of corruption appears to be more of a factor in Africa and Latin America than in Asia and in Eastern Europe. Put differently, corruption accounts for 45 and 43 percent of the observed gap in performance between the OECD and African and Latin American countries, respectively but only 41 percent in Eastern Europe and 34 percent in Asia. The results are displayed graphically in the figure below.

Figure 1. Importance of Corruption in Explaining Competition   Agency Performance
Gap
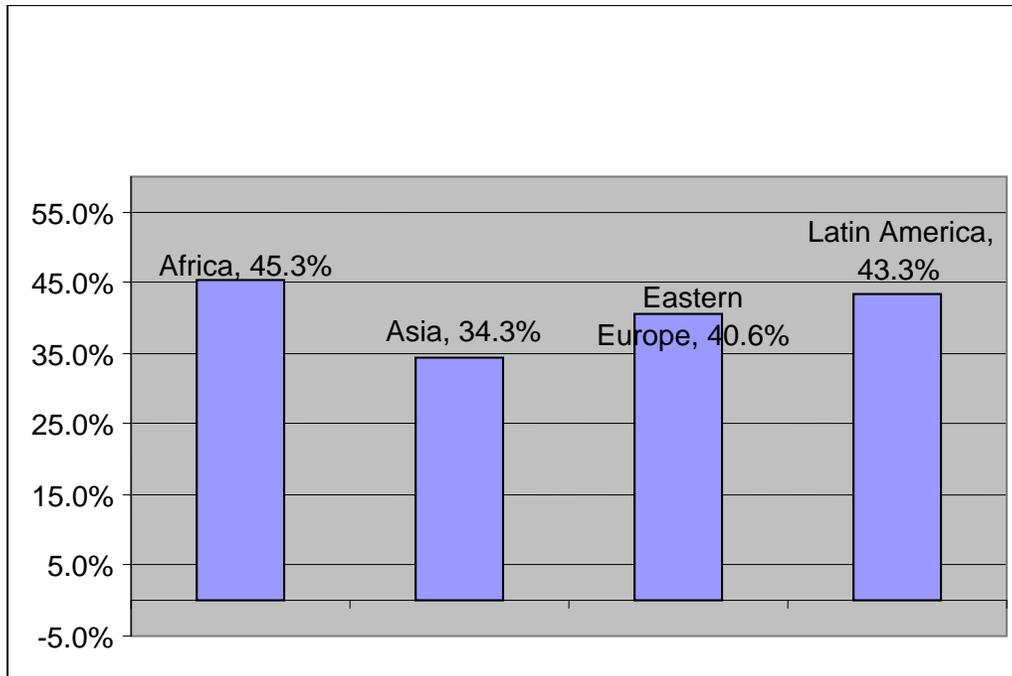
The intensity of competition in an economy which explained a significant portion of the observed performance variance in the pooled regression appears to be of considerable relevance in Africa, Eastern Europe and Latin America, but less so in Asia. In other words, the performance of Latin American competition agencies would increase by 38 percent in Africa if the region's economies would resemble the competitive intensity of the OECD countries. The seeming gains are of modest importance in Asia where the intensity of competition resembles that of the OECD more closely than the other groups.

We also decompose the variance in agency performance among countries grouped in terms of income levels. Specifically, a nation is categorized as Low-Income, Medium or High-Income category depending on their reported GDP per capita in 2003-2004. High income level countries serve as base point for the decomposition.

The results obtained from this alternative parsing are similar to the results obtained in the cross-section analysis on the entire data set. Succinctly, both the level of corruption, as well as the intensity of competition, explain the lion's share of the variation in reported competition agency performance between low and medium-income countries and the performance of competition agencies in the high income countries. Importantly, agency   performance   is   sensitive   to   disparities in income; income gaps account

for approximately 24 percent of the performance gap in low and middle-income countries.

CONCLUSION

We find that both the presence of corruption and the intensity of competition together accounted for a disproportionate share of the variation in cross-country performance. This result emerges from a ordinary least-squares linear regression across 102 countries.

But neither corruption nor the intensity of competition proved to be important in explaining the differences among all of the regions when the analysis was refined using the Blinder-Oaxaca decomposition technique to parse the influence of the explanatory variables among the various regions. That is, different regional endowments of the chosen explanatory factors contribute differently to the performance gap.

The presence of corruption was clearly relevant in all regions examined, but much more so in Africa and in Latin America. The intensity of competition was of considerable importance in explaining the gap between Africa and the OECD, but less so between Asia and the OECD.

When the decomposition was parsed across income per capita groupings, we found less difference to the regression across the entire data set. When grouped by gross domestic product per capita, corruption and the intensity of competition accounted for approximately 25 percent of the relative difference in competition agency performance.

What does this mean? First, the lessons are not general. Rather, the results indicate a diversified strategy may be in order. Corruption appears to coexist alongside ineffective competition policy regimes. Similarly, competition vigor appears to be a condition associated with strong agency performance; suggesting continued support for the reduction of state-sponsored trade barriers, entry limitations and other domestic and foreign competition-enhancing policies.

Competition policy consists of a law enforcement element and an advocacy element. Law enforcement targets violations of competition laws; advocacy addresses impediments to competition that are state sanctioned, such as non-tariff barriers to trade, regulatory barriers, among others. State-sanctioned elements can be, and often are, indistinguishable from corrupt practices. The results obtained are consistent with the view that more of a focus should be place on competition advocacy designed to hasten the elimination or reduction of non-tariff barriers and other impediments to trade especially state-sponsored impediments to trade.

One would also expect to see vigorous action by an agency to the extent that the presence of cartels and the presence of anticompetitive practices are responsible for poor competition intensity. But the opening of economies to market reforms may have fostered an increase in state-sponsored protections beyond the reach of the law and

beyond the reach of a timid, politically-disconnected competition agency.

Last, our results are also consistent with the view that competition enforcement and advocacy may be deliberately underutilized. The polity may prefer other instruments to manage competition. Our results should caution those advocating harmonization and further international collaboration on matters antitrust, of the need to either provide further support to these agencies or to reduce the expectations associated with competition agencies, including the possibility of recognizing that many jurisdictions may not necessarily benefit from having a competition enforcement agency.

APPENDIX

Data on the "Effectiveness of Antitrust Policy" and on the "Intensity of Local Competition" and are from the 2003-04 issue of the *Global Competitiveness Report* published by the World Economic Forum. The GCR surveyed businessmen to rate the effectiveness of the antitrust policy in their particular country, asking them to rate "antimonopoly" policy from "1=lax and not effective and promoting competition" to "7=effectively promotes competition". Similarly, Intensity of Local Competition ranks competition in the local market from 1 to 7, where "1 = limited in most industries and price cutting is rare" to "7 = intense in most industries as market leadership changes over time." Both variables are available for 102 nations. Because of control variable data limitations, the final two-stage least squares is reduced to 83 nations.

Data on national legal tradition is taken from Lee (2004), Mahoney (2001), and the CIA Factbook. As in Mahoney, non-common law countries were collapsed into one single set; indeed, drawing a distinction between the civil-law subfamilies appears to be a post-hoc rationalization. In fact, because most of the civil-law subfamily countries are in economically-advanced Western Europe, treating them together, contained within the non-common law group, entails a bias that makes the civil-law look better. Accordingly, COMMON LAW is a binary variable controlling whether a nation is characterized by the common law.

Data on Gross Domestic Product per Capita, Foreign Direct Investment, openness, size and population are from the World Bank's World Development Indicators online database. The variable OPEN represents openness, the sum of exports and imports as a percent of gross national product. The variable SIZE is surface area in square kilometers; foreign direct investment (FDI) represents net inflows as a percent of GDP; population (POP) represents total population. All variables were transformed into logarithms. Income level grouping binary variables were derived from the gross national product per capita data as is used in the Global Competitiveness Report (2003-2004): 4000 < LOW INCOME; 4000 <= MIDDLE INCOME < 17000; 17000 <= HIGH-INCOME.

Regional groupings (AFRICA, ASIA & MIDDLE EAST, Latin America-LATAM, and EUROPE) are all binary variables based on the groupings in the Global Competition Forum online database; countries in the OECD grouping are OECD members; any European country in the OECD group was excluded from the EUROPE grouping (countries from other regions were treated in the same manner).

Data on the "inaugural" date of competition legislation is from Lee (2004), the Global Competition Forum online database and the OAS (2002). We updated the list of countries in Lee by adding the following countries: Angola (Cotonou), Antigua & Barbuda, Barbados, Benin (Cotonou), Bolivia (Constitutional provision), Bostwana (Cotonou), Cameroon, Cote D'Ivoire was changed from 1978 to 1991, Dominican Republic (Constitutional proscription) Ecuador (Constitutional provision), El Salvador (Constitutional provision), Egypt (Euro-Mediterranean Agreement, June 2000), Ethiopia (Cotonou), Gambia (Cotonou), Greece, Honduras (Constitutional provision),Hong Kong (Telecomm prohibitions), Jordan,   Macedonia,   Madagascar   (Cotonou), Malaysia (various other laws have competition

elements), Namibia, New Zealand, Nicaragua (Electric Sector Law, Telecom Law, Financial Sector Law), Nigeria (Cotonou), Paraguay (Constitutional provision), Phillipines (Constitutional provisions), Serbia, Singapore, Trinidad & Tobago (other laws), Uganda (Cotonou), Ukraine, Uruguay, Vietnam,   The Cotonou agreement entered into force on April 1, 2003. Competition legislation in some countries is found in constitutional proscriptions, in sectoral legislation or in treaty agreements. Thus, the parenthetical associated with the list of countries above alludes to the particular source of the competition law. EXPERIENCE represents a nation's experience with competition law, in years. It is calculated as of 2004; thus, a nation that inaugurated a competition law in 2003 will have one year of experience.

To measure Corruption we used Transparency International's "Corrupt Practices Index" (Transparency International). The corruption index scores range from 0 = highly corrupt to 10 = highly clean. The corruption data set was inverted by multiplying by (-1) to facilitate their interpretation by associating increases in corruption with an increasing scale. Two data sets on ethnic and linguistic fractionalization are used: Fearon (2003) and Alesina, Devleeschauwer, Easterly, Kurlat & Wacziarg (2003).

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