

CORRUPTION AND CHANGE: THE IMPACT OF FOREIGN DIRECT INVESTMENT

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This study examines influences on the level of corruption in countries from a strategic perspective. Corruption is one of the country-level influences on market entry, investment, and other decisions fundamental to strategic management at the international level. The study examines the impact on corruption of change in levels of foreign direct investment (FDI). It uses the Corruption Perceptions Index (CPI) scores computed by Transparency International for 1999 and 2000. Results indicate that the more rapid the rate of change in FDI, the higher the level of corruption. Higher levels of perceived corruption are associated with each of two dimensions of national culture: uncertainty avoidance and masculinity. Research and managerial implications are also discussed. Copyright © 2004 John Wiley & Sons, Ltd.

INTRODUCTION

“Corruption levels are perceived to be as high as ever in both the developed and developing worlds”

Chairman Peter Eigen of Transparency International, Paris, June 27, 2001

Fundamental to international strategy are decisions involving selection of countries in which to do business, and the extent of investment in each country. One of the factors influencing the foreign direct investment (FDI) decision is the level of corruption in the host country (Mauro, 1995; Wei, 2000). Indeed, in some regions of the world engaging in corruption is essentially unavoidable (Getz and Volkema, 2001). Patterns of corruption have triggered recent public scandals in countries such as France, Indonesia, and Argentina. The United

States is not untainted by private payments for corporate gain, as evidenced by many recent examples of political contributions to gain favorable rulings by government agencies and bribes to secure construction projects. These questionable practices affect investment patterns at the firm level, and hence, in aggregate, at the country level. Thus they are of relevance to firms, governments, and scholars of international strategy (Cassel, 2001; Hosmer, 1994, 2000).

Fittingly, international studies of corruption have burgeoned in recent years (e.g., Husted, 1999; Volkema and Chang, 1998). This new wave of empirical research has finally begun to supplement the more developed conceptual and model development arm of cross-cultural corruption research (Davis, Johnson, and Ohlmer, 1998; Robertson and Fadil, 1999; Wines and Napier, 1992). The German anti-corruption group Transparency International has contributed greatly to empirical corruption research, particularly by publishing the Corruption Perceptions Index (CPI) on an annual basis since 1995. The strategic nature of foreign market

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analysis and FDI decisions, and the sheer weight that corruption patterns have on these decisions, reinforces the relevance of corruption research to strategic management.

Two developed streams, and one burgeoning stream, are apparent in the literature that seeks to explain between-country differences in corruption. One of these streams provides an account of corruption in terms of economics (e.g., Shleifer and Vishny, 1993; Wei, 2000). The second stream provides an account of corruption in terms of national culture (e.g., Wines and Napier, 1992). These two streams have recently started to mingle (e.g., Getz and Volkema, 2001; Husted, 1999), thus producing a third, integrative, stream. We regard this third stream as particularly relevant to strategic decision making, since it simultaneously considers 'hard' (economic) and 'soft' (cultural) variables.

The current study is a contribution to this integrative third stream of research. It is distinctive within the stream in that it focuses on change, with a keen eye on the impact of changes in FDI on shifting corruption patterns. This research line differentiates itself from extant research in two ways. First, it is dynamic, in that it focuses on change in, rather than level of, FDI. Second, while building on research that examines the impact of corruption on FDI, and acknowledging this impact, the current study examines the link from a different perspective: it identifies the impact of change in FDI on corruption. This multidimensional focus on change, FDI, and corruption is clearly exploratory in nature. Thus, the overall objective of this paper is to determine if the speed of FDI inflows and outflows influences corruption patterns. A secondary objective is to examine the influence on corruption of those dimensions of national culture most relevant to change.

INFLUENCES ON CORRUPTION PATTERNS

A broad range of definitions of corruption has been proposed by both scholars and practitioners. For our purposes we employ the definition developed by Getz and Volkema (2001: 9): 'the abuse of public roles and resources for private benefit or the misuse of office for nonofficial ends.' The most common forms of corruption in international business that affect strategic maneuvering are bribery, extortion, and embezzlement. In the context of this

paper we refer to corruption in the general sense, as a comprehensive term for the myriad forms of corrupt activities that occur on a global scale. Moreover, it should be noted that we are measuring *perceived corruption* using the Transparency International data (We describe this and other measures in the Methods section).

Many scholars of corruption have elected to examine this phenomenon from an economic perspective (i.e., Brunetti, 1995; Mauro, 1995; Nye, 1979; Shleifer and Vishny, 1993; Rose-Ackerman, 1999). Mauro (1995), for example, found that corruption has a negative effect on investment, thus resulting in less economic growth. Goudie and Stasavage (1997) concluded that corruption is, in part, a result of the level of efficiency in a country. Corruption has also been found to have a positive impact on economic growth and development (Nye, 1979). The economists have developed two fundamental arguments against bribery and corruption. First, corruption has a *disincentive* effect on investment, since it increases the risk and uncertainty faced by potential investors (Getz and Volkema, 2001), as well as adding bribes and other dubious expenses to the costs of doing business.

Second, corruption has *distortionary* effects (Goudie and Stasavage, 1997). In particular, monies paid for bribery are inefficiently allocated resources. Shleifer and Vishny argue that corruption is 'much more distortionary and costly than its sister activity, taxation' (Shleifer and Vishny, 1993: 599). Corruption, unlike taxation, must usually be kept secret, and there is a cost to this secrecy that has no counterpart in the realm of taxation. This highlights the managerial relevance of corruption in a country; in assessing the cost of doing business in a particular country, firms and their managers should consider the level of corruption even more carefully than the level of taxation.

Corruption has also been studied from a cultural perspective. While numerous researchers have developed conceptual models and propositions that support culture's influence on corruption and ethics (i.e., Vitell, Nwachukwu, and Barnes, 1993; Wines and Napier, 1992) few empirical studies of this relationship have been performed. Robertson *et al.* (2002), in a study of managers from Chile, the United States, Australia, and Ecuador, concluded that culture does indeed influence the variation in ethical judgments across borders. Ralston *et al.* (1993) found that Hong Kong and U.S. managers

shared few cultural similarities in their perceptions of ethical behavior. Conversely, Abratt, Nel, and Higgs (1992) examined the ethical beliefs of managers from South Africa and Australia and determined that culture had no impact on ethical beliefs. Other studies have been conducted, but there appears to be no consistency in methodology, sample selection, or level of analysis.

While the economic and cultural aspects of culture are further along in the literature, few researchers have attempted to blend these two areas into a more comprehensive analysis. Two recent studies have mixed the economic and the cultural. Husted (1999) examined the impact of income per capita and culture on corruption and he found that a significant inverse relationship exists between income per capita and perceptions of corruption. A number of relationships between culture and corruption were also identified. Getz and Volkema (2001) developed and tested a model that included culture, economic factors, and corruption. They concluded that economic adversity was positively related to corruption and that culture played a moderating role.

The concept of change has been essentially overlooked in economic, cultural, and mixed studies of corruption. And while corruption is generally assumed to be a predictor of investment flows, few scholars have challenged the direction of this relationship. In this article, we link corruption to change. Change, although rarely studied by corruption researchers, resonates with numerous cross-cultural issues and has been recently examined in light of such themes as championing strategies, trade missions, and economic development (Ralston *et al.*, 1997; Shane and Venkataraman, 1996; Shane, 1995; Wilkinson and Brouthers, 2000). Changes in country-level wealth can be attributed to increases and/or decreases in foreign direct investment. Indeed, additional factors also affect this relationship between income and investment. Variables such as the abundance of natural resources (oil in Venezuela), the level of innovation (the hi-tech sector of Bangalore in India), governmental philosophy on trade (the level and scope of trade barriers), and the cultural tendencies (such as nationalism, language abilities, education, and cultural distance) as well as other factors influence investment decisions and patterns (Getz and Volkema, 2001; Guillou, 2000; Husted, 1999; Puffer and McCarthy, 1995). Based on numerous economic, historical, and geopolitical factors,

nations experience varying degrees of FDI annually (Kogut and Singh, 1988).

While the impact of FDI on corruption patterns is essentially unknown, an analysis of data and global trade patterns reveals that a relationship is quite plausible. For example, due to its glasnost policy in the late 1980s Russia experienced a major jolt in FDI immediately after the fall of Communism and the break-up of the Soviet Union in 1991. Since the Soviet Union's collapse corruption in Russia has been rampant (Puffer and McCarthy, 1995). Other former Communist nations, such as Estonia, the Czech Republic, and Poland, which experienced a more gradual, incremental flow of FDI, have consistently maintained a much lower degree of corruption.¹ It appears that the speed and magnitude of foreign investment could very well play a role in country-level corruption patterns.

While Husted (1999) concluded that industrialization makes a difference, FDI was not included in his analysis. We go a step further in our assertion that the *speed* of industrialization makes a difference. Earlier studies have recognized that speed makes a difference in phenomena such as the adoption of unfamiliar values or technologies (Ralston *et al.*, 1997; Shane, 1995). When a country is inundated with a disproportionate level of FDI in a short period of time, a jolt to the moral framework is more likely because of the sheer multitude of trade values that are involved.

The theory of *moral intensity* has a strong footing on each side of the economic and cultural debate about corruption. This theory also addresses the notion of timing and change. The basic premise of moral intensity is its focus on the moral issue, rather than the moral agent or the organizational context (Jones, 1991). According to Jones (1991) moral intensity consists of six components: the magnitude of the consequences, social consensus, probability of effect, temporal immediacy, proximity, and concentration of effect. Three of these subparts are conceptually linked to our theoretical position in this study. The first is social consensus, which is defined as the degree of social agreement that a proposed act is evil or good (Jones, 1991). The second is temporal immediacy, or the length of time between the present and the onset of

¹The 1999 and 2000 CPI rankings for these nations are as follows: 1999, Estonia 27th, Czech Republic 39th, Poland 44th, Russia 82nd; 2000, Estonia 27th, Czech Republic 42nd, Poland 43rd, Russia 82nd.

consequences of the moral act in question (Jones, 1991). The third is proximity, which is the feeling of nearness (social, cultural, psychological, or physical) that the moral agent has for victims of the immoral act in question (Jones, 1991). Cultural and economic perceptions of different issues are likely to vary depending on the varying weight of each of the moral intensity components.

HYPOTHESES

The first relationship that we seek to examine is that a large increase in FDI flowing into a country will result in a higher level of corruption. An increase in FDI by definition represents a larger amount of foreign money flowing into the country, and hence an expansion of the opportunities for bribery (Smarzynska and Wei, 2000). Take the example of Ecuador, a nation that adopted the U.S. dollar as its currency in 2000 and has experienced a resurgence of economic growth and an influx of FDI. Ecuador's economy grew by 5.4 percent in 2001 yet *corruption* went up; Ecuador's 2001 corruption 'clean' score dropped by 13 percent, and the country fell from 74th to 79th in the overall rankings (www.transparency.org). Spikes in FDI may indeed create more opportunities for corruption in the short run. Further, FDI is likely to represent an eagerness on the part of foreign firms to take an opportunity presented by the target country. This eagerness may tempt host country nationals to resort to corruption as a means of sharing in the opportunities for profit presented by their own country.

In order to move from prediction to hypothesis, it is necessary to be more specific about the nature of the relationship between change in FDI and perceived corruption. Based on this relationship we present three hypotheses (Hypotheses 1a, 1b, and 1c), similar in that each is consistent with the prediction, but different in the shape of the line linking the two variables. Each arc has been plotted on a graph (Figure 1) ranging from hypothetical points negative 10 to positive 10, with a midpoint of zero. Therefore, Figure 1 illustrates the three hypotheses and the corresponding lines, which we refer to as: (a) linear; (b) V-shaped; and (c) U-shaped.

The first of these relationships is the simplest translation of the above rationale into a hypothesis. According to Jones (1991) and his notion

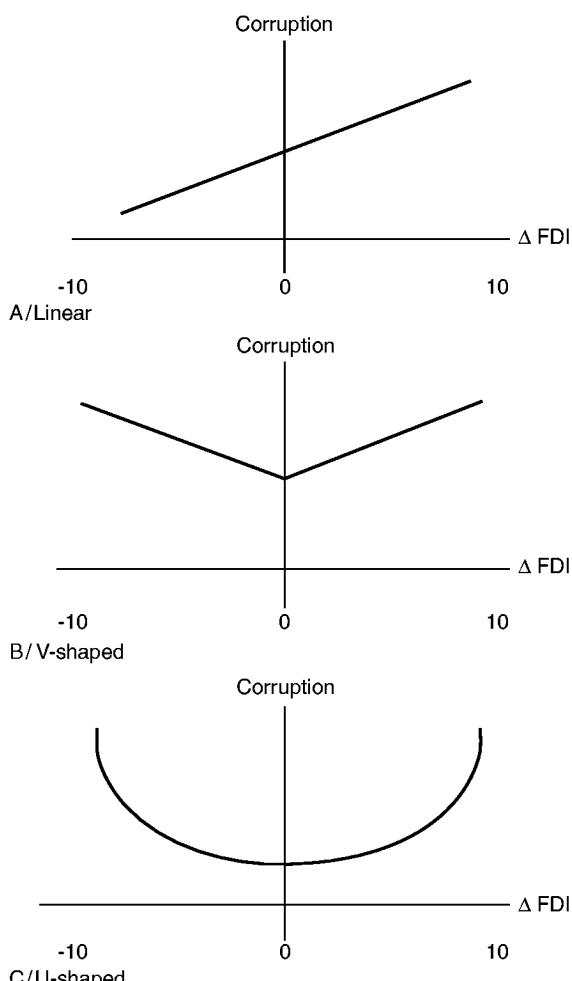


Figure 1. Hypothesized relationship between FDI change and corruption

of temporal immediacy, people tend to discount the impact of events that occur in the future. The consequences of occurrences, such as rapid changes in FDI, that are closer to the present tend to carry more moral weight (Jones, 1991). Thus, this hypothesis is consistent with literature that supports a linear link between corruption and antecedents such as economic adversity (Getz and Volkema, 2001), and income per capita (Husted, 1999). Therefore:

Hypothesis 1a: The more rapid the rate of change in FDI into a country, the higher the perceived level of corruption.

The next plausible relationship between FDI change and corruption is V-shaped. The shape of

the corresponding graph is similar to that of the linear relationship for increases in FDI, but different for decreases. This prediction incorporates the absolute value of the FDI rate of change, thus capturing both inflows and outflows of FDI. Thus, not only do increases in FDI lead to higher corruption but decreases in FDI do as well. In theory, a rapid withdrawal or drop-off in FDI creates a situation in which resources become scarce. Fewer contacts and joint venture partners are now available and the competition for foreign monies creates an environment in which corruption may flourish. Clearly the current crisis in Argentina is an example of what happens when foreign investors pull out. The collapse of the Argentine economy in late 2001, combined with a 5-year recession and political turmoil, has led to a rapid decrease in FDI levels and a jolt in corruption (Moore, 2002). Further, as income per capita drops, due to less wealth created by foreign investors, corruption goes up (Husted, 1999). Based on this rationale:

Hypothesis 1b: The more rapid the increase or decrease in FDI into a country, the higher the perceived level of corruption.

The third possible form of the relationship resembles the second, in that there is a point of inflection in the line. However, this third line is smoother than the second (see Figure 1, and compare b and c). Moreover, it illustrates that the effect of change in FDI on corruption is more than linear, in that it shows particularly strong effects on corruption when the change in FDI is large. This is consistent with the above discussion of abrupt 'jolts' as having a marked effect on corruption. Therefore:

Hypothesis 1c: The perceived level of corruption increases with the square of change in FDI into a country.

We now turn from our economic antecedent to our cultural antecedents of corruption. The moral intensity components, social consensus and proximity support the notion that culture plays a role in ethical behavior (Jones, 1991). With our focus on change we consider the dimensions of culture most relevant to change: uncertainty avoidance and masculinity (Hofstede, 1997). Moreover, the speed with which the FDI occurs serves as a catalyst to this relationship between corruption

and uncertainty. This relationship between uncertainty avoidance and corruption has been examined and tested—but prior tests have not controlled for change in FDI. Getz and Volkema (2001) supported the hypothesis that higher uncertainty avoidance leads to higher corruption. For example, Husted, (1999: 345) views corruption as 'a mechanism to reduce uncertainty,' and his results appear to validate this assertion. He does, however, acknowledge that prior research (Cohen, Pant, and Sharp, 1996) suggests that the relationship between uncertainty avoidance and corruption may work in the opposite direction. There are therefore grounds for concern about the robustness of the link between uncertainty avoidance and corruption. Of particular relevance here is that this has yet to be explored in the presence of the additional variable of rate of change in FDI. The next of our hypotheses is a prediction that the link will be robust.

Hypothesis 2: The higher the level of uncertainty avoidance in a country, the higher the perceived level of corruption.

A positive relationship between masculinity and corruption has also been established (Getz and Volkema, 2001; Husted, 1999). The idea here is that the masculine values of assertiveness, aggressiveness, and materialism tend to associate with a higher degree of corruption than do feminine values, which tend to be more social (Hofstede, 1997). While Hofstede's primary level of analysis is the cultural level, his work does relate to the wealth of studies that have focused on how men and women differ (Gilligan, 1982). Of course, a masculine culture can indeed include women, and a feminine culture men, yet it is the masculine trait of materialism that is the primary driver of the link to corruption. Greed and lust for the accumulation of individual wealth are traditional pillars of corruption (Husted, 1999). Hence, in masculine cultures, actions tend to be biased toward acquisition, even when the actions involve corruption. Again, the hypothesis states a test of the robustness of the link between culture and corruption when change in FDI is present in the model:

Hypothesis 3: The higher the level of masculinity in a country, the higher the perceived level of corruption.

METHODOLOGY

Measures

The data set for the study was procured from Transparency International, World Bank, and other published, archival sources (see full listing in Table 1). Our examination of the link between FDI and corruption differs from that of prior researchers in that corruption is our dependent variable, rather than our predictor variable. We

measured corruption using the Corruption Perceptions Index (CPI) scores computed by Transparency International. In the interest of robustness we took measures for 2 years: 1999 and 2000.

Transparency International computes the CPI annually as a composite of a number of independent surveys (see Table 2 for a list; also Transparency International publishes an online comprehensive background paper on the CPI methodology each year. The paper can be found at www.transparency.org). These surveys differ

Table 1. Data sources

Data	Source
CPI	Transparency International, www.transparency.de
BPI	Transparency International, www.transparency.de
GNP total	World Bank, www.worldbank.org (1998, 1999)
GNP per capita	World Bank, www.worldbank.org (1998, 1999)
Hofstede's scores	Geert Hofstede. <i>Cultures and Organizations: Software of the Mind</i> , 1991
FDI	World Bank, www.worldbank.org (1998, 1999)
Government consumption as a % of GDP	<i>International Financial Statistics Yearbook</i> (1998, 1999)
Total consumption as a % of GDP	<i>International Financial Statistics Yearbook</i> (1998, 1999)

Table 2. Transparency international sources for 2000 CPI

Source	Year(s)	Coverage	Respondents
Political and Economic Risk Consultancy (PERC)	1998	12 Asian countries	Expatriate executives
PERC	1999	12 Asian countries	
PERC	2000	14 countries	
Institute for Management Development (IMD)	1998	46 countries	Executives in domestic and foreign firms
IMD	1999	47 countries	
IMD	2000	47 countries	
Economist Intelligence Unit (EIU)	2000	115 countries	Experts: EIU staff
International Crime Victim Survey (ICVS)	1999/2000	11 countries	General public
World Bank	1999	20 transition economies	Senior executives
Freedom House	1998	28 transition economies	Experts: FH staff and academics
World Economic Forum (WEF)	1998	53 countries	Business leaders; domestic and international firms
WEF	1999	59 countries	
WEF	2000	59 countries	
WEF (Africa competitiveness report)	1998	20 African countries	
WEF	2000	26 African countries	
Political Risk Services (PRS)	2000	140 countries	Experts: PRS staff

Note 1: The sources used differ from year to year. Hence the CPI allows cross-sectional comparisons, but not longitudinal comparisons.
Note 2: The table is based on the Appendix to Lambsdorff (2000).

with respect to respondents and items used, but are strongly correlated (Lambsdorff, 2000). Target questions typically include questions that range from the frequency of corruption in various contexts (such as obtaining permits, avoiding taxes) to the common occurrence of bribery to politicians, senior civil servants, and judges. Moreover, all of these sources employ a degree of corruption measure which adds consistency and reliability to the final compiled scores (Lambsdorff, 2000). In most cases, the sample designs are restricted to business practitioners who are local residents.

The CPI score for 1999 includes 99 countries and 80 for 2000. We used Husted's (1999) transformation of the CPI in order to make values of this corruption variable more intuitive: we inverted the 0 to 10 scale by subtracting each country's score from 10, thus making a 10 the most corrupt country and a 0 the least corrupt. The CPI has been a focal variable in a number of recent international studies of corruption and its validity appears to be strong (i.e., Getz and Volkema, 2001; Heidenheimer, 1996; Husted, 1999; Volkema and Chang, 1998).

The independent variables for the study fall into two categories: change in FDI variables and cultural variables. We computed three FDI change variables, one for each of the hypothesized relationships (i.e., linear, V-shaped, and U-shaped). The first, linear change in FDI, was computed by taking the raw changes from one year to the next. For example, FDI into Argentina changed from U.S. \$6.670 billion in 1998 to \$23.929 billion in 1999, and so for Argentina, *FDI linear change* took the value 2.59 [(23.929 - 6.670)/6.670]. This variable therefore captures our construct of developmental speed, with the opportunities for corruption that it presents, that has been employed in Hypothesis 1a. The *FDI V-shaped change* variable was created by taking the absolute value of *FDI linear change*, thus capturing both the positive and negative flow of FDI. The *FDI U-shaped change* was created by squaring the *FDI linear change* variable. The FDI figures, for 1998 and for 1999, were obtained from the World Bank statistical unit (www.worldbank.org).

Due to the varying speed in which FDI, and its accompanying influences, assimilates into a society we intentionally calibrated a 1- and 2-year lag-time between the independent and dependent

variables. Thus we collected 1998 data for all control variables, with the exception of Hofstede's earlier measures, which are assumed to be constant. We then collected FDI figures for 1998 and 1999, and CPI scores for 1999 and 2000. This enabled us to determine if timing is also an issue in our hypotheses.

The two cultural predictor variables, Masculinity and Uncertainty Avoidance, were based on Hofstede's (1997) cultural dimension scores from an earlier multinational study of cultural values. Although Hofstede's measures have been criticized as being less useful over time (Sivakumar and Nakata, 2001), recent studies (e.g., Brouthers and Brouthers, 2001; Chandy and Williams, 1994; Shane, 1995) have upheld the theoretical and empirical value of his constructs and measures.

Additional control variables consisted of Gross National Product, GNP per capita, Government Consumption as a percentage of GNP, FDI as a percentage of GNP, and Hofstede's variable power distance.² We selected these particular control variables, since they are both consistent with prior macro-level studies of FDI and Corruption, and also make theoretical sense in our regression model (Guillon, 2000; Husted, 1999; Wilkinson and Brouthers, 2000). We lagged the control variables in the same way as the predictor variables; hence we used 1998 data.

RESULTS

The means, standard deviations, and correlations are presented in Table 3. The mean GNP per capita was U.S. \$7914, which compares to U.S. \$5770 by Getz and Volkema (2001) and U.S. \$12,828 by Husted (1999). Although the correlations between corruption and GNP per capita, and corruption and power distance, indicate a potential for multicollinearity, our use of the robust method of OLS hierarchical regression to test the hypotheses generally prevents any undue influences (Husted, 1999). Nevertheless, we followed up with diagnostic statistical collinearity tests that measure Variance Inflation Factor (VIF), which is provided

² We initially included individualism in our analysis but, since it was insignificant in our initial model, and in order to be consistent with Husted (1999), we decided not to include this variable in our final model. The variance explained by individualism was not significant and there was no material effect on the significance of our results.

Table 3. Descriptive statistics and correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Corruption	5.39	2.35	1.00									
2. GNP per capita	7914	10844	-0.85***	1.00								
3. GNP	75.4	919.7	-0.25**	-0.40***	1.00							
4. Consumption	0.16	5.39	-0.42***	-0.32**	-0.03	1.00						
5. Power distance	56.35	22.07	0.71***	0.60***	0.16	0.66***	1.00					
6. Masculinity	48.58	19.00	0.22	0.02	-0.31*	0.24	-0.09	1.00				
7. Uncertainty	66.69	25.00	0.43**	0.30*	0.04	0.13	-0.22	0.01	1.00			
8. Linear FDI Δ	0.18	1.04	-0.04	-0.19	-0.20*	0.20	0.11	-0.10	0.13	1.00		
9. V-shaped FDI Δ	0.61	0.85	-0.03	0.07	0.12	-0.20	0.07	0.08	-0.02	0.85***	1.00	
10. U-shaped FDI Δ	1.09	4.80	-0.10	-0.01	0.05	-0.26*	0.12	0.02	-0.08	0.81***	0.90***	1.00

Note 1: Two-tailed tests; N s ranged from 43 to 102; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Note 2: Scores are based on 1998 figures except Corruption; CPI, 1999; CPI 2000.

Note 3: GNP per capita in thousands; GNP in billions; Government size equals total government consumption as a % of GDP.

Table 4. Results of hierarchical regression analysis for CPI 1999

	Model 1	Model 2	Model 3	Model 4
<i>Control variables</i>				
GNP per capita	-0.73***	-0.72***	-0.71***	-0.71***
GNP	0.05	0.03	0.03	0.04
Consumption	-0.12	-0.05	-0.06	-0.05
Power distance	0.11	0.15	0.12	0.13
FDI per capita	-0.09	0.01	-0.03	-0.02
<i>Predictor variables</i>				
Masculinity		0.24**	0.20*	0.25**
Uncertainty		0.17**	0.16*	0.17*
Linear change in FDI		0.17**		
V-shaped change in FDI			0.14*	
U-shaped change in FDI				0.15*
Model R^2	0.81	0.86	0.85	0.85
ΔR^2		0.05*	0.04*	0.04*
F	23.99***	23.31***	21.89***	21.93***

Note: One-tailed tests for the significance of t; all Beta coefficients are standardized.

by the SPSS software. The results of these tests revealed that our VIFs ranged from 1.09 to 1.96 (and all tolerance levels above 0.51). According to Fox (1991), a VIF of above 4.0, or a tolerance level below 0.25, may indicate the potential for multicollinearity; thus the concern in our models appears minimal.

In Tables 4 and 5 the results from our hierarchical regression analyses are presented. An independent model was run for each dependent variable (CPI 1999 and CPI 2000) and each model consisted of four stages where control variables were entered in stage 1 and predictor variables in stages 2, 3, and 4. The results indicate support for Hypotheses 1a, 1b, and 1c, for both the 1999 and 2000 models. Thus it appears that changes in foreign direct investment lead to higher perceived

levels of corruption in a country. Further, our results indicate that the linear, V-shaped, and U-shaped relationships are all plausible. For the 1999 Corruption Perceptions Index the overall models were significant (F ranges from 21.89 to 23.31; $p < 0.001$) and the *FDI linear change* variable was significant at the 0.01 level ($\beta = 0.17$). *FDI V-shaped change* ($\beta = 0.14$, $p < 0.05$) and *FDI U-shaped change* ($\beta = 0.15$, $p < 0.05$) were also significant. This pattern held for the 2000 CPI model as well (F ranges from 19.98 to 20.35; $p < 0.001$) with significant parameter estimates for all three FDI predictor hypotheses. Moreover, the R^2 (1999 = 0.85; 2000 = 0.86) and ΔR^2 for both models was strong and significant.

Hypothesis 2 posited that higher levels of uncertainty avoidance are related to higher perceived

Table 5. Results of hierarchical regression analysis for CPI 2000

	Model 1	Model 2	Model 3	Model 4
<i>Control variables</i>				
GNP per capita	-0.69***	-0.65***	-0.64***	-0.63***
GNP	0.02	0.03	0.01	0.01
Consumption	-0.08	-0.03	-0.04	-0.02
Power distance	0.16	0.22	0.21*	0.21
FDI per capita	-0.12	-0.06	-0.08	-0.07
<i>Predictor variables</i>				
Masculinity		0.22*	0.21*	0.22*
Uncertainty		0.14*	0.14*	0.15*
Linear change in FDI		0.16*		
V-shaped change in FDI			0.14*	
U-shaped change in FDI				0.15*
Model R^2	0.82	0.86	0.86	0.86
ΔR^2		0.04*	0.04*	0.04*
F	22.49***	20.35***	19.98***	20.07***

Note: One-tailed tests for the significance of t ; all β coefficients are standardized.

levels of corruption. The results from Tables 4 and 5 also support this hypothesis. The uncertainty variable was significant in both models (1999 $\beta = 0.17$, $p < 0.01$; 2000 $\beta = 0.14$, $p < 0.05$) which is indicative of a strong relationship between this cultural dimension and corruption perceptions, even when change in FDI is controlled for.

As predicted in Hypothesis 3, a positive significant relationship was identified between masculinity and CPI (1999 $\beta = 0.24$, $p < 0.01$; $\beta = 0.22$, $p < 0.05$) which suggests that nations that embrace masculine values, such as materialism and assertiveness, tend to have a higher degree of perceived corruption.

One additional relationship identified by the models is noteworthy. The link between GNP per capita and CPI was highly significant in both models (1999 $\beta = -0.72$, $p < 0.001$; 2000 $\beta = -0.65$, $p < 0.001$) which is consistent with prior research (Getz and Volkema, 2001; Husted, 1999). This finding emphasizes the strength of this relationship despite the inclusion of additional control and predictor variables.

DISCUSSION

The purpose of this study was to incorporate the concepts of change and foreign direct investment into the cross-cultural corruption research stream. In particular, we posited that the rate of change of FDI would influence national perceived levels of

corruption. The empirical support for Hypotheses 1a, 1b, and 1c lends credence to our claim and this finding may be an intriguing crossroads for future corruption and international strategy research. One road for future research may lead to further investigation of the relationship between FDI and corruption; for example, does this relationship differ between geographic regions? Another road may lead to further investigation of the relationship between change, culture, and corruption. For example, if two diverse cultures, such as Vietnam and Bolivia, both experience a rapid influx of FDI will corruption patterns be similar or different? And why? Future research can help to better pinpoint which arc, from Figure 1, best describes the nature of this relationship for a given region.

Prior work in this domain has assumed that FDI flows are affected by the level of corruption. While we agree that this direction exists, the possibility of a bidirectional relationship, with FDI flows affecting corruption, has been essentially overlooked. The idea of cultural convergence, where developing nations are becoming more westernized as a result of foreign MNC influence, also supports this claim. Certainly some MNCs are taking a few questionable practices with them into the developing world. We have also added to other related research domains. In the Foreign Direct Investment literature, for example, the concept of cultural distance has had three primary thrusts: to explain the target investment location, to predict the most favorable entry mode, and to account for success

(Shenkar, 2001). Our validation of the robustness of the relationship between uncertainty avoidance, a subconstruct of cultural distance, and corruption adds to this stream by extending the set of viable dependent variables. This contribution is important to managers faced with various target FDI destinations, each with a varying degree of cultural distance and corruption.

A number of implications for practitioners are plausible based on our findings. The OECD's recent approval of an antibribery pact by 32 nations speaks to the importance of corruption in the international community (Husted, 1999). As developed industrialized nations continue to try and level the bribery and corruption playing fields developing countries will be forced to respond, otherwise FDI opportunities may be squandered. Indeed, an understanding of how FDI and uncertainty relate to corruption can aid policy developers in both governmental and private enterprise settings. For example, if a manager at a multinational firm that is considering a potential market is aware that market has a pattern of high corruption followed by a massive influx of FDI, certain procedures and protocols for dealing with local contacts may need to be adjusted depending on the current economic situation.

Our study has additional implications for managers. They may, for example, elect to rethink the validity of their corporate codes of ethics in countries that have experienced a massive influx of FDI or are in dire economic straits. They may also hesitate to jump on an FDI bandwagon, such as the one that hurtled into Russia in the 1990s. Eagerness to get in on the action, and fear of being left out while their counterparts in other firms are seizing what appears to be a golden opportunity, are understandable. But this eagerness should be tempered with awareness that the large increase in FDI may change the target country in ways that make it more difficult for MNCs to conduct business there. In particular, it may tempt host country nationals into behaviors that are perceived as corrupt by firms and their managers. Nevertheless, the impact of cataclysmic events, such as the largest bankruptcy filing in U.S. history as a result of Worldcom's financial cover-up, on global ethical standards cannot be underestimated. Indeed, the nations which are typically senders of FDI, rather than receivers, possess many moral responsibilities as well.

As with any study, a few limitations are worth mentioning at this point. Similar to earlier studies (Getz and Volkema, 2001) we employed the CPI as our proxy for corruption. Although this construct is based on numerous submeasures it captures only perceptions of corruption. Thus, actual behavior and activity are overlooked. Indeed, examining actual behavior, through national crime statistics for example, also presents problems due to strong national variations in legal code enforcement and conviction. Interestingly, Singapore's very high per capita conviction rate of bribery is misleading when compared to lower rates in developing countries in Africa and Latin America (Lambsdorff, 2000). The use of residents and nonresidents in the CPI composite score may also create some level of response bias. The use of Hofstede's (1997) dimensions has also been criticized, yet remains a strong proxy for culture in international business research (Brouthers and Brouthers, 2001). Also, a large percentage of the nations in our sample period experienced increases in FDI during the period and clearly the timing of any macro-level study is reflected in the findings.

Future research opportunities in this area are plentiful. Husted (1999) conceded that his study took a static approach to corruption and failed to examine the impact of changes in economic development or culture on changes in the level of corruption. While we have addressed the dynamic part of changes in economic development in the current study, we have also retained a static measure of culture. Future researchers may elect to incorporate, simultaneously, changes in economic development, culture, and corruption. The possibility of corruption leading to changes in various cultural variables is also a worthy area of future research, yet will have to wait until a more current, reliable, measure of culture emerges.

Analysis of the country of origin of the FDI is also a priority for future research. Here again, Transparency International does a service to the research community and to other communities by collecting data and making them available. The Bribe-Payers Index (BPI) is the supply-side counterpart to the demand-side measure we use in the current research (i.e., the CPI). Further, the destination (business sector, and public vs. private) of investment within the receiving country origin of the FDI, the particular mode of entry, and the local/foreign ownership ratio may all play an influential role in the speed and scope of changes in

perceptions of corruption. In sum, any attempt to reconcile actual and perceived corruption in the international context will likely be well received by scholars and practitioners alike.

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