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EVIDENCE FROM A NEW MICRO DATASET**

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China's Outward Direct Investment: Evidence from a New Micro Dataset*

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Abstract

More than seventy percent of China's outward direct investment (ODI), according to the Ministry of Commerce statistics, is invested in Hong Kong, the British Virgin Islands, and the Cayman Islands. Using a unique micro-level dataset collected by the Heritage Foundation that documents individual ODI transactions, we first show that the official statistics and the Heritage Foundation measure of China's ODI are correlated only in the sample of non-haven economies, because the official statistics treat tax havens as final destinations rather than transit points. On average, a dollar increase in the Heritage Foundation measure of ODI is associated with less than a fifteen cent increase in the official ODI among the non-haven economies, and the downward bias is even larger for investment in energy. We also document that the sharp increase in the official ODI to Hong Kong coincides with the rise in the Heritage Foundation measure of ODI to OECD countries since 2007. Finally, we show that some of the well-documented stylized facts about the pattern of China's ODI are artifacts of the mismeasurement of the official data. For instance, contrary to previous findings, we find no evidence that China's ODI is attracted to host countries with poor governance, and that neither cultural proximity nor geographical distance is a major determinant of China's ODI. Furthermore, the Heritage Foundation data suggest that the resource seeking motive of China's ODI is at least as strong as the market seeking motive.

Keywords: Chinese Economy, Foreign Direct Investment, Tax Haven, Resource Seeking

JEL Classification: F21, F36, O53

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1. Introduction

According to the most recent Chinese government official statistics, by 2010 China's outward direct investment (ODI) stock amounted to US\$317 billion. More than sixty percent of this cumulative ODI went "to" Hong Kong, which is regarded as an offshore financial center or tax haven by many economists (e.g., Hines and Rice, 1994; Hines, 2005). The flow figures are even more pronounced: a flow of US\$69 billion, ranked 5th among all economies. More than seventy percent of this amount was invested "in" Hong Kong, the British Virgin Islands, and the Cayman Islands, the top three recipients of China's ODI (Statistical Bulletin of China's Outward Foreign Direct Investment 2010). Are these figures reliable? More important, what is the fraction of these funds that resulted in reinvestment in other host economies?

This paper examines the determinants of China's ODI using a unique micro-level dataset that documents individual ODI transactions. The Heritage Foundation has created a dataset of large (above US\$100 million) Chinese business transactions (excluding bonds) starting in 2005. It includes transaction-level data recorded with dates, investors, quantity, share size, and investment target. The main difference between the Heritage Foundation dataset and the Chinese official outward FDI statistics is the way they treat Hong Kong and other offshore financial centers. While the official statistics treat tax havens as final destinations rather than transit points, the Heritage Foundation data uses foreign parties as sources of information when it is possible and excludes transactions that are not confirmed by all parties and those marred by conflicting or missing information. Pooling the Heritage Foundation and the Chinese official data together provides a unique opportunity to examine the role of tax havens and offshore financial centers in explaining the pattern of ODI.

The process of Renminbi internationalization has been evolving from trade to investment and from inward to outward investment, as China has recently encouraged trial Renminbi settlement in overseas project financing and direct investment. The importance of data quality in understanding China's "Go Global" policy and its implication on the role of Hong Kong as a financial intermediation cannot be overstated. It is true that the level of China's ODI is small compared with inflows, and its amount is also small relative to the global ODI. However, it has increased almost 6 times between 2005 and 2009 as the Heritage Foundation reports, and such a trend is expected to accelerate due to the strong motive for diversifying large foreign reserves and further financial market openness. The role of China as an outward investor has been widely discussed since some publicized large-scale acquisitions, such as the successful purchase of IBM's personal computer division and the failed attempt of the oil company Unocal. What catches even more attention from the media is perhaps China's oil investment in Africa, and hence the claim that China's outward investment is concentrated in developing countries, and in particular that China is now a dominant influence in Africa. Is this claim an exaggeration if more than sixty percent of China's ODI went to Hong Kong? Apparently, the picture can be very different if a significant share of the ODI went *through* but not to Hong Kong.

Given that more than thirty percent of China's ODI went directly to other countries, however, the inflow to Hong Kong may indeed be too low for tax and financial purposes. China has been the largest source of inward direct investment in Hong Kong, according to the official data. Even if a majority of the FDI inflow goes to other countries eventually, such a huge amount of inflow can still have a significant impact on Hong Kong's productivity growth (Leung et al., 2009), monetary and financial stability (He et al., 2009), as well as Hong Kong's offshore RMB business. To the extent that the Hong Kong economy as a tax haven can benefit from investment from China (Hines, 2005), it is important to understand the determinants of China's ODI.

Our objective is twofold. First, by comparing and contrasting this new micro-level data and the official aggregated data, we examine the determinants of the discrepancies, which we interpret as a result of differential treatment on offshore financial centers. In particular, we ask the question "To what extent can the discrepancies be explained by international competition in tax?" More generally, under what circumstances can the Heritage Foundation data explain the variation in the official measure of China's ODI? Moreover, do the discrepancies between the two measures differ across sectors or host countries? Second, using this new micro-level ODI dataset, we reexamine certain "stylized facts" regarding China's ODI. Answers to these two questions help us understand the growing importance of Hong Kong relative to other offshore financial centers as a "recipient" of China's ODI.

Our results indicate that the official measure and the Heritage Foundation measure of China's ODI are correlated only in the sample of non-haven countries. Moreover, the correlation is economically small: on average, a dollar increase in the Heritage foundation measure of ODI corresponds to less than a fifteen cent increase in the official measure of ODI among the non-haven countries. To the extent that the Heritage Foundation is reliable, the official data largely understate the magnitude of China's ODI in many non-haven countries. Moreover, we show that the downward bias is particularly large in investment in energy. On the other hand, we document that the sharp increase in official China's ODI to Hong Kong coincides with the rise in the Heritage Foundation measure of ODI to OECD countries since 2007. Finally, using the Heritage Foundation data, we show that some of the well-documented "stylized facts" about the pattern of China's ODI are indeed artifacts of the mismeasurement of ODI according to the official data. For instance, contrary to previous findings, we find no evidence that China's ODI is attracted to host countries with poor governance, and that neither cultural proximity nor geographical distance is a major determinant of China's ODI. Moreover, a significant fraction of China's ODI is energy and raw materials seeking.

The rest of the paper is organized as follows. Section 2 describes the Heritage Foundation data in detail and compares it with China's official statistics. In Section 3 we examine the determinants of China's ODI using this unique data set. Section 4 concludes.

2. Where Does China's ODI Actually Go? How, Exactly? And Why?

The Heritage Foundation, an American think tank, has created a public dataset of large Chinese business transactions outside bonds starting in 2005. In principle, these transactions include both Greenfield investments and M&A.¹ Detailed information is available on over 250 attempted transactions – failed and successful – over US\$100 million in all major industries, including energy, mining, transportation and banking. The Heritage Foundation explicitly notes that the Chinese official statistics treats Hong Kong and other offshore financial centers as final destinations rather than transit points. The dataset overcomes this weakness by monitoring companies: foreign parties are used as sources of information when possible. As a result, the dataset does not include loans, trade or unverified claims by host governments. Moreover, since the dataset is transaction-level, we can investigate not only where China invests overseas but also which firm invests, how much, and in which sector in the target country.

The Heritage Foundation dataset is useful in studying the determinants of China's ODI. Since 2002, the Ministry of Commerce (MOFCOM) has provided ODI statistics in accordance with OECD definitions and the IMF's balance-of-payments guidelines. Because the Chinese official statistics treats Hong Kong and other offshore financial centers as final destinations rather than transit points, pooling the Heritage Foundation and the Chinese official data together provides a unique opportunity to examine the role of tax havens and offshore financial centers in explaining the pattern of ODI.

2.1 Reliability of the Official Data

We first need to establish the reliability of the Chinese official data, as well as the Heritage data. Chow (2006) and Holz (2003) both argue that Chinese official statistics are by and large reliable, although statistical discrepancies do exist and hence users of these statistics need to be cautious. In the case of ODI statistics, the major discrepancy is driven by whether to treat offshore financial centers as final destinations rather than transit points.

Figure 1 indicates that in aggregate, the figures from the two sources of data are quite similar: ODI increased significantly from 2005 to 2008, and then declined slightly in 2009. The consistency between the two aggregate time series may surprise those researchers who are skeptical about the reliability of the Chinese official data. More importantly, it gives us some confidence that we can use the two datasets together to investigate the role of tax havens and offshore financial centers in explaining China's ODI pattern.

Although the two datasets are more or less consistent with each other in aggregate, Figure 2 illustrates that there are some significant discrepancies between them when we aggregate the data

¹ For a comparison between flows of funds data with M&A data of FDI flows in developing Asia, see Hattari and Rajan (2008). According to the Heritage Foundation, however, it is unclear whether reinvested earnings are included.

over time and decompose them by geographical region. In most regions, the official data underreport the amount of China's ODI. For Europe and North America, for example, two of the largest trading partners of China, the ODI reported by the official data is disproportionately small compared with the figure reported by the Heritage Foundation data. The two exceptions are East Asia and Latin America (including the Caribbean), where the three offshore financial centers (including Hong Kong, the British Virgin Islands, and the Cayman Islands) are located.

In addition to the discrepancy in geographical distribution, the two datasets also differ significantly in terms of the sectoral distribution in the target countries. Figures 3A and 3B present the sectoral distribution of China's ODI according to the official and the Heritage Foundation data respectively. The largest sector invested in by China, according to the official statistics, is business services, and the mining (including energy and metals) sector accounts for less than 20 percent. A very different picture emerges when we examine the Heritage Foundation data. In particular, mining now accounts for more than 70 percent of the total ODI, whereas business services accounts for essentially nothing. Interestingly, the two datasets agree on the fraction of investment in finance. The raw data suggest that perhaps a fraction of China's ODI in the mining sector is reported as investment in business services in some offshore financial centers.

2.2 Determinants of the Discrepancies between the Official Data and the Heritage Foundation Data

We have seen that although China's official aggregated ODI tracks closely the figures according to the Heritage Foundation, the discrepancy is rather significant at a more disaggregated level. We examine in this section some determinants of the discrepancies.

Figure 4 presents a plot of the histogram of the difference between the official and the Heritage Foundation ODI data. The plot depicts a unimodal right-skewed distribution of "errors." Recall that the geographical distribution of China's ODI suggests that offshore financial centers are responsible for the difference between the two measures. The long right tail is indeed driven by the three offshore financial centers, and hence the errors are not normally distributed. Finally, a scatter plot displaying the relationship between the two measures of China's ODI is shown in Figure 5. If the discrepancy between the two measures is purely random, the scatter plot is expected to spread around the 45 degree line. This is not the case. Instead, Figure 5 shows that tax haven countries tend to fall below the 45 degree line, where other countries lie above the 45 degree line.

To establish formally the relationship between the two measures of China's ODI, we first consider the following regression model. Let ODI_i and ODI_i^* denote respectively the official and the heritage foundation measures of China's ODI in country i (averaged over the period 2005-2009). TAX_i is an indicator variable measuring tax haven status (Hines and Rice, 1994; OECD, 2000).² Our first main regression is the following:

² The tax havens are: Andorra, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Cyprus, Dominica, Gibraltar, Grenada, Hong Kong,

$$ODI_i = \alpha_1 ODI_i^* + \beta_1 TAX_i + \gamma_1 ODI_i^* \times TAX_i + u_{1,i}. \quad (1)$$

The parameter α_1 measures the effect of ODI_i^* on ODI_i , conditioned on country i not being a tax haven (the “1” subscript denotes the equation number here). Similarly, $\alpha_1 + \gamma_1$ measures the effect of ODI_i^* on ODI_i , conditioned on country i being a tax haven. If the official and the Heritage Foundation measures of China’s ODI are consistent with each other, α_1 should be one and both β_1 and γ_1 should be zero.

Table 1 summarizes the results. Column (1) shows that while the two measures of ODI are positively correlated in the whole sample, the correlation is economically small and highly insignificant statistically. In particular, a dollar increase in the Heritage Foundation measure of ODI corresponds to less than a seven cent increase in the official measure of ODI. Column (2) shows that the relationship between the two measures of ODI becomes more significant once we control for the status of tax haven. Indeed, being a tax haven has an economically large (but imprecisely estimated) impact on the official measure of ODI. Column (3) shows the heterogeneous association between the two measures of China’s ODI with respect to the status of tax haven. This result can also be illustrated by examining the correlation between the two measures in the subsamples of tax-haven and non-haven countries (columns (4) and (5)). In particular, a dollar increase in the Heritage foundation measure of ODI corresponds to less than a fifteen cents increase in the official measure of ODI among the non-haven countries. Formally, the F-statistics show that in all specifications, we can comfortably reject the hypothesis that $\alpha_1=1$. In other words, to the extent that the Heritage Foundation data are reliable, the official data grossly understates the magnitude of China’s ODI in the non-haven countries, because more than eighty percent of the ODI shows up in tax haven countries according to the official data.

We have seen from Figure 3 that investment in the mining and energy sector is largely underrepresented according to the official data. To examine the relationship between the official aggregate ODI and the sectoral ODI from the Heritage Foundation, we consider the regression:

$$ODI_i = \alpha_2 ODI_ENERGY_i^* + \beta_2 ODI_METALS_i^* + \gamma_2 ODI_FINANCE_i^* + \delta_2 ODI_OTHERS_i^* + u_{2,i}. \quad (2)$$

The coefficient α_2 measures the relationship between the Heritage Foundation measure of energy ODI and the official measure of total ODI, holding ODI in other sectors fixed. Other coefficients are interpreted in a similar way. When the official data understate the true value of China’s ODI, these coefficients will be less than one. Furthermore, the extent of underreporting will be different across sectors when these coefficients are different.

Ireland, Isle of Man, Jordan, Lebanon, Liberia, Liechtenstein, Luxembourg, Macao, Maldives, Malta, Marshall Islands, Mauritius, Monaco, Montserrat, Nauru, Netherlands Antilles, Niue, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Seychelles, Singapore, Switzerland, Tonga, Turks and Caicos Islands, Vanuatu, Virgin Islands (U.S.)

Column (1) of Table 2 shows that only investment in metals is significantly correlated with official ODI when we consider a sample of all countries. Using the sample of tax-haven countries only, neither investment in energy nor other investments is significantly correlated with the official ODI (column (2)). Column (3) shows that in the sample of non-havens, both energy and metals investments are significantly correlated with the official ODI, although the estimated coefficient of energy ODI is significantly smaller than the estimated coefficient of metals investment. In particular, a point estimate of 0.068 implies that a dollar increase in the Heritage Foundation measure of ODI in the energy sector corresponds to less than a seven cent increase in the official measure of ODI. While the point estimate of the coefficient of the ODI in finance is also larger than the one in energy, the finance coefficient is also less precisely estimated. Finally, the results for the ODI in other sectors are also very noisy and unstable. Overall, the F-statistics show that we reject the hypothesis that all the coefficients are identical using the non-haven sample, but we cannot reject this hypothesis using the tax-haven sample.

We conclude this section by examining some time-series patterns of China's disaggregated ODI. Figure 6 plots the time-series of the flow of China's ODI into the three major tax havens according to the official data. It is striking to see the sharp increase of ODI into Hong Kong since 2007. In particular, the flow of China's ODI to Hong Kong increased from US\$3.4 billion in 2005 to US\$38.6 billion in 2008, whereas the corresponding figure only increased slightly from US\$1.2 billion to US\$2.1 billion in the British Virgin Islands. In the Cayman Islands, another offshore financial center, the amount indeed declined from US\$5.2 billion to US\$1.5 billion. No such pattern is observed based on the Heritage Foundation data. Indeed, according to the Heritage Foundation data, there is no record of China's ODI into any of these tax havens. Why does Hong Kong outperform other offshore financial centers in attracting ODI from China? A possible explanation is the "round-tripping" story: the mainland domestic investors exploit the tax benefit granted to foreign investors by first channeling the capital to Hong Kong, and then importing it back to China. However, these benefits dried up after China's government removed the grants in most tax categories in 2008. In the official data, we do see a drop from US\$38.6 billion in 2008 to US\$35.6 billion in 2009, but the large portion still remains unexplained.

Using the Heritage Foundation data, Figure 7A shows that ODI in both energy and metals have increased since 2007. While there was an increase in ODI in finance in 2007, the trend has reversed since 2008. Figure 7B shows that the increase in China's ODI to OECD countries has been more pronounced compared with the increase in ODI to non-OECD countries. These patterns suggest that part of the sharp increase in official ODI to Hong Kong may be explained by investment in energy and metals in OECD countries through Hong Kong.

3. What are the Determinants of China's ODI?

Using the official data, Cheng and Ma (2007) document that during the 2003-2005 period, (1) cultural proximity, measured by whether the host economies speak the Chinese language, was a positive factor in attracting China's ODI, (2) the host economies' distance from China had a negative impact

on attracting China's ODI, and (3) per capita GDP of the host economies had a negative impact on China's ODI stock, although GDP had a positive impact on attracting China's ODI. Morck et al. (2008), on the other hand, claim that China's ODI is mostly acquisitions in neighboring Asian countries and resource-rich parts of Africa. Similarly, Cheung and Qian (2009) find that China's investment was motivated by both market-seeking and resource-seeking. A recent study by Cheung et al. (forthcoming) confirms such findings when restricting the sample to African countries. Buckley et al. (2007) find a positive relationship between China's ODI and the host country's political risk.

All these papers note that a lion share of China's ODI was made in three tax havens (namely, Hong Kong, the Cayman Islands, and the British Virgin Islands). However, using the official data, the only adjustment they can make is to exclude these three tax havens from their sample. Since Hong Kong is a Chinese-speaking society, result (1) from Cheng and Ma (2007) may be an artifact of the way the official data treats investment through offshore financial centers. For the same reason, when Hong Kong and other tax-haven economies are included in the sample, other results are also biased. On the other hand, even when these tax havens are excluded from the sample, the results will still be biased unless these 80 percent of the investment are proportionally reinvested in other countries. However, to the extent that tax can explain the discrepancy between the official and the Heritage Foundation data, the official data will disproportionately understate the flow of investment to higher-tax countries, calling the reliability of the evidence into question. Using the Heritage Foundation data, we can reevaluate these claims on China's ODI pattern. Furthermore, the micro-level data allow us to examine whether the determinants of China's ODI are different for investment in a different sector.

Table 3 reports the regression results that replicate previous analysis using the official statistics. Following the literature, we regress the logarithm of China's ODI on a number of determinants, including geographical proximity, cultural proximity, quality of governance, abundance of natural resource, and the logarithm of GDP.³ Column (1) shows that countries with similar culture proximity (measured by common language), closer geographical distance, and larger GDP attract more China's ODI, but neither governance quality nor natural resource abundance is a significant determinant of it. Similar results are reported in column (2), when we add one to the dependent variable before taking log so that the sample includes observations with zero ODI. Because of the concern about tax havens, the next two columns report the result using the subsample excluding them. Column (3) reports that the effect of governance quality becomes negative in this subsample. Such a finding may seem counterintuitive at the first glance, but it is consistent with Buckley et al.'s (2007) finding that China's ODI and the host country's political risk are positively correlated. Also, although the regression using all country data shows that resource abundance does not attract China's ODI, resource abundance is positively correlated with the ODI once we exclude tax havens in the sample, although the effect of resource abundance is smaller than the effect of market size (measured by GDP of the target country). Further breakdown shows that ores and metals both have a positive effect, while fuel has no effect.

³ Data on geographical proximity and cultural proximity (measured by whether a country speaks the Chinese language) are obtained from the CEPIL. Data on quality of governance, fuel and raw material dependence, and GDP are taken from the World Bank dataset.

Still, the official data suggest that the market seeking motive appears to be a more important driving force of China's ODI compared with resource seeking motive.

We have seen that the discrepancy between the official and the Heritage Foundation measure of China's ODI are not random, and hence one should expect the above analysis may not be robust to using the Heritage Foundation data. Table 4 reports the results when we reexamine the determinants of China's ODI using the Heritage Foundation data. Because the Heritage Foundation data have many zeros, column (1) reports the result where the dependent variable is the logarithm of China's ODI plus one. Interestingly, natural resource abundance now becomes an important determinant of China's ODI, whereas the effect of common language and governance quality become no more significant. Moreover, geographic distance, if anything, has a positive impact on attracting China's ODI, although the estimate is only marginally significant at the 10 percent level. Because of the "zero problem" in the log-linearized specification of the gravity model, we next re-estimate the constant-elasticity specification using the Poisson pseudo-maximum-likelihood method suggested by Santos Silva and Tenreyro (2006). Column (2) shows that the effect of geographical distance is no longer significant once we include the observations with zero China's ODI. The effect of natural resource abundance, however, becomes even more significant both economically and statistically, whereas the effect of governance quality becomes positive, although the estimate is not very precise. The next column shows that both fuel and metal abundance attract China's ODI. The last column shows that the effect of natural resource abundance is robust to excluding all tax havens from the sample.⁴ Overall, the Heritage Foundation data suggest that the resource seeking motive of China's ODI is at least as strong as the market seeking motive.

4. Conclusion

With the world's largest foreign exchange reserves and a strong motive to diversify its foreign investment, China is shifting from being a country known for exports to one being active in investing overseas. The importance of data quality in any empirical inquiry cannot be overstated. To understand the nature of and to evaluate the consequences of China's "go global" policy, we need reliable and consistent measure of ODI flows. Our analysis indicates that one has to be careful in drawing any conclusion based on the official ODI statistics, because the official data treat tax havens as final destinations rather than transit points.

Using a micro-level dataset collected by the Heritage Foundation that documents individual ODI transactions, we show that on average a dollar increase in the Heritage Foundation measure of ODI is associated with less than a fifteen cent increase in the official ODI among the non-haven economies,

⁴ Column 4 also shows that in the subsample of non-tax havens, common language has a negative impact on China's ODI. In the full sample, the economies that share a common language with China are Hong Kong, Singapore, and Taiwan. Among them, both Hong Kong and Singapore are tax havens. The negative effect in the subsample of non-haven economies may therefore be explained by the political tensions between China and Taiwan. Indeed, FDI from China is not permitted under Taiwan's 1992 Act governing relations between Peoples of the Taiwan area and China area on national security grounds, except a handful of small cases after 2002.

suggesting that there is indeed a significant discrepancy between the two datasets at the country level. We also find evidence for heterogeneity in the extent of the downward bias with respect to sector. The sharp increase in the official ODI to Hong Kong since 2007, for example, coincides with the rise in the Heritage Foundation measure of ODI to OECD countries in the energy sector. Finally, we show that some of the well-documented stylized facts about the pattern of China's ODI are indeed artifacts of the mismeasurement of the official data. In particular, we show that the resource seeking motive of China's ODI is at least as strong as the market seeking motive.

We do not claim that the Heritage Foundation measure of China's ODI is perfect. Indeed, the Heritage Foundation sample is at best a truncated one, because transactions below US\$100 million are not recorded. By monitoring companies, the Heritage Foundation data may also miss transactions that are less noticeable to the public. Our finding that the determinants of China's ODI are sensitive to the source of data suggests that future research on China's ODI should pay more attention to collecting better data.

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Table 1. Heritage Foundation (HF) and Official ODI Data

	All Countries			Tax Havens	Non-Havens
	(1)	(2)	(3)	(4)	(5)
HF ODI	0.067 (0.073)	0.102 [*] (0.056)	0.142 ^{***} (0.027)	-0.655 (0.710)	0.142 ^{***} (0.027)
Tax Haven		1042.264 (785.051)	1139.889 (867.223)		
HF ODI xTax Haven			-0.797 (0.690)		
F Test	162.93 ^{***}	261.13 ^{***}	1030.70 ^{***}	5.44 ^{**}	1041.68 ^{***}
R ²		0.057	0.062	0.004	0.489
Observations	156	156	156	25	131

Notes: The dependent variables are the official ODI. The F-Test reports the F statistics of the null hypothesis that all the coefficients reported in the table are zeros. Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 2. Heritage Foundation (HF) Sectoral ODI and Official Data

	All Countries	Tax Havens	Non-Havens
	(1)	(2)	(3)
HF ODI in Energy	-0.079 (0.112)	-0.749 (0.605)	0.068 ^{**} (0.034)
HF ODI in Metals	0.137 ^{**} (0.054)		0.196 ^{***} (0.026)
HF ODI Finance	0.076 (0.104)		0.181 (0.130)
HF ODI in Others	0.175 (0.382)	-0.431 (1.028)	-0.061 0.366
F Statistics	2.52 [*]	2.09	2.71 ^{**}
R ²	0.002	0.004	0.530
Observations	156	25	131

Notes: The dependent variables are the official ODI. Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3. What Do the Official Data Tell Us about the Determinants of China's ODI?

	All Countries		Non-Havens	
	(1)	(2)	(3)	(4)
ln(distance)	-0.627 [*] (0.361)	-0.521 [*] (0.295)	-0.510 [*] (0.303)	-0.598 ^{**} (0.286)
Common language	3.748 ^{***} (1.301)	3.375 ^{***} (1.232)	0.192 (0.246)	0.374 (0.230)
Governance quality	-0.378 (0.304)	-0.238 (0.220)	-0.386 [*] (0.229)	-0.604 ^{***} (0.200)
Natural resource	0.187 (0.124)	0.102 (0.089)	0.188 [*] (0.110)	
Fuel				-0.028 (0.060)
Metals				0.277 ^{***} (0.095)
ln(GDP)	0.535 ^{***} (0.109)	0.400 ^{***} (0.077)	0.436 ^{***} (0.085)	0.518 ^{***} (0.085)
R ²	0.320	0.361	0.278	0.315
Observations	121	129	111	110

Notes: Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4. What Do the Heritage Foundation Data Tell Us about the Determinants of China's ODI?

	All Countries		Non-Havens	
	OLS (1)	(2)	Poisson Maximum Likelihood (3)	(4)
ln(distance)	0.660 [*] (0.391)	0.162 (0.360)	0.146 (0.324)	0.062 (0.322)
Common language	0.177 (1.598)	1.017 (0.818)	1.067 (0.879)	-18.005 ^{***} (1.070)
Governance quality	-0.214 (0.291)	0.356 (0.247)	0.121 (0.222)	-0.000 (0.208)
Natural resource	0.331 ^{**} (0.149)	1.127 ^{***} (0.273)		
Fuel			0.624 ^{***} (0.182)	0.713 ^{***} (0.193)
Metals			0.563 ^{***} (0.190)	0.665 ^{***} (0.201)
ln(GDP)	0.660 ^{***} (0.108)	0.722 ^{***} (0.147)	0.603 ^{***} (0.134)	0.666 ^{***} (0.155)
R ²	0.304	0.549	0.538	0.579
Observations	129	129	126	110

Notes: Robust standard errors are reported in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Figure 1. Trend of Chinese Outward Direct Investment

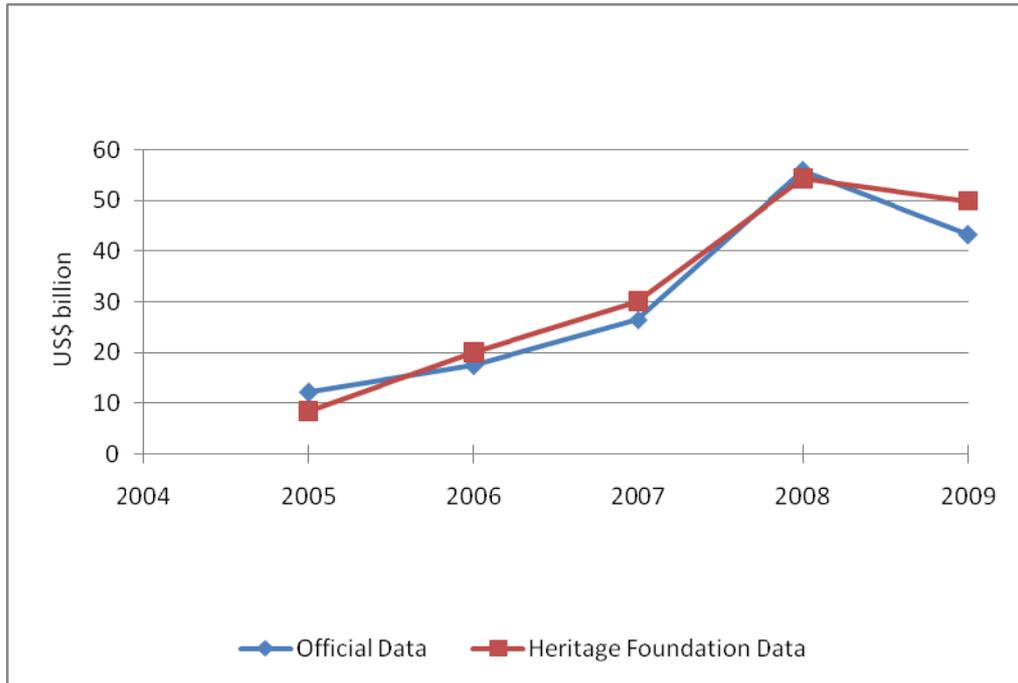


Figure 2. Geographical Distribution of China's OFDI

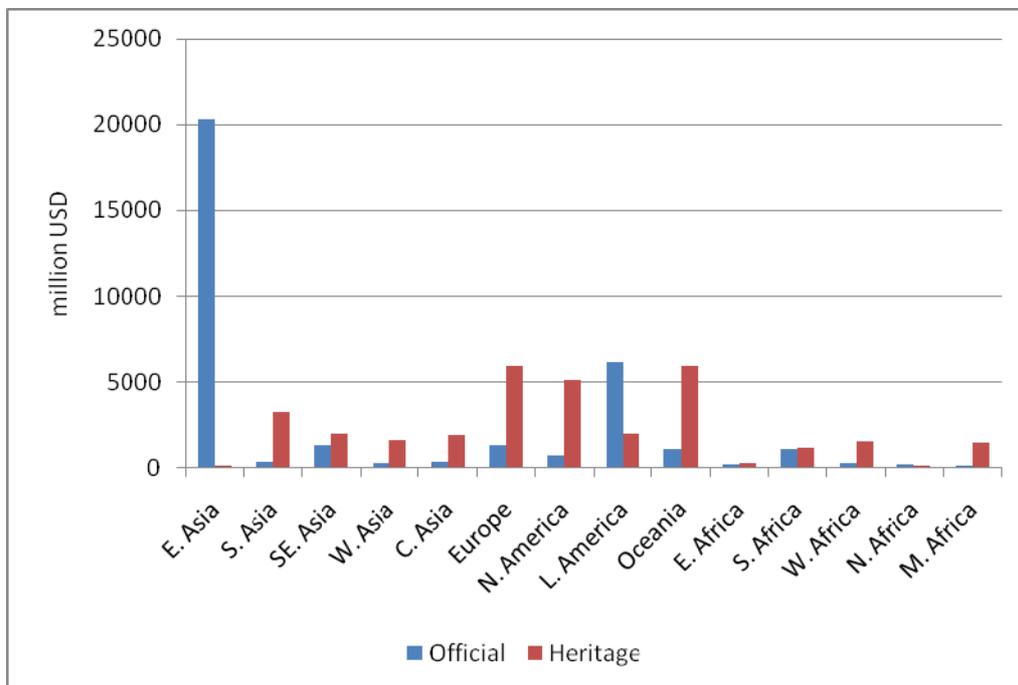


Figure 3A. Sectoral Distribution of China's ODI (Official Data)

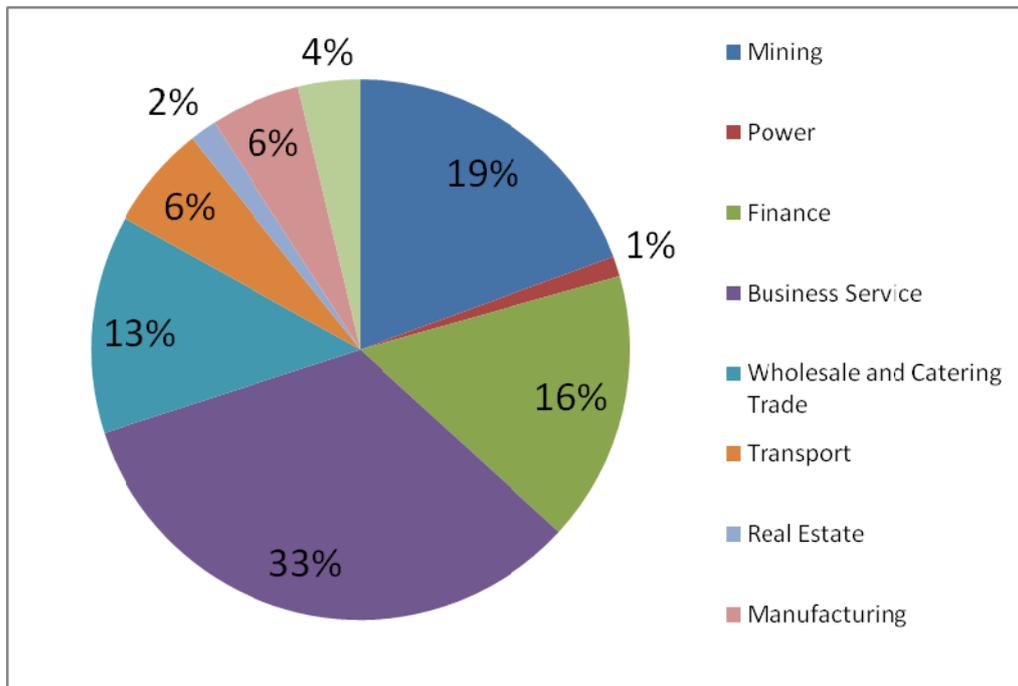


Figure 3B. Sectoral Distribution of China's ODI (Heritage Data)

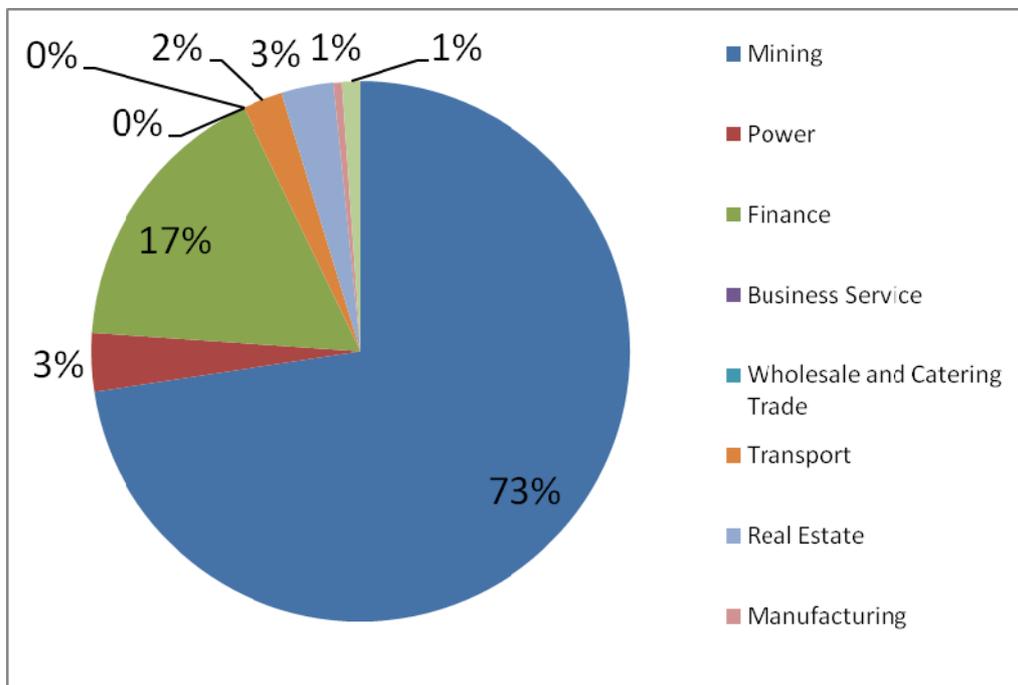


Figure 4. Distribution of Discrepancy between Official and Heritage Data

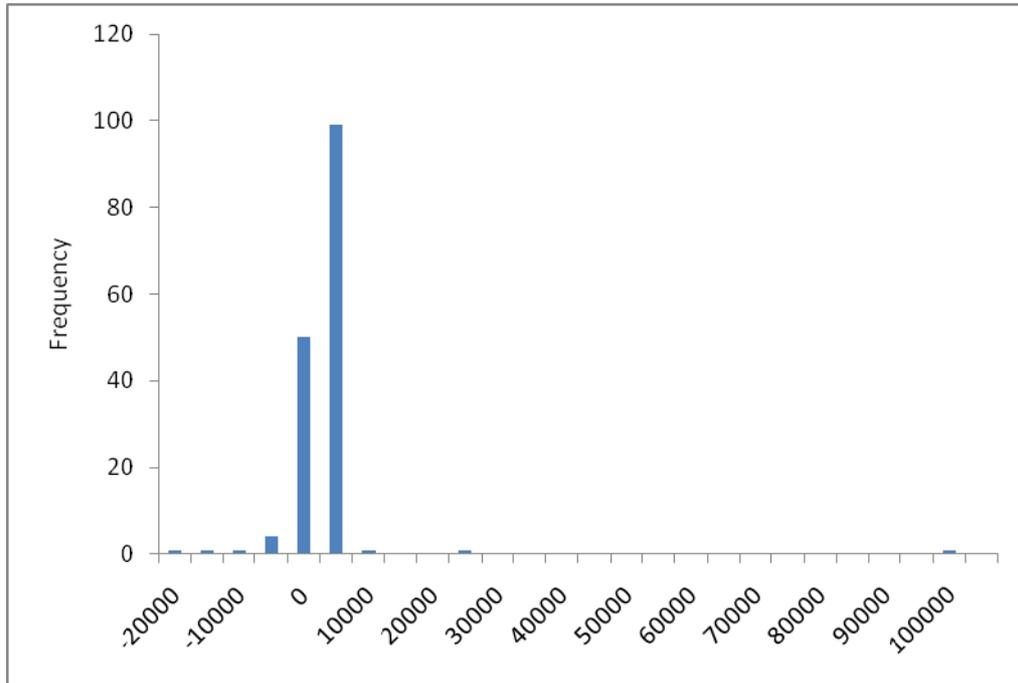


Figure 5. Scatter Plot of the Two Measures of China's ODI

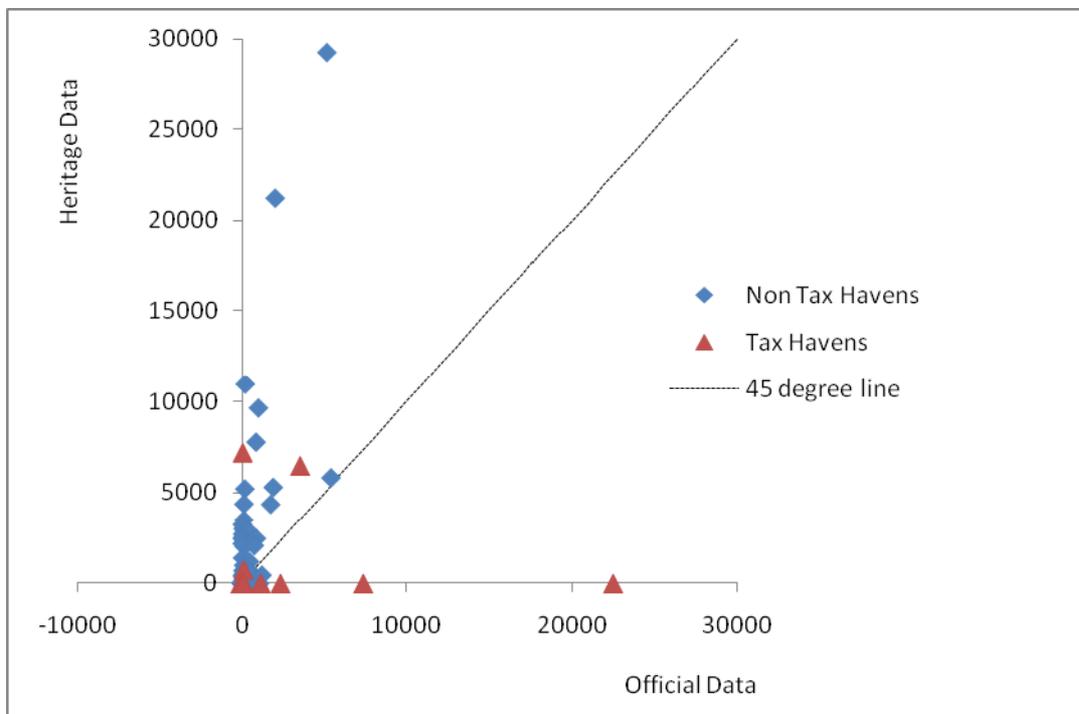


Figure 6. Official China's ODI into the Three Major Tax Havens

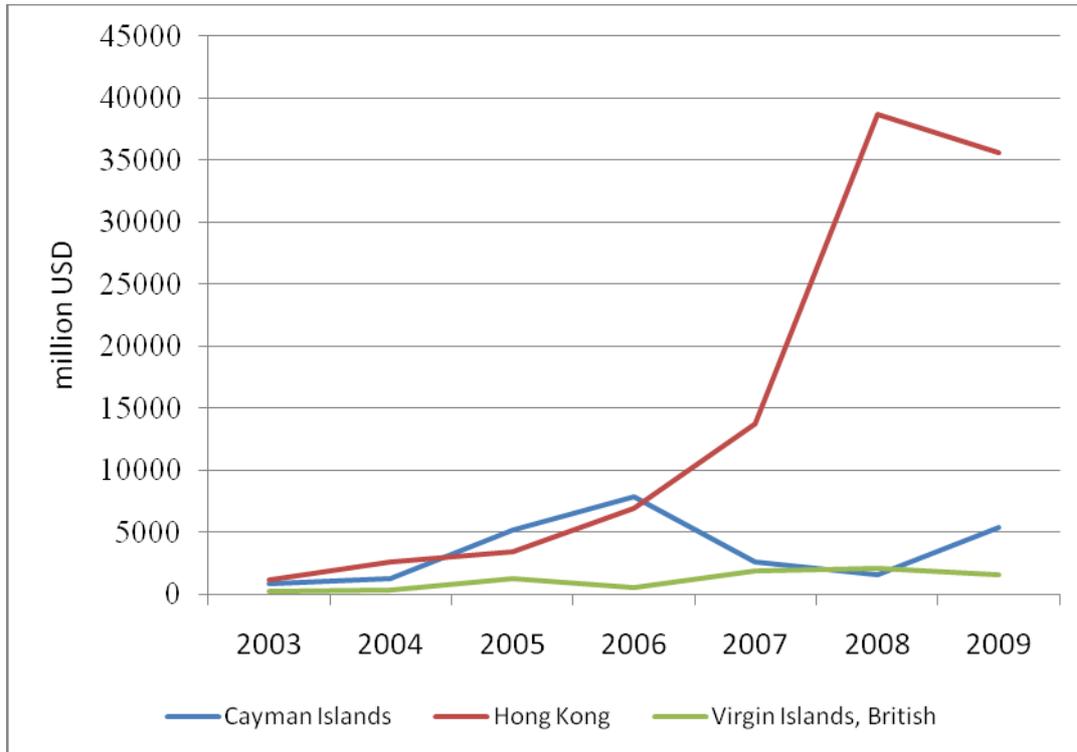


Figure 7A. Official China's ODI into the Three Major Tax Havens

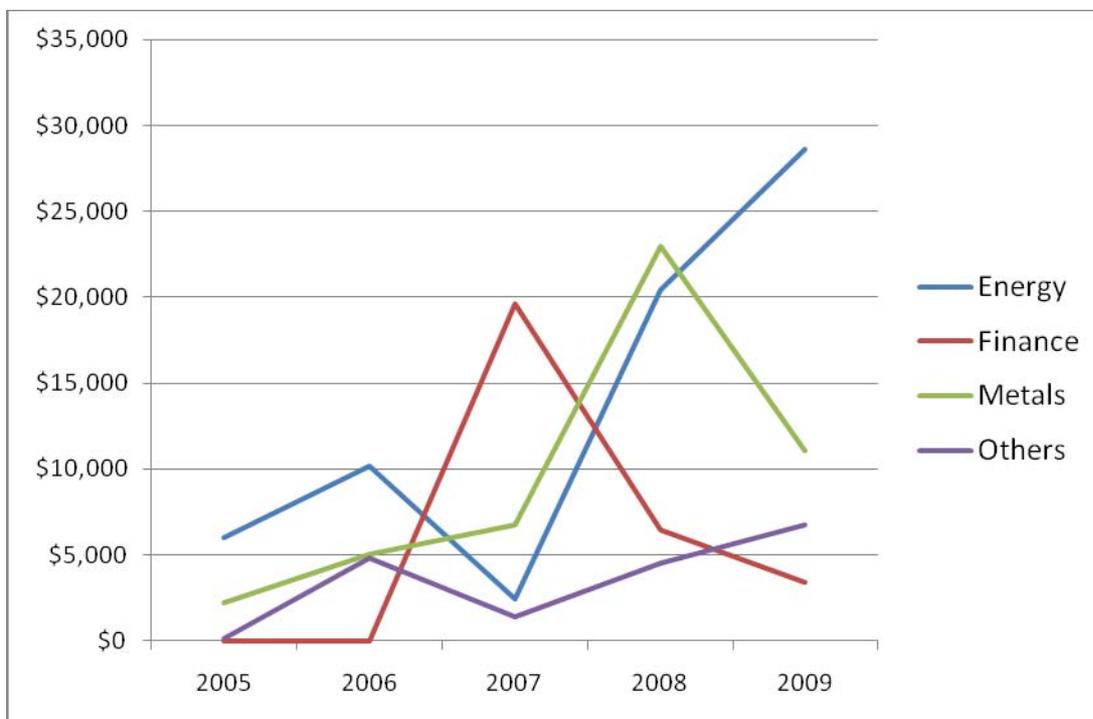


Figure 7B. Official China's ODI into the OECD and non-OECD Countries Havens