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AT THE UNIVERSITY OF MICHIGAN

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William Davidson Institute Working Paper Number 966
August 2009

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Abstract

The Chinese state undertakes large scale investments in a number of countries under the auspices of economic cooperation related investment (ECI). While there are suggestions that it is an extension of China's soft power aimed at facilitating Chinese FDI in those countries, often for access to natural resources, there is no systematic analysis of this in the literature. In this paper, we examine this investment of the Chinese state over time. Our results suggest that the pattern of investment is indeed explained well by factors that are used in the stylised literature to explain directional patterns of outward FDI. They also demonstrate that the (positive) relationship between Chinese ECI and the recipient countries' natural resource richness is not economically meaningful. Finally, while there is some support for the popular wisdom that China's willingness to do business with a country is not strongly affected by its level of corruption, there is much weaker support, if any, for the hypotheses that China favours doing business with countries where political rights are limited.

Running title: China's economic cooperation related investments

Keywords: China; Economic cooperation related investment; Foreign direct investment; Natural resources; Institutional quality

August 31, 2009

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1. Introduction

Until recently, the behaviour and strategies of multinational enterprises (MNEs) was viewed largely through the prism of the *ownership-location-internalisation* (OLI) paradigm (Dunning, 1988). An MNE was believed to be an entity that has ownership of some special capability (e.g., technology) that it can leverage by gaining access to a resource available in another country or to an overseas market. However, rather than import the resource or export to the overseas market, the MNE might choose to internalise the process of accessing this resource or market by setting up an operation in that overseas location, because the expected profits from such internalisation is higher. There is an extensive literature on both the determinants of the choice between actual market entry and alternatives like franchising, as well as the determinants of alternative entry modes like greenfield projects, cross-border acquisitions and joint ventures (JV) (see Meyer, Estrin, Bhaumik and Peng, 2009, and the references therein).¹

The recent surge of FDI from emerging markets,² and the consequent rise in interest about the emerging market MNEs (EMNEs), suggests that these entities do not conform to the traditional view of MNEs. Indeed, in most cases, these firms do not possess capabilities similar to developed country MNEs and that, indeed, overseas expansion is often a means to acquire such capabilities. The high profile acquisitions of IBM's personal computer business by Lenovo of China and the Jaguar-Land Rover brands by Tata Motors of India are examples of this pursuit of capabilities. At the same time, these emerging market firms have certain

¹ There is an allied literature on formation of JVs – often the initial mode of entry on account of paucity of information about the local market or on account of regulations that forbid foreign direct investment (FDI) in any other form – and their subsequent dissolution (as the extent of informational asymmetry is reduced) (see Sinha, 2001).

² According to data from UNCTAD, outward FDI from developing countries comprised less than two percent of worldwide FDI outflows in the 1970s. By 2005-2007, the share of developing countries increased to an average rate of 14%; China accounts for 10% of developing country FDI outflow (see UNCTAD's FDI on-line database).

characteristics that manifest their successful survival in contexts with missing institutions and markets, but those that might be detrimental for successful overseas expansion. For example, it is now well understood that family ownership and formation of business groups in emerging markets are an optimal response to an environment of weak contract enforcement and missing (or imperfect) capital markets, respectively (Bhaumik and Gregoriou, 2009). But, as recent research suggests, family control or business group affiliation discourages overseas investment on account of factors such as weak corporate governance in such firms and reluctance to bear the cost of altering the style of management in an alien environment about which the emerging market firm has little information (see Bhaumik, Driffield and Pal, 2010, and the references therein).

Mathews (2006) proposes the *linkages-leveraging-learning* (LLL) paradigm to explain the second wave of internationalisation involving the EMNEs. He argues that a critical element of an EMNE's process of early internationalisation is that it focuses not on its innate ownership advantages, but on advantages that can be acquired through *linkages* with the external environment. The first-wave MNEs thought of partnerships and joint ventures as second-best options that can lead to erosion of ownership advantages through leakage of information but that are necessary to overcome short-term informational disadvantages that hinder the process of internationalization (Johanson and Vahlne, 1977). The second-wave EMNEs, by contrast, think of them as being integral to their risk management and technology partnering strategies (Wells, 1998). The second element of the LLL paradigm is that, rather than focus on ways in which access to resources can be monopolised, EMNEs concentrate on how resources can be better *leveraged* through alliances. The final element of the paradigm is *learning*, the process whereby EMNEs refine their strategies that facilitate both linkages and leveraging of resources. As such, successful internationalization by EMNEs might be

contingent on their ability to build and leverage alliances, and it is easy to see that states (or governments) might be a crucial component of such alliances.

The literature has examined the role of firm-level alliances in facilitating internationalisation and the role of foreign investors in providing linkages that are crucial for internationalisation, mostly in the context of Asian EMNEs (Bhaumik et al., 2010; Mathews, 2006; Zhan, 1995). Surprisingly, however, it has overlooked the advantages that EMNEs generally tend to derive from alliances with their own governments. Yet, there are a large number of examples that highlight the role of states in promoting business interests of national firms. The advantages enjoyed by Chinese and Indian petroleum firms in the Sakhalin oil and gas fields in Russia, as also in countries like Venezuela and Sudan, and the support provided by the Indian government for Mittal Steel (technically, a Dutch company!) when the latter experienced difficulties with its bid for Arcelor provide examples of the role that states can and do play in the internationalisation and expansion processes of EMNEs. Indeed, while the ability of states to promote domestic firms using subsidies or tax advantages has been reduced in the post-WTO era, it is well understood that at least some of them still retain the ability to influence decisions in favour of their domestic firms using soft power. While state support can be important for EMNEs (or firms in general) in any industry, it is likely to prove crucial when these firms seek access to resources that are viewed as those of national importance (and thereby usually government controlled) by other countries.³

In this paper, we address this lacuna in the literature, by attempting to reconcile a state's – in this case China's – projection of soft power with factors that usually determine the extent and direction of outward FDI from emerging markets. The choice of China as focus of

³ A good example of the role of the state in facilitating or hindering private transactions in such cases is that of the failed 2005 bid by the China National Offshore Oil Company Limited (CNOOC) to acquire Unocal, the US oil company. The access available to Chinese and Indian oil companies to Russia's Sakhalin oil and gas fields provides a stark contrast to CNOOC's Unocal experience.

our analysis is interesting on two counts. First, there is a conjecture that the Chinese state facilitates outward FDI of Chinese MNEs, by providing crucial linkages with destination countries (Buckley et al., 2008). Further, a noticeable proportion of the overseas ventures of Chinese firms has been in resource-rich developing countries where resources are *de jure* or *de facto* under government control and not easily accessible through market transactions.⁴ Our proxy for the projection of soft power is economic cooperation related investment by the Chinese state in other countries. We find that the amount and direction of this investment can be well explained by factors that are used in the stylised literature to explain overseas FDI of firms. We, therefore, conclude that there is *prima facie* evidence that the Chinese state uses economic cooperation as a tool to facilitate overseas FDI of the Chinese MNEs (CMNEs).

The rest of the paper is structured as follows: In Section 2, we discuss the role of the Chinese state in facilitating outward FDI. The regression specification is outlined in Section 3. In Section 4, we discuss the data and the empirical strategy. The regression results and their implications are discussed in Section 5. Finally, Section 6 concludes.

2. Outward Investment and the Chinese State

It is generally agreed that CMNEs enjoy certain firm-specific advantages that they can leverage as they expand their operations overseas. They are able to access capital at a cost that is lower than their global rivals. In part, this is on account of access to cheap credit offered by the Chinese state-owned banks or, in the case of state-owned firms, by the state itself (Antkiewicz and Whalley, 2006; Lardy, 1998; Warner, Hong and Xu, 2004). Access to inexpensive capital can also be the outcome of internal capital markets operated by Chinese conglomerates (Tsai, 2002). CMNEs are also able to leverage their relationships with the

⁴ According to China's Ministry of Commerce, by the end of 2004, there were over 7,500 Chinese "non-trade enterprises" in the rest of the world (Hong and Sun, 2006). Most of this was in the manufacturing and natural resource sectors.

Chinese diaspora in the countries in which they invest, reducing the risk associated with such investment (Lecraw, 1977; Zhan, 1995).

During the early years of the reform process, Chinese overseas investments were dominated by large state-owned companies, and key investment decisions, including location of overseas operations, were dictated by political considerations (Hong and Sun, 2006). For example, the decision to invest in Hong Kong's infrastructure was aimed at enhancing Chinese influence in what was, at that time, British territory on which China had a claim. By 1992, the ideological debate about the direction of China's reform had been resolved, and encouragement of overseas investment by Chinese firms became an established part of the state's long term strategy. Overseas investment emerged as a tool to gain access to both technology and natural resources. High profile examples of such investments include those made in Indonesian and Algerian oil fields, South African mines, the Brazilian steel industry and the US technology sector. Outward FDI was also aimed at providing Chinese companies access to overseas markets and international brands. Haier, for example, invested in production facilities in the United States to bypass quotas and anti-dumping measures, while TCL gained access to the Thomson and Alcatel brands. The 1992-98 period witnessed a cautious implementation of this strategy to go global, but the strategy has been pursued vigorously since 1999. There is a growing literature on the strategic aspects of the transnationalization process of CMNEs (Sauvant, 2005; Zhang, 2005).

The determinants of the direction of Chinese outward FDI itself have been examined. Buckley et al. (2007) have demonstrated that, in keeping with expectations, outward FDI from China is positively associated with the size of the host market, its cultural proximity to China, and its openness to FDI. Their results are also consistent with the popular perception about the natural resource-seeking nature of Chinese outward FDI (see Deng, 2003). However, contrary to expectations, FDI is also positively correlated with a country's political

risk. They explain this anomaly by alluding to the low cost of capital for CMNEs, especially those in the public sector, and the apparent lack of sophistication of risk evaluation processes of these companies.

However, while the determinants of Chinese outward FDI have been examined (see Buckley et al., 2007, and the references therein), despite the dominant role of the Chinese state in setting the agenda for strategic overseas investment, an examination of the largely state driven activities that might be correlated with outward FDI and, in some cases, form the basis for investment-for-resources (for CMNEs) swap in resource-rich countries, has remained largely unexamined. This is despite the state's dominant role in the Chinese economic landscape (Child and Tse, 2001), and despite the proximity of a large majority of the CMNEs to the Chinese state (Cheng and Ma, 2007). Indeed, the only known research that has linked the Chinese state's bilateral relations with other countries with outward FDI from China has examined the impact of the country's double taxation treaty – much more an economic incentive for firms than a proxy for the Chinese state's strategic engagement with the potential destination countries – on such FDI (Buckley et al., 2008).

As mentioned earlier, in this paper, we examine an activity of the Chinese state that arguably captures that strategic dimension, namely, its overseas investments related to economic cooperation. In 2006, turnover from such economic cooperation activities was close to US\$ 35.7 billion, twice the magnitude of China's net outward FDI of US\$ 17.6 billion.⁵ A large proportion of this investment is aimed at building infrastructure in the recipient countries, especially in developing countries. In late 2004, for example, Chinese contractors built office buildings in Luanda and repaired Angola's railway system that was mostly destroyed during the country's 27-year long civil war (Walt, 2006). In Iran, such

⁵ The stock of Chinese overseas FDI reached \$170 billion at the end of 2008 (see Rosen and Hanemann, 2009).

investment has been used to develop transport-related infrastructure and dams (Walt, 2005).⁶ In both countries, soon after the initiation of “economic cooperation”, Chinese oil and gas companies, who are at the forefront of Chinese outward FDI, received licences to operate large oil fields. While any causality between the economic cooperation and the aforementioned licence cannot be established without further evidence, it is easy to see that there is evidence of at least correlation between China’s economic cooperation related investment on both subsequent outward FDI of Chinese companies and on their access to resources that are of national importance to other countries. In the rest of the paper, we examine this link more closely.

3. Model Specification

As mentioned earlier in this paper, we examine whether factors that are used in the stylised literature to explain amount and direction of outward FDI can also explain satisfactorily the amount and direction of the economic cooperation related investment of the Chinese state. If they do, we would be able to conclude that there is at least *prima facie* evidence that this investment, which is arguably a proxy for the Chinese state’s strategic projection of soft power, facilitates the outward FDI of CMNEs.

The basis for our empirical exercise is the gravity model that is widely used in empirical investigations of the determinants of bilateral international exchange (trade or FDI flows).⁷ In its most basic form, the gravity equation includes trading partners’ gross domestic

⁶ It must be evident by now that while the Chinese state is the sponsor or promoter for these investments, the actual work is undertaken by Chinese firms with close links to the state. Indeed many if not most of the contractors are Chinese state-owned firms.

⁷ Tinbergen (1962) and Linnemann (1966), both of whom study trade flows across countries, are among the earliest contributors to this literature. The gravity model posits that trade and investment flows between any two countries is a positive function of the economic size of the countries and an inverse function of the physical distance between them.

products, per capita gross domestic products, and physical distance from each other.⁸ The model has reliably explained trade and investment flows across countries, and hence its popularity. The basic gravity equation can be extended to include other “distance” variables that either enhance or impede bilateral investment flows. Accordingly, we use as the basis of our analysis a gravity model that is extended to take into account other factors such as cultural similarity and resource richness of the destination countries for the Chinese economic cooperation. Additionally, we take into consideration the impact of institutional quality in potential host countries for Chinese outward FDI, an important factor influencing FDI flows (Gastanaga, Nugent and Pashamova, 1998). Our regression model, therefore, is as follows:

$$ECI_i = \alpha + \Gamma'X + \Phi'Z + e \quad (1)$$

where X is a vector that includes variables that capture the stylised gravity model, Z is a vector of other variables that might affect FDI flows, and e is the i.i.d. error term.

The literature on gravity models suggests that the following variables should be included in X :

(a) The GDP of the ECI (and hence potentially FDI) recipient country (GDP) which captures the market size. In general, larger countries are expected to receive a larger volume of FDI. This would especially be true if outward FDI is market seeking, which is apparently the case with at least a part of Chinese outward FDI (Taylor, 2002; Zhang, 2003).

(b) The per capita GDP of the ECI recipient country ($GDPPC$) captures its state of development. Its impact on the volume of FDI is theoretically indeterminate. On the one hand, outward FDI to developed countries facilitates access to technology or products that developing country firms are unable to develop on their own. On the other hand, there is also

⁸ For contributions using trade data, see e.g., Bandyopadhyay, Coughlin, and Wall (2008), Levinson and Taylor (2008), Co (2004), and Rauch (1999). For contributions using investment data, see e.g., Bevan and Estrin (2004), McCalman (2004), Carr, Markusen, and Maskus (2001), Smith (2001), and Ferrantino (1993).

evidence to suggest that developing country firms tend to invest more in countries at similar stages of development, where they can leverage their experience and competitive advantages acquired in their home countries (Cross et al., 2007), and where they are better able to meet the price-quality expectations of the consumers (Lecraw, 1977) than their developed country rivals.

(c) The evidence about the nature of the relationship between bilateral trade between China and potential recipient of *ECI (BITRADE)* that captures the extent to which the two economies are integrated, and perhaps also whether at least one of the two countries has resources that are of strategic importance to the other.⁹ The empirical evidence about the impact of bilateral trade on FDI flows is mixed. Egger (2001), for example, argues that, for European countries, exports and outward FDI are substitutes, while Bevan and Estrin (2004) and Liu, Wang and Wei (2001) find that exports (imports) and outward (inward) FDI are complementary.

(d) The geographical distance between the source and recipient countries of *ECI (GEODIST)* that captures the transportation cost of doing business. It is easy to see that the relationship between FDI and geographical distance is type dependent. The extent of horizontal FDI increases with geographical distance because distance increases the transactions cost of trade (Brainard, 1993; Horstman and Markusen, 1987; Markusen and Venables, 1998). By contrast, vertical FDI and distance have an inverse relationship, on account of the adverse impact of transport cost on input cost (Helpman, 1984). The empirical evidence suggests that, on balance, the relationship between FDI and geographical distance between source and recipient countries is indeed inverse (Bevan and Estrin, 2004; Shatz and Venables, 2001).

⁹ It is easy to see that in the latter case, from a OLI theory point of view, there are potential gains from outward FDI from one to the other to internalise this strategic advantage (Markusen, 1995).

In the Z vector, to begin with, we include the cultural distance between China and the potential *ECI* recipient country that captures the non-transportation transactions cost of doing business (*CULDIST*). Bartlett and Ghoshal (1989) have argued that cost of entry increases with distance while operational benefits and ability to transfer core competencies to overseas operations are inversely related to it. Similarly, Rauch (1999) suggests that the cost of doing business with countries that are culturally close is lower.

Next, we include a measure of institutional quality (*INSTQLTY*), or business environment, that impact performance and hence strategic decisions of firms. It is stylised the weak institutions in the form of weak property rights (Grossman and Hart, 1986; Lee and Mansfield, 1996), and corruption (Wei, 2000) can have adverse impact on FDI flows, largely by increasing uncertainty and increasing contracting cost.

Finally, we include two variables that capture the popular wisdom about Chinese strategic economic interests in other countries. First, we include a measure for the natural resource endowment of the recipient country (*NR*). As we have already noted, part of the Chinese “go global” strategy is to gain access to scarce natural resources. There is evidence to suggest that a significant proportion of outward FDI by Chinese companies, led by state-owned firms, is in natural resources (Cai, 1999; Zhan, 1995). There is also evidence to suggest that this activity has been actively supported by the Chinese state (Jubany and Poon, 2006). Second, we also include a measure of political rights in the recipient country (*POLRIGHT*). This not only accounts for the popular perception that China’s strategic interests include developing business relationships with resource rich developing countries with autocratic regimes, it is also consistent with the more general empirical evidence (Mathur and Singh, 2007; Schulz, 2007).¹⁰

¹⁰ This may not be as counter-intuitive as it may seem at first glance. Note that the cost of negotiating a contract is likely to be lower in an environment where there is a unique centre of political power than in an environment where multiple agents with diverse interests wield veto powers.

Our regression specification, therefore, is as follows:

$$ECI_i = \alpha + \gamma_1 GDP_i + \gamma_2 GDPPC_i + \gamma_3 BITRADE_i + \gamma_4 GEODIST_i + \phi_1 CULDIST_i + \phi_2 INSTQLTY_i + \phi_3 NR_i + \phi_4 POLRIGHT_i + e_i \quad (2)$$

where i is the index for the ECI recipient countries. We also experiment with interactions between NR and the measures of institutional quality and political rights. The purpose of this experiment is to examine whether the Chinese state interact differently with resource rich countries that have different levels of institutional quality and political rights – Australia, Russia and Nigeria, for example – or, conversely, whether the way in which the Chinese state interact with a country with a given level of institutional quality or political right depends on whether or not that country is resource rich (see Schulz, 2007).

If indeed ECI manifests the Chinese state's strategic interests and projection of soft power in a way that subsequently facilitates outward FDI of CMNEs, we should observe two things. First, this specification, which is used in the stylised literature to explain quantity and direction of FDI flows, should also explain the quantity and direction of ECI reasonably well. Second, the qualitative impact of these explanatory variables on Chinese economic cooperation related investment should be consistent with those observed in the stylised FDI literature. We shall revisit these issues later in the paper.

4. Data and Empirical Strategy

The data on China's economic cooperation related investment – the dependent variable in our regression model – are obtained from various editions of *China Statistical Yearbook*.¹¹ These are annual flows of such investment measured in (millions of) US dollars. Information

¹¹ For detailed descriptions of these data, see p. 758 of China National Bureau of Statistics, 2007, *China Statistical Yearbook 2007*, Beijing: China Statistics Press. Or *Statistical System of Foreign Contracted Project, Labor Service Cooperation and Design Consultation Operation* issued by the Ministry of Commerce, December 30, 2004.

provided in the Yearbooks suggests that much of the investment was used to finance projects such as construction of dams, roads and railways.

The data for the explanatory variables in equation (2) are collected from a number of sources. Data on GDP and per capita GDP, measured in constant 2000 international dollars, are obtained from the 2005 version of the World Development Indicators that are released annually by the World Bank. Data on bilateral trade between China and each of the recipient countries are obtained from the aforementioned Yearbooks.

Measures of geographical and cultural distance are from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII). The measure of geographical distance (in kilometers) is based on the great circle formula using the latitudes and longitudes of the most important cities in the countries.¹² Following Rauch (1999), our proxy for cultural distance is commonality of language; it is a dichotomous variable equal to one if a language is spoken by at least 9% of the population in both China and the *ECI* recipient country.

Information about the natural resource endowments of the recipient countries for Chinese investment, measured as the shares of energy and non-energy minerals in their exports, were also obtained from the World Development Indicators. These are the best available proxies for the relative importance of resources in a country's economy. Ideally, we would have preferred to use energy and non-energy shares in the GDP, but these data are not readily available.¹³

Finally, in keeping with the literature (see Meyer et al., 2009), we use as proxies of institutional quality indices generated by the Heritage Foundation. Since indices measuring

¹² This measures as-the-crow-flies distance, see Mayer and Zignano (2006) for details. It is common practice to use as-the-crow-fly distance between each partner's capitals; since CEPII's distance data capture other important cities, it is a superior measure.

¹³ We have, nevertheless, estimated regression models that use as the measure of resource richness the combined share of fuels and minerals in total exports, but since the results are very similar to those reported in the next section, we do not report them in this paper.

various aspects of institutional quality are highly correlated, we choose the corruption index as our measure of this quality. This is consistent with the large literature on the impact of corruption on FDI. The index has a range of zero through 100, and a high measure on this 100-point scale indicates low incidence of corruption. Finally, also in keeping with the stylised literature, we use as our measure of the quality of political rights in the recipient countries the index reported by Freedom House. It is a 7-point index, with a score of 1 indicating the highest level of political freedom.

Since data for developing countries – destination for a significant proportion of Chinese economic cooperation related investment – are not always available for all the years, we have sometimes had to substitute missing values with available values of the corresponding variables going back one or two years. For example, if data for energy exports for 2000 are not available for a country, we have substituted it with the energy export data for 1999 or, if data for 1999 are unavailable as well, with data for 1998. When working with developing country data, such imputation of value of missing values is not uncommon in the literature (see Meyer et al. 2009), and helps minimise loss of observations on account of missing data. Imputation is mostly done for fuel and mineral exports, and no more than 6% of these data are imputed in the 1998-2000 and 2001-2003 periods. However, availability of these data in 2003 is comparatively low so the extent of imputation for 2004-2006 is higher at 17% for fuels and 14% for minerals. Importantly, a comparison of the 2003 data with the 2001 and 2002 data show that the latter are within 3 percentage points of the 2003 value for about 90% of all countries with comparable data for these years. Hence, we conclude that the exercise involving imputation could not have affected our estimation significantly.

As evident from the above discussion, we have data for nine years: 1998-2006, for up to 118 destinations of Chinese economic cooperation related investment. We aggregate the data into three periods – 1998-2000, 2001-2003 and 2004-2006 – and use period aggregates

for the investment variable as the dependent variable in our regression analysis. This technique, variations of which are widely used in the economics literature (see Barro, 1991; Bhaumik, Gangopadhyay and Krishnan, 2010), ensures that our results are not affected by year-specific idiosyncratic spikes in the investment data. Also, to eliminate the problem of endogeneity, we use lagged values of the explanatory variables. For example, we explain the variation in the 1998-2000 aggregates of economic cooperation related investment using 1997 values of the independent variables.

The distributions of the natural log of *ECI* (*LECI*) for the three periods appear in Figure 1. A right-ward shift in the distribution is quite evident, indicative of an increase in Chinese economic cooperation investment across countries over time. Before reporting the full descriptive statistics for and the correlation among *ECI* and its regressors, we also highlight the relationship between *ECI* and some recipient country characteristics that have been the source of many discussions in popular discourses about Chinese overseas investment. In Figure 2, we report the relationship between *ECI* and the natural resource richness of the recipient countries, as captured by the shares of energy (*FUEL*) and non-energy minerals (*MINERAL*) in their exports. In Figure 3, we report the relationship between *ECI* and the institutional quality (*CORRFREE*) of and the political freedom (*POLRIGHT*) in the recipient countries. Figure 2 suggests that if one considers only countries that are rich in natural resources, with energy or non-energy minerals accounting for more than 30% of their exports, a mild positive relationship may be observed between *ECI* and natural resource richness of the recipient countries. However, there is a large variation in *ECI* in countries for whom the natural resource intensiveness of exports is less than 20%. Overall, if one ignores the outliers in the top right and bottom left quadrants of the scatter diagrams, there is little sign of any pattern between *ECI* and these recipient country characteristics. Similarly, Figure

3 is not indicative of any definitive patterns between *ECI* and corruption and political rights in these recipient countries.

INSERT Figures 1-3 about here

The descriptive statistics for *ECI* and our regressors are reported in Table 1, separately for the three aforementioned time periods.¹⁴ Some interesting things are immediately obvious from these statistics. First, while the average recipient country of China's *ECI* is quite developed, with a per capita income of \$9,000-10,000 in all the three periods, there is a huge variation in their state of development. Hence, if indeed *ECI* is a strategic tool for projection of China's soft power and strategic interests, it is targeted at a wide range of countries, developed and developing. Second, the average *ECI* recipient country is quite far from China, with their capital cities separated by about 9,000 kilometres, on average. This is consistent with the popular perception about China's increasing strategic interests in other continents like Africa and Latin America. Third, to the extent that *ECI* is aimed at ensuring Chinese companies' control of natural resources, fuel (i.e., oil and gas) is much more important than other natural resources. The share of fuel in the exports of the average *ECI* recipient country is about 15% or higher. However, this share declined from a peak of 19.5% for the 2001-03 period to 14.6% for the 2004-06 period, indicating that China may not be as focussed on oil and gas as it used to be earlier this decade. Finally, while the Chinese state is not averse to doing business with corrupt countries, contrary to popular perceptions, it does not have a cosy relationship with dictatorial and tyrannical regimes. While the average recipient country scores 43 on the 100-point corruption scale (100 being least corrupt), it scores 3-3.3 on the 7-point political rights scale (1 being the best). Indeed,

¹⁴ The values of the variance inflation factors (VIFs) for the specification are less than 5, indicating that the multicollinearity problem in the specification of equation (2) is not significant.

while the corruption score of the average country has remained steady at around 43 over time, the political rights score has improved from 3.31 in 1998-2000 to 3.0 in 2004-06.

INSERT Table 1 about here

5. Discussion of Regression Results

The regression estimates for equation (2), augmented by the interaction terms, are reported in Table 2, as are the robust standard errors within parentheses. We report the estimates of six models or specifications. Models (1) – (3) use as the measure for resource richness the share of the fuel (energy) exports in total exports of the countries that are the destinations of China’s economic cooperation related investment, while models (4) – (6) use the share of ores and minerals (non-energy mining) exports in total exports of these countries. Note that our regression coefficients for the interaction terms are largely insignificant; and, even when they are statistically significant, they are very small and not economically meaningful. Hence, in the rest of this section, we shall not discuss them any further.

INSERT Table 2 about here

The F-statistics for all six models are significant at the 1% level, and the adjusted R-square values range between 0.40 and 0.47, indicating that the regression models fit the data reasonably well.¹⁵ To recapitulate, one aim of our exercise was to see whether a specification that is used in the literature to explain the magnitude and direction of FDI flows also explains well the magnitude and direction of Chinese ECI. If it did – which seems to be the case – we could infer that an important use of the ECI, a tool to promote Chinese strategic interests overseas, is to facilitate outward FDI by Chinese companies. In light of the goodness of fit of our model to the inter-country variation in ECI flows, it would be reasonable to make that

¹⁵ For the sake of comparison, the models estimated by Buckley et al. (2007), which use a similar framework to explain the direction of Chinese outward FDI, provide adjusted R-square values of 0.36-0.67.

inference. Further, we should note that the specification worked better for the 1998-2000 and 2001-03 periods than for the 2004-06 period, at least when fuel is used as the proxy for natural resources, perhaps indicating that the Chinese state's ECI was a much more important tool for facilitating outward FDI during the early years of internationalisation by Chinese companies. This is perfectly consistent with the existing literature which suggests that EMNEs require more help during their early stage of internationalisation.

Next, we should discuss whether the stylised specification explains inter-recipient country variation in ECI in a way that is qualitatively consistent with the stylised FDI literature. For example, if a country with a higher aggregate GDP receives a larger quantity of ECI, it would be consistent with the stylised result that larger economies receive more FDI. The consistency of our results with the stylised FDI literature would provide further evidence, albeit indirect, that Chinese ECI is a strategic tool to facilitate the outward FDI of CMNEs.

Before embarking on that discussion, let us first summarise our results:

(i) The (log of) GDP of a country had the expected positive impact on China's economic cooperation related investment in that country only in the 2001-2003 period, and this coefficient is significant only at the 5% level.

(ii) Chinese economic cooperation related investment increases sharply with a decline in the level of development of a country, the state of development being inversely related to the GDP per capita. This is hardly surprising; developing countries would be the natural destination of these investments which primarily involve construction projects.

(iii) *Ceteris paribus*, Chinese ECI is higher for countries that are culturally closer to China.

(iv) There is some support for the hypothesis that China's economic cooperation related investment would be higher for resource rich countries. But the correlation between the extent of a country's resource richness and Chinese investment is not economically

significant (i.e., the regression coefficients have small magnitudes). Further, while such investment was statistically related to a country's energy resources up to 2003, during the 2004-2006 period investment was affected by non-energy resources alone.

(v) Chinese ECI would be higher in countries with which China has significant trading relationship. Interestingly, the strength of this relationship was greater after China's accession to the WTO.

(vi) There is some support for the hypothesis that economic cooperation related investment would be higher in countries where the business environment or institutional quality is good. The level of investment is positively associated with the extent of freedom from corruption. However, the strength of the relationship is weak, suggesting that corruption in a country, or institutional quality in general, may not be a strong deterrent for the Chinese state's desire to do business with that country.

(vii) There is statistical and economically meaningful support for the hypothesis that the economic cooperation related investment is higher for countries where political rights are weak for data for the 1998-2000 period.¹⁶ However, for the most part, this variable loses significance in the recent periods. This suggests that the propensity of the Chinese state to do business with autocratic governments may have lessened recently.

In Section 3 of this paper, we had discussed the stylised nature of the impact of our explanatory variables on FDI flows and had speculated about the likely impact of these variables on the magnitude and direction of Chinese ECI flows, under the assumption of complementarity between the Chinese state's ECI and the outward FDI of the CMNEs. Our results suggest that the hypothesis of the aforementioned complementarity is difficult to reject. Indeed, our explanatory variables have very similar impact on Chinese ECI as on Chinese outward FDI, the latter documented elsewhere in the literature (see Buckley et al.,

¹⁶ Recount that our measure of political rights is such that a higher measure is associated with lower political rights.

2008). Once again, therefore, we are able to claim the presence of at least *prima facie* evidence that the Chinese state's ECI is at least partly aimed at facilitating the outward FDI of the country's MNEs. We discuss the implications of this complementarity in the concluding section.

6. Conclusion

The Chinese state undertakes large scale investments in a number of countries under the auspices of economic cooperation related investment. While there are suggestions that it is an extension of China's soft power aimed at facilitating Chinese FDI in those countries, often for access to natural resources, there is no systematic analysis of this in the literature. In this paper, we examine this investment of the Chinese state over time. Our working hypothesis is that China's ECI is used to facilitate outward FDI, especially to countries that are rich in natural resources. Hence, we use as the basis for our empirical exercise the gravity model that is used in the stylised literature to examine the direction of investment flows. In our empirical specification, we also control for institutional quality and political characteristics of the ECI recipient countries, to account for the popular wisdom that the Chinese state (and firms) often does business with countries where political rights and institutional quality are weak.

Our results suggest that the pattern of investment is indeed explained well by factors that are used in the stylised literature to explain directional patterns of outward FDI. They also demonstrate that while there is some support for the popular wisdom that China's willingness to do business with a country is not strongly affected by its level of corruption, there is much weaker support, if any, for the hypotheses that China favours doing business with countries where political rights are limited. Similarly, whereas the regression results suggest that China's ECI is indeed positively related to the natural resource richness of the recipient countries, the relationship is not economically meaningful. Further, while energy

richness of the recipient countries influenced ECI more during the nineties, in the current decade the emphasis seems to have shifted to non-energy minerals.

Aside from the political economic implications for Chinese ECI and the country's outward investment, our results have significant implications for EMNEs in general: in order to successfully internationalise using outward FDI, it may be important (even imperative) for aspiring firms to maintain linkages with their respective governments. Since relationships are developed over time, older and well established firms are more likely to be able to leverage the state's help than relatively new firms. Further, an alliance between the state and firms aspiring to internationalise might require a greater alignment of their interests, such that government support is more likely to be provided to firms that operate in industries like natural gas and oil that involve the strategic interests of the state. Finally, such alliance might be useful only if the government itself has sufficient soft or hard power to facilitate the internationalisation process of domestic firms. To the extent that the state's support is critical in the internationalisation process, therefore, firms from relatively weak countries that cannot project power but may be part of regional alliances are more likely to internationalise regionally, while firms from larger and more powerful emerging markets like the BRIC countries are more likely to internationalise globally.

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Figure 1. Distribution of China's economic cooperation investment (in natural log)
1998-2000 (left panel); 2001-2003 (middle panel); 2004-2006 (right panel)

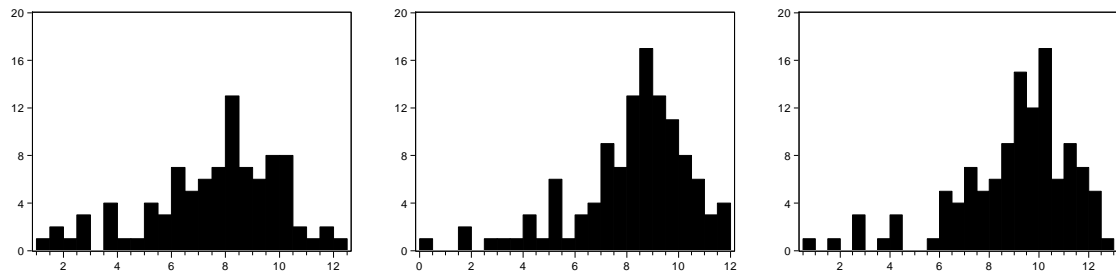


Figure 2. China's economic cooperation investment (in natural log) against the share of energy (FUEL) and non-energy exports (MINERAL) to total exports, 1998-2000 (left panel); 2001-2003 (middle panel); 2004-2006 (right panel)

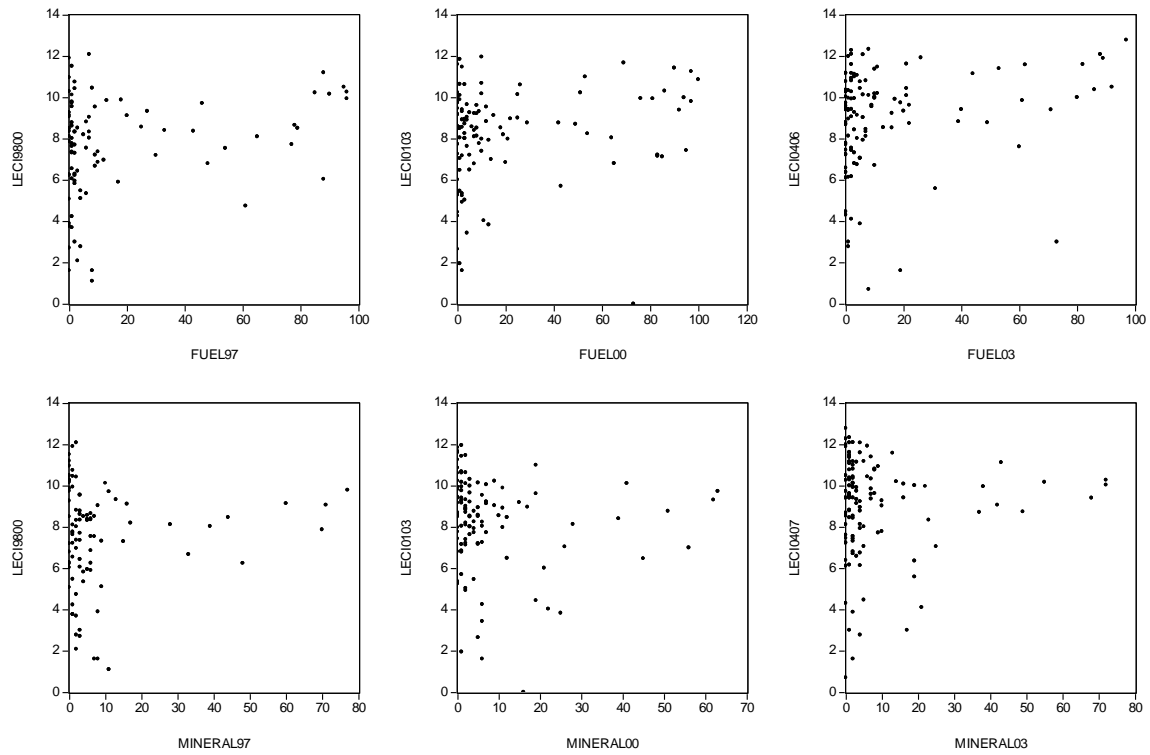
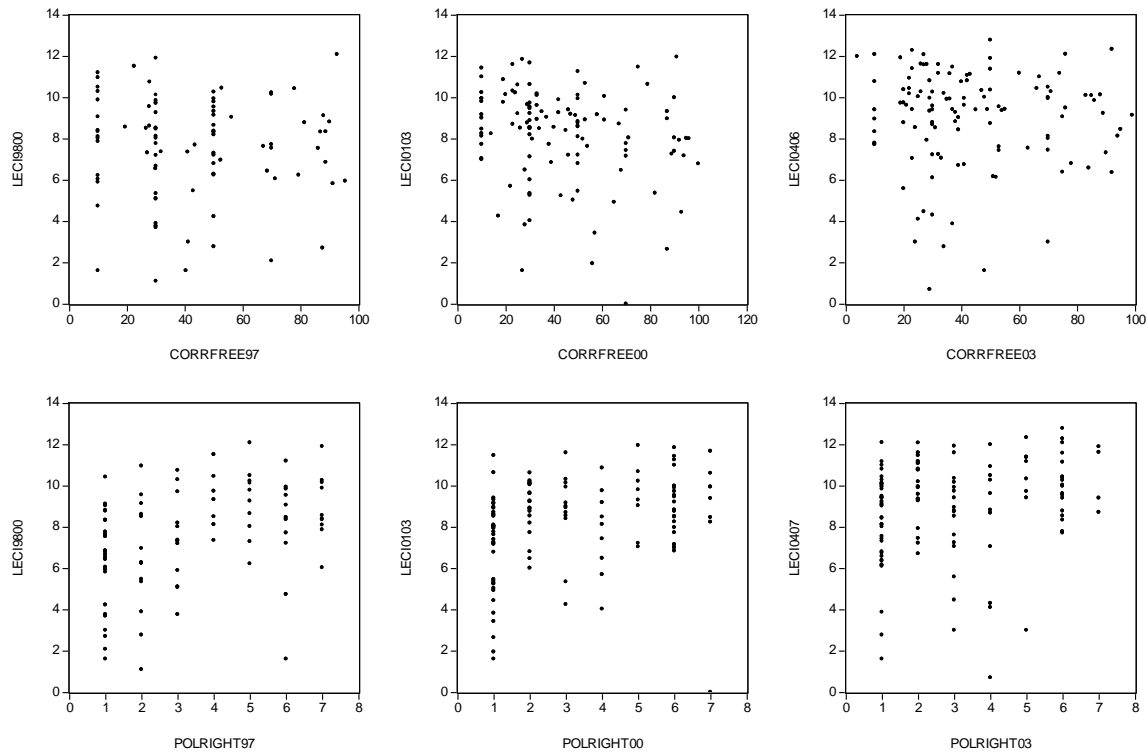


Figure 3. China's economic cooperation investment (in natural log) against freedom from corruption (CORRFREE) and political rights (POLRIGHT), 1998-2000 (left panel); 2001-2003 (middle panel); 2004-2006 (right panel)



Notes: CORRFREE is an index from 0 to 100 with high values indicating low incidence of corruption; POLRIGHT is an index ranging from 1 to 1 with 1 indicating the highest level of political freedom.

Table 1. Descriptive statistics

Variable	2004-2006			2001-2003			1998-2000		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
ECI	118	353.61	564.83	115	156.73	279.31	93	124.9	276.02
GDP	118	348	1,070.00	115	329	1,010.00	93	364	1,010.00
GDPPC	118	10,106.36	9,579.95	115	10,001.62	10,259.20	93	8,730.87	8,820.56
GEODIST	118	8,960.99	3,861.28	115	8,881.66	3,999.81	93	9,094.71	3,958.08
CULDIST	118	0.02	0.13	115	0.02	0.13	93	0.02	0.15
FUEL	118	14.55	24.22	115	19.49	29.68	93	16.83	28.19
MINERAL	118	8.13	14.55	115	7.56	12.86	93	8.27	15.84
BITRADE	118	5,558.69	18,212.42	115	3,259.00	10,963.18	93	2,610.79	8,459.70
CORRFREE	118	43.89	23.39	115	43.96	25.04	93	42.71	24.73
POLRIGHT	118	3.02	1.97	115	3.22	2.14	93	3.31	2.15

Notes: ECI and BITRADE are in millions of US dollars. GDP (in billions) and GDPPC are in constant 2000 international (PPP) dollars. GEODIST is in kilometres. Energy (FUEL) and non-energy minerals (MINERAL) are proxies for natural resources (NR), and freedom from corruption (CORRFREE) is a proxy for institutional quality (INSTQLTY). ECI, GDP, GDPPC, GEODIST and BITRADE are in natural log form in the correlation matrices.

Table 2. Regression estimates

	“Fuel” specification			“Mineral” specification		
	2004-06 (1)	2001-03 (2)	1998-00 (3)	2004-06 (4)	2001-03 (5)	1998-00 (6)
Constant	8.67** (4.22)	7.92** (3.48)	7.42 (5.00)	4.92 (3.76)	7.33 * (3.80)	5.88 (5.40)
(Log) GDP	0.24 (0.19)	0.39 ** (0.16)	0.36 (0.26)	0.23 (0.19)	0.39 ** (0.16)	0.36 (0.26)
(Log) GDP per capita	- 1.20 *** (0.28)	- 1.22*** (0.26)	- 1.49 *** (0.36)	- 0.93 *** (0.28)	- 1.27*** (0.28)	- 1.32 *** (0.35)
(Log) bilateral trade	0.51 ** (0.20)	0.32 ** (0.16)	0.36 * (0.21)	0.55*** (0.20)	0.34** (0.16)	0.30 (0.21)
(Log) Distance	- 0.30 (0.37)	- 0.43 * (0.26)	- 0.24 (0.41)	- 0.17 (0.37)	- 0.29 (0.29)	- 0.20 (0.42)
Cultural distance	0.88 (0.77)	1.97 ** (0.94)	2.88 *** (0.96)	0.36 (0.67)	2.01 ** (0.92)	2.64*** (0.79)
Fuel rich	0.03 (0.03)	0.04 * (0.02)	0.04 ** (0.02)	-	-	-
Mineral rich	-	-	-	0.09 ** (0.04)	0.02 (0.11)	0.02 (0.04)
Corruption free	0.03 ** (0.01)	0.02 * (0.01)	0.02 (0.02)	0.02 ** (0.01)	0.01 (0.01)	0.03 ** (0.01)
Political rights	0.16 (0.13)	0.19 (0.13)	0.33 ** (0.16)	0.31 *** (0.11)	0.15 (0.10)	0.35 ** (0.14)
Fuel rich × Corruption free	- 0.0003 (0.0003)	- 0.0003 (0.0002)	0.0004 (0.0003)	-	-	-
Mineral rich × Corruption free	-	-	-	- 0.0012 * (0.0007)	- 0.0004 (0.0015)	- 0.0002 (0.0005)
Fuel rich × Political rights	- 0.0017 (0.0040)	- 0.0044 (0.0035)	- 0.0082 *** (0.0028)	-	-	-
Mineral rich × Political rights	-	-	-	- 0.0093 * (0.0051)	- 0.0034 (0.0157)	- 0.0011 (0.0060)
Observations	118	115	93	118	115	93
Adjusted R-square	0.41	0.47	0.46	0.41	0.45	0.40
F-statistic	8.93***	7.84***	7.83 ***	9.03***	8.62***	8.32***

Notes: The values within parentheses are robust standard errors. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

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