Does Chinese Investment Contribute to The US Economy? An Analysis of Selected US States' Growth, Employment and Exports

Hasanat Shah, Syed and Li, Jun Jiang

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An Analysis of Selected US States' Growth, Employment and Exports

Syed Hasanat Shah

(Corresponding Author)

Faculty Member, School of Economics, Jilin University,

(haist@jlu.edu.cn, hasnaatsyed@yahoo.com)

Li Jun Jiang

Dean and Professor, School of Economics, Jilin University,

(lijj@jlu.edu.cn)

Abstract:

This paper analyzed the impact and causal relation of outbound Chinese FDI on growth, employment and export performance of 16 selected US states. The study employed Panel data where contemporaneous panel fixed estimation results shows that the impact of Chinese outbound FDI on the economic growth, employment and export are insignificant. However, the impact of FDI on growth is positive and significant in interaction with States export to China. Applying heterogeneous panel causality approach on a refined dynamic panel model indicates that Chinese FDI does not cause GDP, exports and employment while the results of reverse causality confirm that US State GDP (market size) cause the inflow of Chinese outbound FDI.

JEL Classification, F21, F23

Key words: Chinese out-bound FDI, US States, Panel Unit root, fixed effect, growth, employment, exports

1. Introduction:

In economics, the positive impact of FDI (Foreign Direct Investment) inflows on host country is considered as an axiomatic truth. It is generally considered that FDI inflows bring along expertise, technology and required wherewithal that drastically changes the economic landscape of the host country. Theoretically, the calculation is very

simple. Under neo-liberal paradigm - inbound FDI fills the gap between saving and investment, and thus, augment the domestic capital that pave the way for growth, enhance trade and create new jobs, while endogenous models consider long run growth as a function of technological progress and support their argument by underlining the positive influence of FDI on long term growth rate in the host economy via technology transfer, diffusion, and spillover effects. However, the reality can be different depending on the prevailing circumstances and form of investment. For example the assumption that foreign-owned firms possess superior technology is less compelling when the host country is among the world's technological leaders. Therefore, the positive effects of FDI can not be generalized, particularly when foreign investment flows from developing (capital scarce) countries to the developed (capital abundant) part of the world.

In the last three decades FDI received widespread attention, however, the focus was limited to flow of FDI from developed to developing region or with in developed region. For example more than 90 percent of FDI inflow in the US originates from Europe, North America and Japan while the rest of world contributes less than 10 percent to FDI inflows in the US and that the share of China in overall FDI inflows in the US is only 0.6 percent. However, irrespective of small share, Chinese FDI in the US recently received negative and out of proportion attention which has yet to subside.

China is growing rapidly and like any other country, for China the most important thing is to keep the chain of supply intact and the wheels of growth turning. This is not possible without 'going out globally' and integrating herself in the world economy. The

recent trend in Chinese outbound investment across the globe is a step in that direction. The growing confidence of Chinese firms on local level and their urge to go out globally (supported by huge pile of China's foreign exchange reserves and more than 7 percent growth rate) indicates that in the coming years Chinese firm will invest more aggressively, particularly in the US. Huge US market and sophisticated latest technology have great attraction for foreign investors and Chinese firms are no exception. Similarly, infrastructure, level of financial development, skilled labor, R&D, technical know how (Hymer 1976) and testing waters and acquiring credibility are some of the other plausible reasons that explain the interest of Chinese investors in the US[1].

Chinese outbound investment is a recent phenomenon that can be traced back to 'Going out Strategy' initiated Chinese government in 1999. Since then Chinese investment across the globe and particularly in the US increased steadily where it jumped from $.4 billion in 2002 to $ 6.5 billion by 2012. Chinese investment in the US increased by 70 percent after 2008 to 2011. Though the stock of Chinese FDI in the US is mere 0.3 percent, almost negligible when compared with Chinese investment in treasury and sovereign wealth fund in the US, still the US government is skeptical of Chinese FDI. One recent example is the presidential intervention in a deal between Sany and Ralls Corporation. US government is concerned that China state owned firms and industrial policy might lead her firms to acquire assets overseas only to move jobs and production back home, and therefore, in the long run Chinese investments will harm rather than help local employment and growth. This raise question about the integrity and contribution of

[1] China Council for the Promotion of International Trade, European Commission, and UNCTAD (2010) "Survey on Current Conditions and Intention of Outbound Investment by Chinese Enterprises,"

Chinese direct investment in the US and has rekindled old fears about the political and economic impacts of FDI.

Thus, this paper is an effort to analyze qualitative and quantitative impact of Chinese outbound investment on the selected states of the US that receive Chinese FDI. We want to measure the impact and causal relation of Chinese outbound investment on growth, employment and exports in the selected US States. This will help us understand the motives and the role of Chinese investment in the US economy as well as the harsh response of the US to FDI of Chinese origin.

The rest of the paper is divided as: section 2 consists of literature review, section 3 deals with descriptive analysis of Chinese outbound investment in the US, section 4 deals with data and methodology while section 5 discusses empirical results. Last section concludes the paper.

2. Literature Review

The empirical literature on FDI and economic growth can be broadly classified into two parts: (i) The considerable direct impact of FDI on trade that ultimately increases growth (Markussen and Vernables, 1998) and (ii) the role of FDI in stimulating and enhancing the productivity of domestic firms (Borensztein et al., 1998). In the first case, macro economic studies, unlike the microeconomic empirical evidence, generally suggest positive role of FDI in generating economic activities that attracted widespread attention from scholars in the fields of international business and world economy (Barry and

Bradley, 1997; Glass and Kamal, 1999; Mortimore, 2000; Hunya, 2002; Girma et al., 2005). These scholars identified a number of channels, including augmenting capital stock, technology transfer, learning by watching, and complementary inputs etc. through which FDI contribute to growth and development of host economies.

Ekhardt et al (2009) shows that FDI inflows to the US demonstrate more positive externality compared to domestic investment. Empirical evidence also confirms that US have advantage in utilizing FDI compared to other advanced states where agglomeration economies can be reaped (Head, Ries and Swenson 1995; Bobonis and Shatz 2007). Dunning (1999) argue that the type of inbound FDI in advanced economies, such as the US, is different than their investment in developing economies. US attract asset seeking rather than asset exploiting type of FDI where asset seeking FDI is motivated by the investing company's search for knowledge and technology (Cantwell 1989) that are not available locally.

Driffield and Taylor (2002) argued that the impact of FDI is greater across developed countries where the domestic and foreign firms have nearly same level of productivity, while other studies underscore the importance of human capital, per capita income, the role of financial development and trade openness for the positive spillover of FDI (Borenzstien et al. 1998, Blomstrom et al. 1994, Alfaro et al. 2003, Balasubramanyam et al. 1996). Alfaro et al. (2003) consider that the positive effect of FDI depends on a well established capital markets, while other consider that trade openness is an important channel through which FDI can affect growth favorably

(Balasubramanyam et al. 1996). Choe (2003) adapts a panel VAR model to explore the interaction between FDI and economic growth in eighty countries in the period from 1971-1995. He confirmed the Granger causality relationship between FDI and economic growth in either direction but with stronger effects visible from economic growth to FDI than the other way around. Xiaohuai et al. (2002) using quarterly data for China found co-integration as well as bidirectional short and long run causality between FDI and growth.

Chowdhury and Mavrotas (2003)De Mello (1999)Nair-Reichert and Weinhold (2001) emphasize heterogeneity and tested causality for cross country panels by using mixed fixed and random (MFR) coefficient approach in order to test the impact of FDI on growth and found that FDI on average shows significant relation with growth, although the relationship is highly heterogeneous across countries. Using heterogeneous panel Hansen and Rand (2004) and Mahmoud and Fatima (2007) confirmed two-way causality between FDI and the level of GDP for a sample of 31 developing and six Gulf countries, respectively. Their results support the role of FDI in growth via knowledge transfers and adoption of new technology. The main exception from these general conclusions is Carkovic and Levine (2002).

However, Krugman (1998) doubts the benefits associated with foreign investment and acquisition of domestic firms due to adverse selection problem, particularly at the time of financial crises where foreigners can take advantage of liquidity constraints and the domestic assets are on 'fire sale'. FDI undertaken in such situation may transfer ownership of firms from domestic to foreign firms that are less efficient, since foreigners

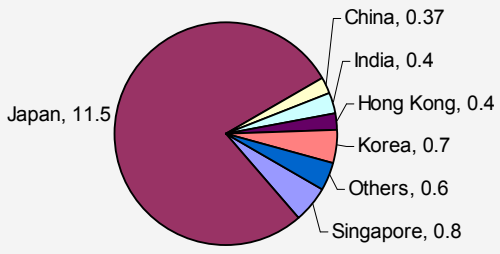
acquire local firms because of their superior cash position as opposed to a special know-how or technological advantages.

3. Analysis of Chinese Outbound Investment in the U.S

The structure of Chinese economy is different from the US where US is the stanch follower of free market while china believes in social market economy. In China state owned enterprises compared to private firms are traditionally strong and had easy access to finances. State owned enterprises dominated Chinese economy for long time even after open-up policy and remained main investors within and outside the country. But in the last ten years the share and number of state owned enterprises decreased and they faced stiff competition from domestic and international investors. Recently this trend is clear from China's FDI in the US where the number of state owned investment projects reduced to half that of private investment projects.[2] Similarly, the value of Chinese private investment in the US is on rise. In 2012, for the first time, the value of private investment was more than the total investment of Chinese state owned firms in the US.

Globally US is the most attractive country for FDI that lured more than $ 2 trillion investment in a period of eleven years from 2000 to 2011.

Fig 1: FDI Stock in the US by Source Country from Asia, % of total, UBO Principle

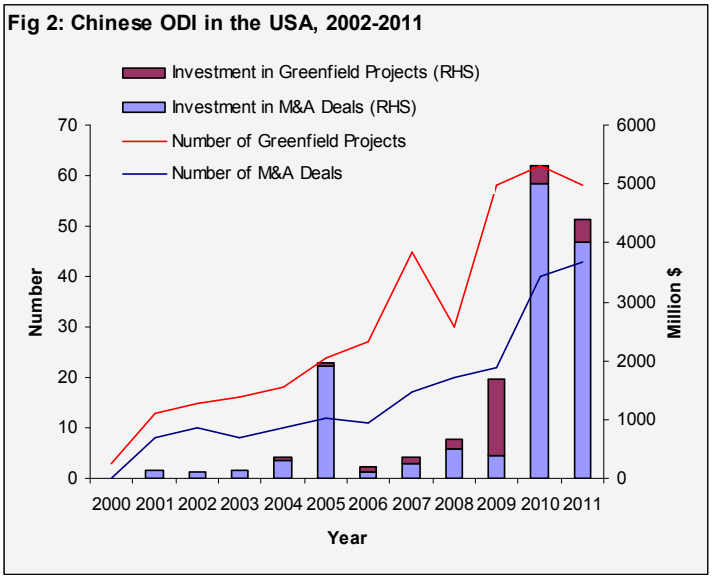


[2] http://rhg.com/notes/chinese-fdi-in-the-united-states-q1-2013-update

However, the share of Chinese FDI in the said stock is mere 0.37 percent (Fig 1). From 2000 to 2008, the accumulated direct Chinese investment in the US was just $ 4.3 billion that surged to $ 17 billion by 2012. This shows that contrary to global trend, the pace of Chinese investment to US picked momentum just after 2008. By one estimate, Chinese FDI in the US is a source of more than 25000[3] employments with average compensation of employees is 20 percent higher than the domestic firms. Similarly, Chinese FDI contribution to exports was $121 million in 2009, which is four fold higher than 2008.

Structural changes at home encourage Chinese firms to find their prospects by directly investing in developed economies. Thus acquiring rich-world brands and technologies, learning how to operate under advanced regulatory regimes, and gaining experience in providing higher value-added services are now part of the diverse mix of motives drawing China's firms to the US. Chinese firms have finances but majority of them are investing abroad for the first time. Therefore, they prefer to collaborate with the local firms. By 2011 the accumulated Chinese investment in the US M&A was $ 13.5 billion compared to $ 2.8 billion in Greenfield investment (Fig 2). The number of deals in M&A is on rise and this shows that many firms

Fig 2: Chinese ODI in the USA, 2002-2011



[3] http://rhg.com/articles/the-employment-impacts-of-chinese-investment-in-the-united-states

from China are aspiring to join hands with a partner in the US, while firms in the US going through a troubled time and anticipating China's economic rise, welcome Chinese investment.

Empirical evidence supports the argument that Greenfield investment generates more jobs compared to M&A. However, M&A played equally important role in maintaining jobs in the US after the 2008 crisis. M&A saved several troubled US firms from bankruptcy and successfully turned them productive. As human talent, experience and know how are rooted locally and not prone to easy transfers, therefore, Chinese buyers depended on local staff (e.g Lenovo overtake of IBM) after acquiring a US business. M&A by Chinese firms also provides synergies with existing operations and opened the venues for partners to access market, cheap input materials and economies of scale in manufacturing in China. Chinese investment in the US by States is Sporadic and the bulk of investment is concentrated to a few States rich in energy resources, advance industrial asset and latest technology e.g Texas and California. This pattern of Chinese FDI corroborates earlier studies according to which US advanced States, where agglomeration economies could be reaped, attract more inbound FDI (Coughlin et al. 1991; Head et al. 1995; Bobonis and Shatz 2007)

4. Methodology and Data

4.1 Unit Root Testing

The usual first step in empirical testing in temporal data is stationarity test. Traditional tests in this regard are ADF (Augmented Dickey and Fuller) and P.P (Philip

Pearson) tests. However, the ADF and P.P tests are originally meant for single time series and may suffer from low statistical power in unbalanced panels and small samples like ours. Therefore, in our case we rely on IPS (Im, Pesaran, Shin ,2003) and Fisher Chi based panel unit root tests. IPS test can be described as

$$\Delta SGDP_t = \alpha_0 + \delta it + \rho SGDP_{it-1} + \sum_{j=1}^{pi} \phi_i \Delta SGDP_{it-j} + \upsilon_{it} \qquad (4.1)$$

The null hypothesis for IPS panel unit root test is

$$H_0 : \rho_i = 0 \text{ for all } i \qquad (4.2)$$

against the alternatives

$$H_1 : \rho_i < 0, \text{ for } i = 1,2..,N_1, \text{ and } \rho_i = 0, \text{ for } i = N_1 + 1, N_1 + 2,...,N \qquad (4.3)$$

The alternative hypothesis allows some (but not all) of the individuals to have unit roots. IPS deals with the weaknesses of ADF by taking averages of the ADF individual unit root test statistics for each of the cross sectional unites 'i' in the panel and therefore can be applied to balanced as well as unbalance panel data. Equation 4.1 considers unobserved effects and heterogeneous time trend when it is testing for panel unit roots at level. In case our test fails to reject the null at level, we move to test for a unit root in 1st difference.

Similarly, the Fisher-type test uses p-values from unit root test for each cross-section i and take the following form.

$$P = 2\sum_{i=1}^{n} \ln pi_i \qquad (4.4)$$

which has a $\chi 2$ distribution with 2N degrees of freedom. The null and alternative hypotheses of Fisher tests are the same as in the IPS test.

Determining the order of integration helps tackle the spurious relation among the dependent and explanatory variables on one hand and provide information whether long run relation i.e. co-integration among the variables of interest can be tested or not, on the other. If the variables are of same order of integration and none of the control variables is of a higher order of integration than that of dependent variables, then co-integration analysis is applicable, otherwise not.

4.2 Model Specification

We assume that the relationship between FDI and growth (exports and employment) is linear and given by

$$SGDP = \alpha + \beta CFDI + \phi Z \qquad (4.5)$$

Where SGDP is the log values of US States GDP while CFDI is the log values of Chinese outbound investment in the selected US states and Z is the set of conditioning information to control for other factors associated with economic growth

For heterogenous panel data, the model may be described as

$$SGDP_{it} = \alpha + \beta CFDI_{it} + \phi Z_{it} + \varepsilon_{it} \qquad (4.6)$$

Where i=1,2, ----, N and t=1,2,----, T

N refers to the number of countries and T refers to the number of over time for States in the panel, while α is country specific intercept or fixed effect parameter. We will extend the same model to capture the impact of Chinese FDI (CFDI) on employment and exports by replacing SGDP with Ump (employment level) and SXT (exports) and by altering the variables in Z accordingly.

The vector of other explanatory variables (Z) associated with the economic growth, employment and exports of States can be divided into two categories: internal and external. Internal variables include wage rates (Wr) and employment level (Ump) while external variables include the world GDP minus US GDP (WWS), States total export (SXT). Thus for GDP, employment and export we devise three models from 4.7 to 4.9 as

Model 1

$$SGDP_{it} = \alpha + \beta_{1i} CFDI_{it} + \beta_{2i} WWS_{t} + \beta_{3i} SXT_{it} + \beta_{4i} Ump_{it} + \varepsilon_{it} \quad (4.7)$$

Model 2

$$Uem_{it} = \alpha + \beta_{1i} CFDI_{it} + \beta_{2i} SGDP_{it} + \beta_{3i} SXT_{it} + \beta_{4i} WWS_{t} + \beta_{5i} Wr_{it} + \varepsilon_{it} \quad (4.8)$$

Model 3

$$SXT_{it} = \alpha + \beta_{1i} CFDI_{it} + \beta_{2i} SGDP_{t} + \beta_{3i} WWS_{t} + \beta_{4i} Wr_{it} + \varepsilon_{it} \quad (4.9)$$

In order to capture the impact of Chinese FDI in combination with States exports to China, we will replace SXT with XTMC (States total export minus export to China) and CFDI with FXC (interaction variable of Chinese export with Chinese FDI in States). Similarly we hypothesize that the impact of Chinese investment in the US States, β'_{1i}, in 4.10 is the function of export to China i.e. $\beta'_{1i} = \beta_{1i} + \beta_{5i} SXC_{it}$

$$SGDP_{it} = \alpha + \beta' CFDI_{it} + \phi Z_{it} + \varepsilon_{it} \quad (4.10)$$

Replacing β'_{1i} and variables of vector of Z as we did in equation 4.7, we get the following

$$SGDP_{it} = \alpha + \beta_{1i} CFDI_{it} + \beta_{2i} WWS_{t} + \beta_{3i} SXT_{it} + \beta_{4i} Ump_{it} + \beta_{5i} (CFDI * SXC)_{it} + \varepsilon_{it} \quad (4.11)$$

This gives us a model that includes the path of FDI impact both individually as well as interactively. Now to analyze the causal relation between SGDP, and CFDI, we convert our models to dynamic panel form by presenting the dependent variables as a function of lags of itself and other right hand side variables in equation 4.11. (Same process is employed for dynamic panel form for Ump and SXT, however with different Vector of explanatory variables)

$$SGDP_{it-1} = \alpha + \beta_{1i} CFDI_{it-1} + \beta_{2i} WWS_{t-1} + \beta_{3i} SXT_{it-1} + \beta_{4i} Ump_{it-1} + \beta_{5i} (CFDI * SXC)_{it-1} + \varepsilon_{it} \quad (4.12)$$

Following Nair-Reichert and Weinhold (2001), we orthogonalize the candidate causal variables (CFDI) after the linear influences of the remaining right-hand side variables have been taken into account

4.3 Data Description and Sources

It is important to mention that Chinese outbound investment in US is a recent phenomenon and the flow is sporadic on State level, and for that reason we include those States in our study who received Chinese foreign investment at least for half of the time period (Appendix table 1). Similarly, table 2(Appendix) illustrates the nature and source of data. We consider the role of Chinese out bound FDI (CFDI), State GDP (SGDP), States total exports (SXT) and level of employment (Ump) along with World GDP minus US GDP (WWS) and States wage rate (Wr) as variables of interest. Similarly we devised XTMC (States total exports minus exports to China) and FXC (which is an interaction variable of Chinese outbound investment to US states and US States export to China) by using simple arithmetic. We took the log of all the variables except Ump and wr. Reputed

international organizations rarely publish regional level data. Therefore, we had to rely on a number of authentic agencies from USA, both in public and private sectors, for collection of data. The range of the data is from 2002 to 2011.

5. Results and Discussion

5.1 Panel Unit Root result

Table 1 presents the result of Im-Pesaran-Shin (2003) and Fisher (phillip-perron) panel unit root test. All the variables except CFDI and FXC are non-stationary at level. However, these variables become stationary after first differencing. Based on IPS and Fisher (pp), the decision of stationarity is consistent. Different level of stationarity of CFDI (FXC) and other variables of interest shows that we can not run cointegration test.

Table 1: IPS (Im, Pesaran and Shin) and Fisher Panel Unit Root Test p Values

Variables	Im,Peseran and Shin		Fisher (Philip-perron)		Decision
	Level	First Difference	Level	First Difference	
SGDP	0.1320	0.0311**	0.1101	0.0000*	I(1)
WWS	0.6517	0.0002*	0.9507	0.0035*	I(1)
CFDI	0.0000*		0.0000*		I(0)
FXC	0.0000*		0.0000*		I(0)
SXT	0.9530	0.0000*	0.9990	0.0000*	I(1)
XTMC	0.9350	0.0000*	0.9986	0.0000*	I(1)
Ump	0.5380	0.1002***	0.6452	0.0000*	I(1)
Wr	0.9570	0.0001*	0.9995	0.0000*	I(1)

*,** and *** significant at 1, 5 and 10 percent level respectively

5.2 Contemporaneous Fixed Effect Model Estimation

Our results for Model 1, based on contemporaneous fixed effect panel estimation in table 2, shows that the effect of Chinese outbound investment (CFDI) on States growth (SGDP) is not significant while that of total States export (SXT) and level of employment (Ump) have significant impact on SGDP where one percent increase in State exports increase States GDP by 0.4 percent while a percent increase in unemployment reduces States GDP by 0.005 percent. However the result in Column 2 of table 2 for the role of Chinese investment changes when we replace CFDI by interaction variables FXC and SXT by XTMC. FXC has significant and positive, while the role of XTMC and Ump remained unchanged. The positive result for interaction variables negates the adverse impact of Chinese outbound FDI in US States.

Result for Model 2 in column 3 and 4 indicate that the role of CFDI and FXC are insignificant and does not affect employment level. However, CFDI and FXC carry the expected negative sign. On the other hand the negative and significant relation of Ump with SGDP, WWS, SXT and positive relation with Wr depict that as the State GDP along with world GDP and States total exports increases, unemployment level in States decreases while Ump increases when Wr increases. One of the reasons that CFDI and FXC role in generating employment are insignificant is that most of the Chinese investment in the US preferred M&A on Greenfield investment. Therefore, the true impact of Chinese FDI in the US States is difficult to be captured.

Table 2: Fixed Effect Model Panel Estimations						
Dependent Variables	**Model 1 (SGDP)**		**Model 2 (Ump)**		**Model 3**	
	With CFDI	**with FXC**	**With CFDI**	**with FXC**	**SXT With CFDI**	**XTMC With FXC**
C	0.0170 (0.000)*	0.02534 (0.000)*	2.117 (0.000)*	2.4663 (0.000) *	-0.0388 (0.013) *	-.0775 (0.025)**
SGDP			-35.8418 (0.003)*	-37.2916 (0.012) **	2.5910 (0.000) *	2.7071 (0.000)*
CFDI	-0.00161 (0.133)		-0.0722 (0.251)		0.0074 (0.283)	
FXC		0.0021 (0.033)**		-0.0959 (0.162)		0.009 (0.120)
WWS	0.0046 (0. 937)	0.0005 (0.998)	-21.9188 (0.000) *	-22.1338 (0.000) *	0.7618 (0.000)*	0.7687 (0.000)*
SXT	0.0452 (0.017)**		-6.1232 (0.002)*			
XTMC		0.0443 (0.015)**		-5.6900 (0.003)*		
Uem	-0.0054 (0.000)*	-0.0056 (0.000)*				
Wr			0.4169 (0.000)*	0.4232 (0.000)*	0.0107 (0.412)	-0.0110 (0.413)
R2	0.69	0.70	0.84	0.84	0.60	0.60
F-statistics	83.72 (0.000)	73.94 (0.000)	42.92 (0.000)	47.70 (0.000)	34.00 (0.000)	34.24 (0.000)
Tolerance	0.306	0.296	0.151	0.157	0.394	0.398
VIF	3.26	3.37	6.27	6.33	2.15	2.51
*,** significant at 1 and 5 percent level p values given in parenthesis are based on Heteroskedastic consistent t-statistics						

The results in columns 5 and 6 of table 2 capture the impact of Chinese FDI on States total export and interaction variables FXC on States export to rest of the world except China. The role of CFDI in SXT and FXC in XTMC is insignificant. This indicated that

like employment level, Chinese FDI does not play role in States Export. Positive and significant impact of WWS shows that US States exports heavily depends on the growth of world economy where a one percent increase in world output increases States export by 0.7 percent.

5.3 Causality Test for Dynamic Heterogeneous Panel Data Model

Our analysis in the previous model based on contemporaneous non-dynamic fixed effects panel estimation assumed homogeneity across the States where heterogeneity was restricted only to intercepts. However, to measure causal relation, we relaxed the assumption of homogeneity in equation 4.12 and applied Nair-Reichet and Weinhold (2001) approach. A lag length of one is selected and the results are given in table 3.

From results in table 3, the insignificant value of the mean estimated coefficient of the orthogonalized causal candidate shows that FXC does not affect GDP, while the significant values of reverse causality shows that GDP does affect FXC. However, the rest of the variables, based on the insignificant values of mean estimated coefficient, show no causal relation (Upper and lower bound estimation approach based on Kemal et al (2007) is given in appendix).

Table 3: Reichert and Weinhold Panel Causality Analysis (with SXT and CFDI)			
		Causality	**Reverse Causality**
Model 1	Estimated Coefficient	**-0.056**	**0.784**
	Standard Error	0.017	0.201
	LB (Confidence Interval)	**-1.002**	**-1.554**
	UB (Confidence Interval)	**1.455**	**0.512**
	Est. Coefficient Variance	0.015	0.073
Model 2	Estimated Coefficient	**-0.010**	**0.014**
	Standard Error	0.038	0.042
	LB (Confidence Interval)	**-1.445**	**-0.741**
	UB (Confidence Interval)	**1.931**	**0.711**
	Est. Coefficient Variance	0.043	0.032
Model 3	Estimated Coefficient	**0.961**	**-0.1178**
	Standard Error	0.0116	0.032
	LB (Confidence Interval)	**-1.121**	**-0.135**
	UB (Confidence Interval)	**1.860**	**2.180**
	Est. Coefficient Variance	0.012	0.077

6. Conclusion

This study analyzed the empirical relationship of Chinese outbound FDI on growth, employment and export of selected US States and reached to the conclusion that Chinese outbound FDI does not contribute to the growth, employment and export performance of the selected States, however, Chinese FDI significantly and positively affect growth prospects of selected States when it interacts with States exports to China.

Similarly, the significant two-way causal relation of interaction variables with States GDP does not confirm the negative impact of Chinese FDI in the US. It is a fact that Chinese state owned firms are the major players who invest abroad but our results remind us of Japan bashing in1980's by US lobbies when Japanese investment in the US was hugely criticized and considered to be the root cause of US economic adversaries contrary to the empirical evidence of positive role of Japanese investment.

Therefore, securing strategic interest on one hand but counting every Chinese penny invested in the US as a strategic move by an adversary will negatively affect the US economy, particularly in an environment where Chinese and US interdependence is increasing and US is badly in need of financing and emerging markets. Similarly, Chinese investors are needed to increase investment in Greenfield projects and avoid high profile acquisitions in order to avoid unnecessary attention. Though China and Japan relations are going though tough time these days, still China can learn a lot from the experience meted out to Japanese outbound FDI in the US during 1980's.

References:

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Alfaro, L. 2003, ‘FDI and Economic Growth, Does the Sector Matter?’ http://www.people.hbs.edu/lalfaro/fdisectorial.pdf Unpublished manuscript.

Balasubramanyan, V. N., Salisu, A. M. and Sapsford, D. 1996, ‘Foreign Direct Investment and Growth in EP and IS Countries’, Economic Journal, Vol 106, pp. 92-105.

Barry, F. and Bradley, J. 1997, ‘FDI and Trade: The Irish Host-Country Experience’, The Economic Journal, Vol. 107, pp. 1798–1811.

Blomström, M. And Wolff, E. 1994, ‘Multinational Corporations and Productivity Convergence in Mexico”, in W. Baumol, R. Nelson and E. Wolff (eds), *Convergence of Productivity: Cross-National Studies and Historical Evidence,* Oxford: Oxford University Press.

Bobonis, G. J. and H.J. Shatz. 2007, ‘Agglomeration, Adjustment, and State Policies in the Location of Foreign Direct Investment in the United States’, Review of Economics and Statistics, Vol. 89, No. 1. pp. 30-43.

Borensztein, E., De Gregoria, J and Lee, J. 1998, ‘How Does Foreign Investment Affect Economic Growth?’, Journal of International Economics, Vol. 45, No. 1, pp. 115-35.

Cantwell, J. 1989, ‘*Technological Innovation and Multinational Corporations*’, Oxford: Basil Blackwell.

Carkovic, M. and R. Levine (2002), ‘Does FDI Accelerate Economic Growth’, W*orking Paper* University of Minnesota.

Choe, J. I. 2003, ‘Do Foreign Direct Investment and Gross Domestic Investment Promote Economic Growth?’, Review of Development Economics, Vol. 7, No. 1, pp. 44-57.

Chowdhury A. and Mavrotas G. 2003, ‘FDI and Growth What Causes What’’ Wider Conference. Online www.wider.unu.edu

Coughlin, C.C., J.V. Terza and V. Arromdee, 1991, ‘State Characteristics and the Location of Foreign Direct Investment within the United States’, Review of Economics and Statistics, Vol. 73, No.4, pp. 675-683.

Dees, S. 1998, ‘Foreign Direct Investment in China: Determinants and Effects’, Economics of Planning, Vol. 31, pp. 175–94.

Demello, L.R., Jr. 1999, ‘Foreign Direct Investment-Led Growth: Evidence from Time Series and Panel Data’,. Oxford Economic Papers, Vol. 51, No. 1, pp. 133-151.

Driffeld, N. 2001, ‘Inward Investment, Industry Concentration and the Speed of Adjustment,’ Review of World Economics (weltwirtschaftliches Archive), Springer, Vol. 137, No. 2, pp. 193-214.

Driffield N. and Taylor, K. 2002, ‘Spillovers from FDI and Skill Structures of Host-Country Firms’, *Discussion Papers in Economics02/4,* Department of Economics, University of Leicester.

Dunning, J.H. 1999, 'Globalization and the Theory of MNE Activity', Discussion Paper in International Investment and Management 264, Whiteknights, Reading: University of Reading.

Eckhardt B, Peter N. and Andreas W. 2009, 'Spatial Effects of Foreign Direct Investment in US States' Keil Institute for the World Economy, *working paper No. 1535*

Eckhardt Bode, Peter Nunnenkamp, and Andreas Waldkirch , 2009, 'Spatial Effects of Foreign Direct Investment in US States' , Kiel Institute for the World Economy, Working Paper No. 1535

Girma, S., Kneller, R. and Pisu, M. 2005, 'Exports versus FDI: An Empirical Test', Weltwirtschaftliches Archive, Vol. 12, pp. 855-66.

Glass, A. J. and Kamal, S. 1999, Foreign Direct Investment and the Nature of R&D', Canadian Journal of Economics, Vol. 32, No. 1, pp. 92-117.

Hansen, H. and J. Rand, 2004, 'On the Causal Links between FDI and Growth in Developing Countries', *Discussion Papers 04-30,* University of Copenhagen, Department of Economics.

Head, K., J. Ries and D. Swenson. 1995, 'Agglomeration Benefits and Location Choice: Evidence from Japanese Manufacturing Investments in the United States. Journal of International Economics, Vol 38, No. 3, pp. 223-247.

Hunya, G. 2002, 'Restructuring through FDI in Romanian Manufacturing', Economics Systems, Elsevier, Vol. 26, No. 4, pp.387-394.

Hymer, S. H. 1976, 'T*he International Operations of National Firms: A Study of Foreign Direct Investment'*, MIT Press, Cambridge, MA.

Im, k. Pesaran, H and Shin, Y. 2002, 'Testing for Unit Roots in Heterogenous Panels', Journal of Economics, Vol. 115, pp. 53-74

Kemal A.R, Quyyum A, and Nadim H.(2007, 'Financial Development and Economic Growth: Evidence from a Heterogeneous Panel of High Income Countries', Lahore Journal of Economics, Vol 12, No. 1, pp. 2-17

Krugman, P. 1998, 'Fire Sale FDI' *Working Paper, Massachusetts Institute of Technology* (http://web.mit.edu/krugman/www/FIRESALE.htm)

M. Al-Iriani and F. M. Al-Shamsi. 2009, Foreign Direct Investment and Economic Growth in the GCC Countries A Causality Investigation Using Heterogeneous Panel Analysis', Discussion Papers, International Research Journal of Finance and Economics

Markusen, James R. and Anthony J. Venables. 1998, 'Multinational Firms and the New TradeTheory, Journal of International Economics, Vol. 46, pp. 183-203.

Mortimore, M. 2000, 'Corporate Strategies for FDI in the Context of Latin America's New Economic Model', World Development, Vol. 28, No. 9, pp. 1611-1626.

Nair-Reichert U. and Weinhold, D. 2001, 'Causality Tests for Cross-Country Panels: A New Look at FDI and Economic Growth in Developing Countries'," Oxford Bulletin of Economics and Statistics, Vol. 63, No. 2, pp. 153-171.

Rose, A. K., and Spiegel, M. M. 2004, 'A Gravity Model of Sovereign Lending: Trade, Default and Credit', International Monetary Fund Paper 51.

Tseng, W. S. and Harm H. Z. 2002, 'Foreign Direct Investment in China: Some Lessons for Other Countries', International Monetary Fund Policy Discussion Paper: PDP/02/03.

Xiaohui, L., Peter, B. and Sinclair, P.J.N. 2002, 'Relationships between Economic Growth, Foreign Direct Investment and Trade: Evidence from China', Applied Economics, Taylor and Francis Journals, Vol. 34, No. 11' pp. 1433-1440.

Appendix

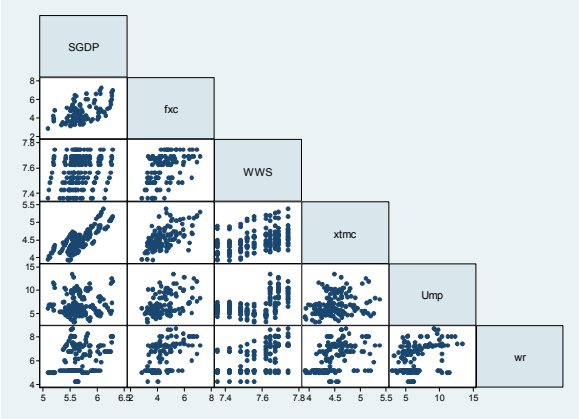
Table 1: Selected States
California, Florida, Georgia, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, Washington,

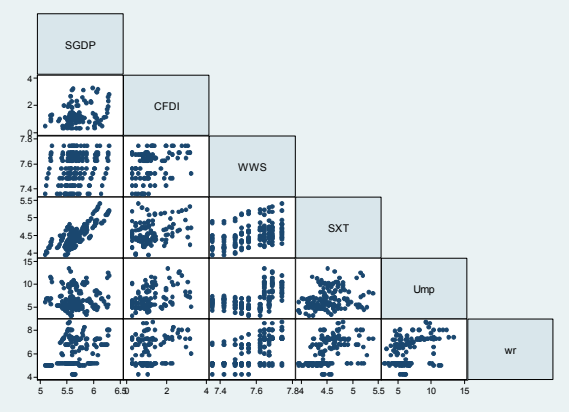
Table 2: Data Description and Source	
Variables	Description and Source
SGDP	Log value of States GDP, million dollars Buearue of Economic Analysis www.bea.gov
WWS	Log of World Gross Domestic Product minus US GDP Million US GDP and World GDP collected from World Bank WDI
CFDI	Log of Chinese FDI in selected States, millions dollars Data published by the Asia Society (An American Open Door? Maximizing the Benefits of Chinese FDI), compiled by Rhodium group
FXC	CFDI * SXT (Interaction Variable)
SXT	Log values of States total exports, million dollars World Trace Center, New Orleans www.tcno.org/tradestats/staterankings.htm
SXC	Log values of States exports to China in million dollars The US China Business Council www.uschina.org/public/exports/2000_2011/full_state_report.pdf
XTMC	SXT-SXC(Interaction Variable)
Ump	Annual Unemployment Rate of States RI Department of Labor and Training www.dlt.ri.gov/lmi/laus/us/annavg.htm
Wr	Minimum wage rate of States US Department of Labor http://www.dol.gov/whd/state/stateMinWageHis.htm

Table 3: Pair-wise Correlation Panel Data (with CFDI and SXT)						
SGPD	SGDP	CFDI	WWS	SXT	Ump	Wr
SGP	1.0000					
CFDI	022827	1.0000				
WWS	0.0205	0.3398	1.0000			
SXT	0.7947	0.2892	0.3089	1.0000		
Ump	-0.0014	0.3715	0.5424	0.1851	1.0000	
Wr	0.2551	0.3002	0.6406	0.4330	0.4772	1.0000

Table 4: Pair-wise Correlation Panel Data (with FXC and XTMC)						
SGPD	SGDP	FXC	WWS	XTMC	Ump	Wr
SGP	1.0000					
FXC	0.4987	1.0000				
WWS	0.0205	0.4722	1.0000			
XTMC	0.8021	0.5825	0.2925	1.0000		
Ump	-0.0014	0.4130	0.5424	0.1743	1.0000	
Wr	0.2551	0.4984	0.6406	0.4099	0.4772	1.0000

Figure 1: Correlation Graph with FXC and CFDI





Confidence Interval for Causality Analysis:

We build confidence intervals around zero (the first element in the estimated vector $\tilde{\theta}_1$ which is $\tilde{\theta}_{1[1]}$ is tested to be zero) to test for the significance of the mean of the estimated coefficient on the causal variable. The lower and upper bounds are given below and the mean coefficient values within this interval are considered not different from zero.

LB (Confidence Interval): $[(-2)*\sqrt{N}\tilde{\sigma}_{\tilde{\theta}_{1[1]}} - \tilde{\theta}_{1[1]}]/\Delta_{r11}$

UB (Confidence Interval): $[2*\sqrt{N}\tilde{\sigma}_{\tilde{\theta}_{1[1]}} - \tilde{\theta}_{1[1]}]/\Delta_{r11}$