# Corruption and Stock Market Development: Developing vs. Developed Economies

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## Summary

This paper looks at the impact of corruption on stock market development in developing versus developed economies. While it is fairly well-known that corruption has negative effects on economic growth in general, our more narrow focus reveals a dichotomy in terms of its effects on stock market growth. In particular, we provide evidence that when it comes to stock market development, reducing corruption may only impact economies beyond a certain development threshold.

Our results highlight an interesting dichotomy. First, we show that developed economies exhibit a significant negative relationship between corruption and stock market capitalization, though the magnitude of corruption's impact decreases as the economy's stock market becomes more developed, ceteris paribus. Second, however, we also show that the relationship between corruption and stock market capitalization for developing economies is far less important, often showing as insignificant. Third, we show that corruption's negative effect on stock market size (market capitalization) comes at least in part from the fact that it reduces the number of listed firms. This makes intuitive sense since corruption increases transaction costs for firms and, in turn, raises the costs firms must cover to expand, invest, and list on stock markets. Therefore, our results also

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provide evidence of a mechanism through which corruption hinders stock market development: by keeping firms from listing on stock markets.

To arrive at our results, we first set up, calibrate, and numerically solve a simple model that formalizes the impact of reducing corruption on stock market size for developed and developing countries. In our model, corruption forces firms to incur an additional cost before they can operate and list on the stock market, a cost that could be thought of as necessary to pay bribes or overcome excessive red-tape. In developed economies, where such costs are lower to begin with and firms are more productive (and therefore more profitable), a reduction in the cost of corruption can increase stock market size by enabling more firms (even those with lower productivity) to afford to list on the stock market. In developing economies, on the other hand, where firm productivity is lower and corruption is higher to begin with, reducing corruption marginally may have no effect on firms' ability to enter the stock market. The difference is that in these economies, the cost of corruption remains prohibitive enough for additional firms to list, even with a small decrease. Therefore, reducing corruption in developing economies may have no impact on stock market size even though it increases it in developed economies.

We then use a panel data set of 87 countries over the period of 1995 to 2017 to test our model's predictions. Employing a static fixed effects model, we find that reduced corruption does increase an economy's stock market development, but that this effect is only statistically significant for developed economies, and that the marginal effect decreases with income, confirming our model's predictions. We then verify the robustness of our results by estimating our panel data set in a dynamic setting using system GMM, which can control for endogeneity concerns, and by testing our results with alternate proxies for stock market size and the measurement of corruption.

In our baseline treatments, we use stock market capitalization as a share of GDP to capture stock market development. This variable is defined using the share prices of listed domestic companies (in USD) times the number of shares outstanding divided by a country's GDP (also in USD) so that it is in percentage terms rather than currency units. As alternate variables to test for robustness, we also use the number of domestic companies listed in an economy, stock market volatility, and stock market capitalization as a share of gdp. For a measure of corruption

we use the Corruption Perceptions Index (CPI) from Trans- parency International, but also use the Control of Corruption measurement from the world Bank's World Governance Indicators database as an alternative measurement variable in our robustness checks.[1] Both are well known in the literature, and are comprehensive scores for countries based on factors such as levels of distrust in public institutions, the number of bribes or irregular payments necessary to accomplish tasks, contract enforcement, and legal protection. Countries are classified as developed (developing) based on whether their income per capita exceeds (falls below) $12,535, which is the World Bank's criterion, though our results are robust to alternate thresholds and quantile regression.

In all our treatments, the results are qualitatively the same and are in accordance with our theoretical model's predictions. Our empirical findings show that corruption has a significant negative impact on stock market development for higher income economies, but not for lower income economies. And the fact that our results remain consistent with our alternative measurement of market development, the number of domestic firms listed, may be evidence of a mechanism by which corruption impacts overall stock market capitalization: the ability of firms to list.

More generally our results may be interpreted as evidence that corruption is a major factor that contributes toward stock market development, but that other factors such as income and investment (overall productivity) may be more important before corruption is as much of a concern. These results seem to confirm the importance of macroeconomic fundamentals for stock market development, indicating that policies to curb corruption will enhance efficiency and functioning, but that macroeconomic fundamentals may be a key precursor.

[1]See https://www.transparency.org/en/cpi/2021 and https://info.worldbank.org/governance/wgi/ for more information on these indicators.