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North Versus South: The Effects of Foreign Direct Investment and Historical Legacies on Poverty Reduction in Post-Đổi Mới Vietnam

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In the 1980s Vietnam was one of the poorest countries in the world. For decades, it suffered from famine, wars, and natural disasters, leading to a low standard of living; in 1985, 75 percent of the population lived below the official Vietnamese poverty level. In the late 1980s, in an effort to combat poverty and stimulate the economy, the government introduced Đổi Mới [renovation] policies and reforms. These led to tremendous economic growth and a dramatic reduction in poverty. However, these successes stalled after the Asian financial crisis in 1997, and to combat this stagnation, new post-Đổi Mới policies centered on foreign direct investment (FDI) were adopted as a means to reinvigorate the economy and further reduce poverty. Since the adoption of the first post-Đổi Mới policies in 2000, Vietnam has exhibited remarkable success in eliminating poverty. For example, between 2002 and 2008, the national poverty rate went from 34.5 percent to almost 12 percent (GSO 2010). Based on data from Vietnam Household Living Standard Surveys (VHLSS), approximately thirteen million people were lifted out of poverty during the 2002–2008 post-Đổi Mới period. The success of poverty reduction in Vietnam is particularly impressive when benchmarked against the United Nations goal of halving extreme poverty between 1990 and 2015.

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However, recent studies show that while some provinces reduced poverty rates and benefited from the new economic growth in the post-Đổi Mới era, others continued to report provincial poverty rates over 40 percent (Baulch and Đạt 2006; Minot and Baulch 2005). The macro-economic success of the post-Đổi Mới policies likely created new and uneven spatial patterns in provincial poverty, but it has been unclear why some provinces have reduced poverty at higher rates than others and what role the new influx of post-Đổi Mới FDI actually played in these poverty declines. Therefore, this analysis contributes to the existing body of research examining the relationship between FDI and poverty reduction by spatially evaluating the factors that account for interprovincial variance in poverty in post-Đổi Mới Vietnam. More specifically, this research uses path dependency theory to understand how FDI, along with the capitalist legacies of the Republic of Vietnam, has created a more favorable political and economic climate that helped to shape the spatial patterns of provincial poverty reduction in Vietnam between 2002 and 2008.

Geographic and Economic History of Vietnam

Economic growth and development in Vietnam has a legacy of spatial inequality. This is in part due to its geography, which is dominated by Hà Nội and the Red River Delta in the north and Hồ Chí Minh City and the Mekong River Delta in the south. Together these two deltas contain a significant percentage of the population in Vietnam. Distance, rugged terrain, and poor infrastructure make integrated markets difficult to create and maintain outside these delta regions. This has resulted in highly regionalized and sometimes isolated economies (Fforde & de Vylder 1996).

Furthermore, beginning in 1954 the North pursued socialist policies that collectivized the industrial and agricultural operations of Vietnam. After reunification, Hà Nội further extended socialist policies through all of Vietnam. However, the loss of Soviet aid in the 1980s, coupled with the shortcomings of socialism, led to the eventual Đổi Mới reforms (Fforde & de Vylder 1996). These reforms ushered in the development of what is now referred to as the socialist-oriented market economy, which operates on market mechanisms while still under state governance. Previous research indicates that the economic growth that Vietnam experienced in the 1990s

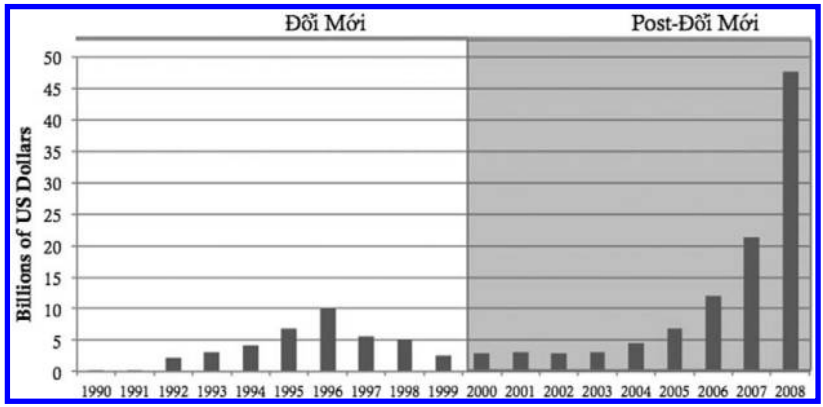

FIGURE 1: Foreign Direct Investments in Vietnam (in billions of US$), 1990-2008.
SOURCE: Vietnamese General Statistics Office, 2010.
NOTE: All figures are in billions of 2002 US dollars.

was highly dependent on FDI (Anwar and Nguyễn 2010; Glewwe and Đặng 2010; Phạm 2003; Thoburn 2004; Klump 2004).

The socialist-oriented market economy in Vietnam was further liberalized after the Asian financial crisis, when FDI levels fell to a fraction of what they were in the mid-nineties. To help attract investors, the Vietnamese government passed new regulations in the post-Đổi Mới period after 2000 that expanded access by Vietnamese markets to FDI and allowed individual provinces to negotiate deals. In addition, the Constitution of Vietnam was amended in 2001 to state that FDI is an integral part of the national economy, and attracting FDI should be a consistent, long-term policy of Vietnam (Phạm 2003). Research has found that the government's new commitment to attracting FDI had a significant impact on the increase of FDI flows into Vietnam (Anwar and Nguyễn 2010; Nguyễn and Haughton 2002), and helped fuel the dramatic growth of FDI in post-Đổi Mới Vietnam after 2000 (see Figure 1).

One new policy allowed provinces to directly negotiate contracts with foreign investors. Prior to this, all FDI decisions went through the central government, and Hà Nội selected the size and location of all foreign investments (Phạm 2003). Scholars have posited that Hà Nội controlled the expansion of FDI in the south out of fear of losing political control in provinces that were not deemed as "party loyal" as those in the Hà Nội –Hải Phong corridor

(Malesky 2004). Yet the new post-Đổi Mới approaches now allowed investors to circumvent national bureaucracies and deal directly with provincial leaders. These new policies, along with the more capitalist/investor-friendly provincial environments mentioned above, resulted in a large expansion of FDI, much of which was concentrated in the more pro-capitalist provinces in southern Vietnam.

Regional and Provincial Distribution and Trends of FDI

According to official statistics by the Government Statistical Office (GSO) and the Ministry of Planning and Investment (MPI), by 2002 all provinces in Vietnam received some level of FDI. However, the distribution of FDI across regions and provinces was uneven and concentrated into a few select areas. As shown in Figure 2, provinces that had been located in the former Republic of Vietnam received more foreign direct investment per capita (FDIPC) between 2002 and 2008. The two main growth centers of Hồ Chí Minh City in the south and Đà Nẵng and Huế in central Vietnam attracted the highest levels of investment. FDIPC spread from these two economic centers into the surrounding provinces, with a notably more dispersed pattern in southern Vietnam compared to northern Vietnam.

One possible explanation for the regional difference in FDIPC is the capitalist legacy of the Republic of Vietnam; that is, the more pro-capitalist business climate in the southern provinces may account for why they have been more successful at attracting FDI. One measure of how open and pro-capitalist provincial governments are is the Provincial Competitiveness Index (PCI). Produced by the United States Agency for International Development and the Vietnamese Chamber of Commerce, the PCI measures factors such as how many provincial regulations and licenses are required for foreign investors. The index also includes a provincial-level analysis of how easy it is for a foreign investor to lease land and hire workers. The average southern provincial PCI score in 2008 was 59.34, which is significantly higher than the average northern provincial score of 48.67. This difference in PCI scores supports the idea that southern provinces have a more pro-capitalist political environment and an advantage in attracting FDI compared with provinces in North Vietnam.

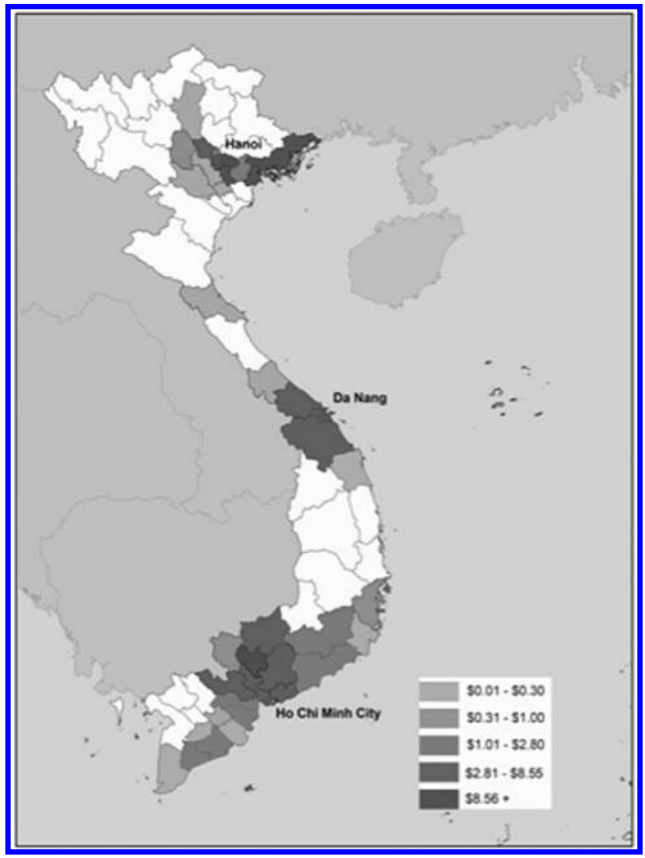

FIGURE 2: Total Change in Provincial FDIPC Between 2002-2008.
SOURCE: GSO, Ministry of Planning and Investments, 2009.
NOTE: All areas colored white have received some FDI, but it is less than $0.01 per capita.

Although there are national level policies designed to attract FDI to Vietnam, as mentioned previously, provincial-level polices have been adopted by local governments to make their province more attractive to investors relative to other provinces. In post-Đổi Mới Vietnam these policies, which include land and labor regulations and even additional licensing and fees, have been found to be a significant factor in attracting FDI (Malesky 2004). Further, provinces with high PCI scores attracted higher levels of FDI. Provinces with policies associated with higher PCI scores and the investor-friendly environment they produced help to explain why more provinces in the south attracted large amounts of FDIPC between 2002 and 2008 (See Figure 2).

Although FDI remained concentrated in the north, the spread of FDI in the south was significantly more dispersed (See Figure 2). Given the importance of FDI in government economic development plans, the spatially uneven pattern of FDI distribution has contributed to the irregular patterns of economic development throughout Vietnam (Beresford 2008). This has led to a complex geographic mosaic of economic "winners" and "losers" reflected in new patterns of variable poverty reduction rates at the provincial level (Lanjouw, Marra and Nguyễn 2013). Therefore, this research seeks to understand how FDI and historic regional legacies have helped to shape these new spatial patterns of provincial poverty reduction in post-Đổi Mới Vietnam.

Path Dependency as an Explanation of Divergent Forces

To account for the spatial variance in FDI as explained through the historical legacies of the former Democratic Republic of Vietnam and Republic of Vietnam, path dependency theory provides a useful approach in understanding the spatial inequalities and how these inequalities affect poverty reduction. This theory was preceded and influenced by human ecological studies of urban transformations in the early twentieth century. Often called the "natural history of place," this theory of social change argued that geographic communities develop linearly through a series of stages associated with changing technological regimes, demographic movements, or other community transformations.

Path dependency was first adopted in the social sciences by economists (Arthur 1989) and later by sociologists and political scientists (Brown, et al. 2011; Gartland 2005). Path dependency occurs when the actions at one time affect the options available in the future. In other words, the historical legacies of a place systematically shape the availability of future outcomes or paths. These paths involve self-reinforcing sequences that reproduce particular developmental patterns over time (Mahoney 2000). Path dependency theory is particularly useful in explaining how events at a particular point in time are shaped in specific and systematic ways by historical trajectories. Robert Putnam argues that the choices made by societies at one point in time can result in significant and enduring differences between regions of a particular society. Furthermore, the decisions made by a society

to arrive at its current condition can limit future choices (Putnam 1993). However, path dependency theory is not a strictly linear process; rather, there are branching points where decisions are made that shape the future of the society. Furthermore, the decisions made at these branching points do not result in inevitable and predetermined future events. However, future options are often limited or enhanced by past decisions (Brown et al. 2011).

This research asserts that the capitalist exposure that southern provinces received between 1954 and 1975 set this region on a development path that gave southern provinces a more favorable political and economic climate toward capitalism and FDI. The prolonged exposure to capitalist trade in the south led to significantly different political economic environments even after reunification. Within the path dependency framework, the branching point of 1954 can explain this difference in political and economic climates, whereby the North and South adopted radically different economic policies. The provinces in the former Republic of Vietnam benefited from its capitalist legacies, while the provinces of the Democratic Republic of Vietnam were constrained by its socialist history. As a result, the northern and southern regions of Vietnam are on different development paths that continue to shape trends in provincial poverty reduction in post-Đổi Mới Vietnam.

The Relationship Between FDI and Poverty Reduction

FDI can have a positive impact on poverty reduction through direct and/or indirect means. The direct impact of FDI on poverty is most commonly associated with the creation of new jobs and training for local workers. By creating new employment opportunities, FDI may contribute directly to the reduction of existing unemployment and underemployment. New FDI-generated employment opportunities provide local workers with potentially improved levels of income and household well-being. In this sense the FDI directly improves the lives of workers and their households by creating employment opportunities that provide additional income sources to help individuals and households escape poverty (Anwar and Nguyễn 2010; Borensztein, et al. 1998; Hoàng, et al. 2010).

The indirect impact of FDI on poverty reduction comes from new economic opportunities generated in the peripheral or support economies that result from the presence of FDI. This includes businesses that support the

workers of FDI enterprises or local manufactures that provide inputs and supplies needed in the operation of FDI ventures (de Mello 1997; Meyer and Nguyễn 2005). In addition, FDI contributes indirectly to poverty reduction through increased levels of tax revenue the State may use to fund government-led programs for the poor and to improve infrastructure.

Through both these direct and indirect effects, FDI has been shown to play a significant role in poverty reduction in developing countries, including Vietnam (Anwar and Nguyễn 2010; Balisacan et al. 2003; Nguyễn and Haughton 2002; Dollar 2004; Hoàng et al. 2010; Phạm 2003). This research examines if the spatial distribution of FDIPC in post-Đổi Mới Vietnam helps to account for the changes in provincial rates of household poverty.

Methodology

In addition to the trends seen in the rate of poverty reduction and FDI in Vietnam, this research examines the 2002–2008 time period in part due to the availability of quality data. The VHLSS contains detailed information about household demographics, income, expenditures, employment, health, and housing characteristics. Conducted by the General Statistical Office of Vietnam with help from the World Bank, the VHLSS is a multistage probability sample of over 45,000 households. This sample size allows researchers to study poverty at lower sub-national levels. (However, research by Pincus and Sender [2008] suggests that the sampling frame of the VHLSS data underrepresents unregistered workers. This research acknowledges this shortcoming, but asserts that the VHLSS sampling frame is sufficient for this analysis of provincial-level trends in poverty reduction across Vietnam.) In addition, VHLSS data sets are widely used by scholars and development institutions to study poverty in Vietnam (Baulch and Đạt 2011; Dollar 2004; Minot and Baulch 2005; White and Masset 2003).

Making use of the factors available in the VHLSS, the consumption expenditure per capita is used as the well-being indicator to define the poverty line in Vietnam. A consumption-based indicator is preferable in studying poverty in Vietnam because the collection of income data can be problematic, and because the national poverty line is based on consumption expenditures per capita. The poverty line used in this research is the Vietnamese national poverty line, which is the amount of money an individual

needs to purchase a 2100-calorie per day food basket. Based on January 2002 prices, this equals 1,915,000 VNĐ (USD $128) per person per year.

CALCULATING THE DEPENDENT VARIABLE

The dependent variable in this research is the percentage point change in adjusted provincial rates of household poverty between 2002 and 2008. To calculate this variable, the 2002 and 2008 adjusted provincial poverty rate variables were first created by calculating an adjusted household size that accounts for economies of scale within each household. Each household in the VHLSS is adjusted using an equivalency scale developed by White and Masset (2003) where each additional adult equivalent is equal to 82 percent, or .82, of the primary adult equivalent. For example, a household of two is adjusted to 1.82. Then, the expenditure for the newly adjusted household size is compared to the general poverty line based on 2002 currency levels for a household of the same size to determine if the household is impoverished. All households with expenditure levels below the general poverty line are coded as being in poverty. Next, the percentage of the total number of households in poverty is calculated for each of the sixty-four provinces in 2002 and 2008. Then, the difference in the percentage points in adjusted provincial poverty rates between 2002 and 2008 is calculated to create the dependent variable. For example, if the provincial poverty rate for province *X* was 50 percent in 2002 (t_1) and 49 percent in 2008 (t_2), the value for province *X* in the dependent variable would be one. The t_1-t_2 calculation is used to help with the interpretation of the final regression models. As a result, even though all adjusted provincial poverty rates went down between 2002 and 2008, the value of the dependent variable for each province is positive.

Figure 3 shows the spatial distribution of the percentage point change in provincial poverty rates between 2002 and 2008. Provinces surrounding the growth centers of Hồ Chí Minh City and Đà Nẵng report some of the highest percentage point changes and are highly clustered. This clustering of provinces suggests the presence of spatial autocorrelation in the data, but additional testing is needed to confirm this.

To test for spatial autocorrelation, I ran a global Moran's I test using a 1st order queen spatial matrix to determine the presence and strength of spatial autocorrelation in the dependent variable. With a score of 0.4647 significant at

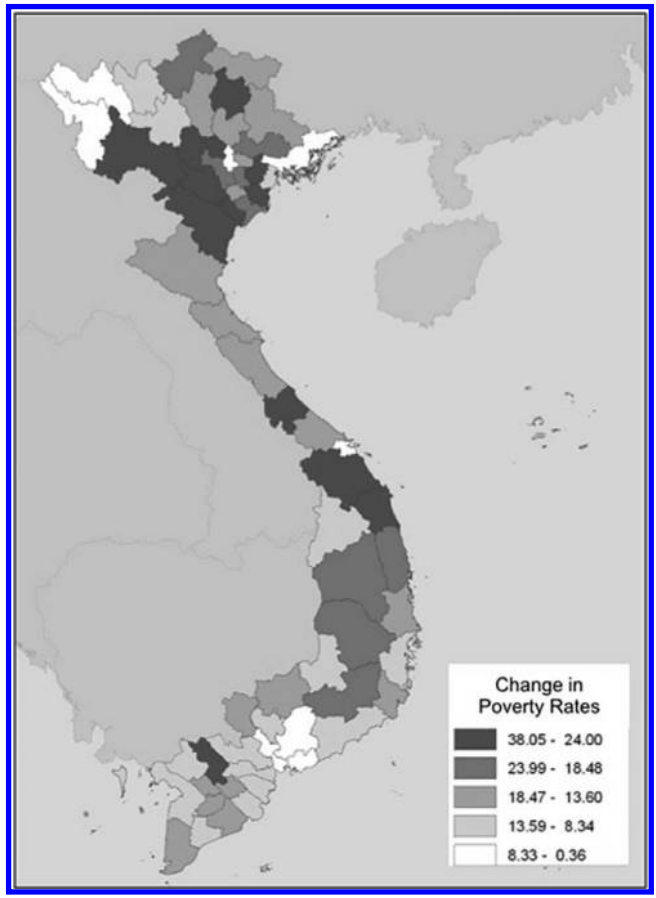

FIGURE 3: Percentage Point Change in Provincial Poverty, 2002-2008.
SOURCE: VHLSS, 2002-2008.

the .01 level, the Moran's I test indicated that positive spatial autocorrelation is present. This means that there is a significant clustering of provinces with similar percentage point changes in adjusted provincial poverty rates between 2002 and 2008 that must be accounted for with spatial statistics. To address the spatial autocorrelation in the data, the final analysis is a maximum likelihood spatial lag regression model estimated in the software package *R*.

VARIABLES

As indicated above, this research seeks to understand why poverty rates declined more rapidly in some provinces than in others between 2002 and

2008, and in particular what role FDI and the historic legacies of northern and southern Vietnam have on poverty rate reduction. According to path dependency theory, provinces in the former Republic of Vietnam should have an advantage in attracting FDI and reducing poverty because of their pro-capitalist culture.

To test this assertion, I grouped explanatory factors into five sets of variables that were entered into the model along with preceding sets and the spatial lag term as separate models. These sets are: (1) baseline measures of FDI and poverty, (2) path dependency, (3) provincial demographic characteristics, (4) infrastructure, and (5) interaction between FDI and region.

In the first model, I added two variables to account for the influence of FDI on provincial poverty reduction. The change in the ratio of FDI to provincial GDP was included to test for the impact of FDI on provincial poverty. This variable was based on the net flow of FDI, and in the final results the estimated coefficient represents the percentage point change in provincial poverty associated with a one percent increase in the FDI-to-provincial GDP ratio. Model one also includes the 2002 provincial poverty rates as a control for existing poverty levels. It is expected that provinces with more changes in the FDI-to-provincial GDP ratio between 2002 and 2008 will have higher levels of percentage point change in provincial poverty, particularly when the model controls for other factors. The final variable included in the first set is the spatial lag term to account for spatial autocorrelation. This model provides a baseline estimation of the relationship between FDI and provincial poverty reduction.

The second model adds two variables to examine the path dependency hypothesis that provinces in the south have a competitive advantage in attracting FDI over northern provinces because of their prolonged exposure to capitalist markets and culture. I hypothesized that the capitalist legacy of the Republic of Vietnam persisted through reunification resulting in a more open, attractive, and low risk provincial political environment for foreign investors. To test this hypothesis, the model adds a north/south region dummy variable and the 2008 PCI score. The region variable codes provinces based on located in the historic Republic of Vietnam or the Democratic Republic of Vietnam. The former North Vietnam is the reference group for this variable. It is expected that provinces formerly located in

South Vietnam experienced poverty reduction at higher rates than provinces in the north between 2002 and 2008.

The second variable testing the path dependency theory is the 2008 Provincial Competitiveness Index. PCI scores are used in other research as a measure of local governance and in particular as a measure of how friendly the provincial political climate is to FDI and capitalist ventures (see Malesky and Taussig 2009). Only the 2008 PCI score is used in the model because it is the first year that data for all sixty-four provinces are available. It is expected that the 2008 PCI will have a positive effect on poverty reduction, meaning that provinces with high PCI scores have provincial political climates more favorable to foreign investors and poverty reduction.

The third model incorporates provincial demographic characteristics. Previous research by Minot and Baulch (2005) suggests that poverty reduction varies significantly between rural and urban areas. Based on the GSO 2000 definition, all provinces with a population density greater than six hundred people per square kilometer are coded as urban, while any province not classified as urban is coded rural. To account for the variance in rural and urban poverty reduction, model three includes a dummy variable where provinces defined as rural in 2002 are coded as one with urban provinces in 2002 as the reference group. Earlier research indicates that rural provinces experienced significant levels of poverty reduction due to the rapid expansion of FDI into rural areas (Nguyễn, et al. 2007). Based on these finding, this research expects provinces that were rural in 2002 to have higher rates of provincial poverty reduction.

The next variables added to the third model are commonly used in poverty studies in Vietnam (see Baulch and Đạt 2011; Dollar 2004; Epprecht et al. 2011; Minot and Baulch 2005). The head of the household's education level is a strong predictor of economic well-being and ability to escape poverty. It is expected that higher overall levels of education of heads of households in a province will contribute to lower levels of provincial household poverty rates. Finally, both the percentage of female-headed households and the percentage of ethnic households, defined as any house reporting its ethnicity as an ethnic group other than the Kinh majority or ethnic Chinese, are used to examine the effect that marginalized populations have on the

adjusted provincial poverty rate. Previous work focusing specifically on women and ethnic minorities indicates that areas with a higher concentration of these disadvantaged groups have high levels of poverty because these groups often do not benefit from new economic growth (Baulch et al. 2007; Trương 2010; Resurreccion and Hà 2007; van de Walle and Gunewardena 2001). Accordingly, this research expects that provinces with higher levels of either female-headed households or ethnic households will have higher levels of provincial poverty rates and lower declines in poverty rates.

The next set of variables added to the model account for provincial infrastructure in 2002. Many studies have shown the link between infrastructure, FDI and poverty to be a significant and important one (Anwar and Nguyễn 2010; Meyer and Nguyễn 2005; Minot and Baulch 2005). This research controls for infrastructure by adding a variable measuring the density of provincial roads. The variable was created using data from the 2002 Vietnam Road Administration and ArcGIS software. It was calculated by dividing the total length of paved roads located within a province by the total square kilometers in a province. It is anticipated that the higher the density of roads in a province the higher the rate of reduction in provincial poverty rates in that province. The log of travel time to a market in 2002 is another variable that helps to account for infrastructure and isolation and can be used as a proxy for the quality of roads and ease of travel within a province. This variable was calculated using 2002 VHLSS data and is the provincial average time that households spend traveling to a daily market. A log transformation of the travel time to market is used in the final model because the original variable was highly skewed with most households reporting a low travel time to the nearest all-day market. The log of travel time to market should have a negative relationship on the change of provincial poverty rates. Table 1 reports the summary statistics of the variables used in the analysis.

Finally, to further examine if FDI was more effective at reducing poverty in the south, an interaction between the change in the ratio of FDI to provincial GDP and the South Vietnam dummy variable is added. Furthermore, as discussed above, this research is sensitive to the possibility that underlying spatial autocorrelation will influence the results. To help account for spatial autocorrelation, all models include a spatial lag variable.

TABLE 1: Summary Statistics of Variables Used in the Multivariate Analysis

	Mean	SD	Min	Max
Change in the ratio of FDI to provincial GDP, 2002-2008	4.42	1.78	2.14	8.46
Provincial poverty rate, 2002	24.25	11.73	0.79	53.97
Provincial Competiveness Index score, 2008	52.51	7.65	36.76	72.18
Years of education, 2002	6.81	1.32	3.39	9.27
Provincial average age head of household in 2002	47.2	2.88	37.93	52.05
Percentage of female headed households in a province, 2002	23.05	8.33	1.25	38.67
Percentage of minority ethnic households in a province, 2002	18.09	15.38	2.35	89.41
Total density of paved roads in a province	201.79	124.7	78.35	553.23
Log of travel time to nearest daily market	3.52	0.62	1.91	5.43

FINDINGS

This research asserts that the change in the ratio of FDI to provincial GDP is a significant factor in reducing the percentage point change in adjusted provincial poverty rates. In addition, the pro-capitalist political environment that has persisted in the south since the 1955 partition of Vietnam has contributed to the disproportionate growth of FDI in southern provinces. Simple bivariate analyses are used to explore the relationship between FDI, southern and northern legacies, and poverty reduction. Figure 4 shows a scatter plot between the percentage change in provincial poverty and the log of the change in the ratio of FDI to provincial GDP. From this graph, it is clear that there is a significant relationship between increased levels of provincial FDI and provincial poverty reductions. This supports the argument that FDI played an important role in reducing provincial poverty between 2002 and 2008.

To help explore the relationship between FDI and poverty reduction, and how it varied between northern and southern Vietnam, a simple correlation between the dependent variable and the change in the ratio of FDI to provincial GDP by region was estimated. The results show that there is a stronger correlation between FDI and poverty reduction in the south than in the north (.79 and .59, respectively). This further supports the idea that

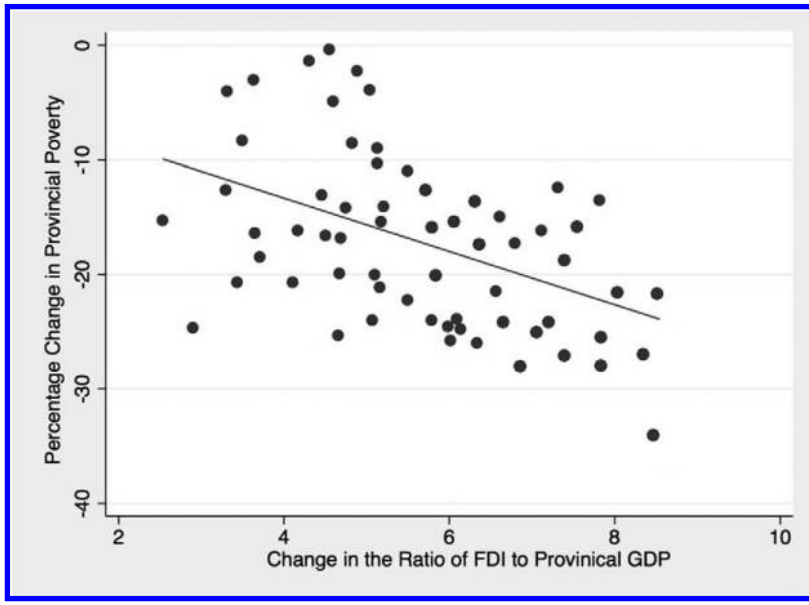

FIGURE 4: Scatter Plot of Percent Change in Provincial Poverty and the Change in the Ratio of FDI to Provincial GDP.
SOURCE: VHLSS 2002 and 2008, GSO 2002 and 2008.

FDI and regional differences influence provincial poverty reduction and warrant a multivariate analysis.

Table 2 reports the results of a multivariate analysis on the role of FDI and regional differences on poverty reduction between 2002 and 2008. The first model in Table 2 shows that the initial relationship between percentage point change in adjusted provincial poverty rates between 2002 and 2008 and the change in the ratio of FDI to provincial GDP is significant. Overall effects of FDI on poverty reduction are modest (i.e., a 1 percent increase in the ratio of FDI to provincial GDP resulted in a .78 percent difference in the percentage point change in provincial poverty). However, they do show that overall FDI plays a significant role in poverty reduction. Furthermore, the spatial lag variable in model 1 is also significant, which confirms the need for spatial statistics. The second model adds two variables to test the path dependency theory of regional variance. The South Vietnam dummy variable is significant and indicates that the southern provinces of Vietnam were

TABLE 2: Results of Spatial Regressions Examining Change in Provincial Poverty, 2002-2008

Variables	Model 1 Coef.	Model 2 Coef.	Model 3 Coef.	Model 4 Coef.	Model 5 Coef.
Log change in the ratio of FDI to provincial GDP, 2002-2008	.73**	.95**	.92**	.85**	.48*
Provincial poverty rate, 2002	.42***	.52***	.58***	.56***	.49***
Path Dependency Variable					
Former South Vietnam (North Vietnam reference group)		2.36**	5.74*	6.11*	1.27
Provincial Competiveness Index score, 2008		1.20*	1.10*	1.05*	1.04*
Provincial Demographic Characteristics					
Rural, 2002 (Urban, 2002 reference)			2.32*	2.13*	2.08*
Years of education, 2002			2.83**	2.70**	2.72*
Provincial average age head of household in 2002			.39*	.55*	.59*
Percentage of female headed households in a province, 2002			−2.01**	−1.93**	−1.89*
Percentage of minority ethnic households in a province, 2002			−1.82*	−1.56*	−1.42*
Infrastructure Variables					
Total density of paved roads in a province				.46	.45
Log of travel time to nearest daily market				−.82	−.77
Log change in the ratio of FDI x South Vietnam					1.98*
Spatial Lag Change in Percentage Point in Adjusted Provincial Poverty Rate Regression Statistics	.15***	.21*	.19*	.10*	.09*
Intercept	−2.59	−13.06	−54.88	−61.05	−53.39
Pseudo-R^2	.42	.48	.76	.79	.83
N	64	64	64	64	64

NOTES: * $p < .05$, ** $p < .01$, $p< .001$, ***

able to reduce poverty rates by more than 2 percent (2.36) more than northern provinces. This suggests that the capitalist history of the southern provinces assisted in the transition to a market economy in post-Đổi Mới Vietnam. Furthermore, for every additional point on the PCI, provinces had over a one percentage point change in provincial poverty rates between 2002 and 2008. This implies that the more conducive the political environment is to FDI, the higher the reduction in poverty. The change in the ratio of FDI to provincial GDP variable remains significant after controlling for region and PCI, thereby strengthening the relationship between the percentage point change in adjusted provincial poverty rates between 2002 and 2008 and FDI. The spatial lag variable also remains significant.

The third model controls for provincial demographic characteristics. After the addition of the provincial demographic variables, the change in the ratio of FDI to provincial GDP, region, and PCI remains significant. In addition, a number of control variables are significant. The dummy variable accounting for provinces that were rural in 2002 is significant. This indicates that there is a strong relationship between poverty reduction and provinces that were rural in 2002. Indeed, many of the provinces that received the highest levels of FDI between 2002 and 2008 were rural in 2002 and experienced rapid growth by 2008 (Anwar and Nguyễn 2010). This result is consistent with growth pole theories of development, which assert that as development occurs, economic ties will extend from urban core areas to nearby rural regions. Another reason that rural provinces in 2002 reduced poverty at a higher rate than urban areas is that new FDI investments often require large tracks of land to build factories. Because many of the urban growth centers such as Hồ Chí Minh City and Hà Nội cannot provide the required land, investors look to adjacent rural areas. These new factories can quickly transform rural areas into urban centers by creating thousands of new jobs. The new jobs and economic activities have both a direct and indirect effect in helping to reduce provincial poverty (Andrew 2004).

The percentage of female-headed households and the percentage of ethnic households in a province are negative and significant. This finding is consistent with other work in Vietnam which demonstrates that ethnic minorities and female-headed households are marginalized in society and

face more barriers in the labor market than their male, ethnic majority counterparts (Baulch et al. 2007). Concentrations of marginalized populations, such as ethnic minorities and female-headed households, are less likely to benefit from FDI-driven growth in a province, resulting in a lower percentage point change in adjusted provincial poverty rates between 2002 and 2008. What is unclear from this study is how gender norms and ethnic discrimination are changing as Vietnam transitions toward a market economy, and more research is needed in this area.

With the addition of the demographic control variables, the test variables of the change in the ratio of FDI to provincial GDP, region, and PCI remain significant. The spatial lag variable also remains significant, confirming the need to use spatial statistics. The fourth model incorporates control variables for infrastructure; however, neither variable is significant.

The final model includes an interaction between the change in the ratio of FDI to provincial GDP and the South Vietnam dummy variable. This finding implies that the effects of FDI in southern Vietnam are significantly different when compared to northern Vietnam. In addition, the size of the coefficient for the interaction is larger than the main effects in models 1 through 5. This indicates that the effect of an increase in the change in the ratio of FDI to provincial GDP on provincial poverty reduction was greater in southern Vietnam. This result also supports the path dependency theory, which posits that this region benefited from its capitalist legacies throughout post-Đổi Mới Vietnam. Finally, robustness checks using the percentage change in provincial poverty and the log difference in the poverty rate between 2002 and 2008 as alterative dependent variables were conducted. In both cases, the significant relationship between FDI and regional differences remain. This further supports the findings of this research, and the assertion that FDI and north/south regional differences shaped provincial poverty reduction in Vietnam between 2002 and 2008.

Conclusions

This research sought to answer the question of why some provinces in post-Đổi Mới Vietnam were able to reduce poverty at faster rates than others between 2002 and 2008. The results of the modeling show that even after controlling for a number of demographic, political, and geographic variables,

the change in the ratio of FDI to provincial GDP between 2002 and 2008 is a significant factor in predicting the percentage point change in adjusted provincial poverty rates during the same period. In addition, the significance of the path dependent theory variables and the interaction variable indicates that the historical legacy of capitalism in the Republic of Vietnam has aided poverty reduction in southern provinces. These findings suggest that national pro-FDI polices are not sufficient, and that provinces in the north need to adopt more FDI friendly provincial level polices to not only help to reduce poverty, but also to be able to remain competitive relative to provinces in the south.

This research also shows that FDI played a modest but significant role in the reduction of provincial poverty between 2002 and 2008. However, while during this period Vietnam benefited from FDI, it does not mean that FDI will yield the same benefits in the future. Continued dependence on FDI can leave Vietnam vulnerable to global shocks like the recent recession. Additional analysis is needed to understand how the recession impacted both FDI flows and poverty reduction in Vietnam.

Even with the complications that come with high levels of FDI, Vietnam will most likely continue to pursue development polices centered on FDI. However, if FDI allocation remains spatially concentrated in the three growth poles (the Hà Nội-Hải Phong corridor, Hồ Chí Minh City and the Mekong Delta, and Đà Nẵng), then the more remote areas of Vietnam will likely remain in chronic poverty. This will lead to higher levels of inequality and could potentially slow economic growth and poverty reduction. In addition, rapid growth fueled by concentrations of FDI often alters migration patterns that can exacerbate levels of inequality (Sanders and Brown 2012). In short, FDI is a component of escaping poverty, but it is a means that must be shared in order to avoid increased inequality.

Finally, the findings of this research support the path dependency theoretical arguments and highlight how development paths created by the historical legacies of the capitalist south and socialist north can both enhance and limit future economic opportunities. The results of this research provide evidence showing that southern Vietnam benefited more from FDI and its capitalist legacies when compared to northern Vietnam. While the historical legacies have influenced poverty reduction in post-Đổi Mới Vietnam, future

research is needed to understand if these regional differences will persist as Vietnam continues to participate in the global market.

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ABSTRACT

This research examines the factors that account for variance in provincial poverty reduction rates between 2002 and 2008 in Vietnam. In particular, this paper uses spatial regression modeling to show that foreign direct investment (FDI) and the capitalist legacies of southern Vietnam significantly affected provincial poverty reduction during this time period. These findings suggest that although Vietnam as a whole has benefited from post-Đổi Mới economic reform and FDI, the historical capitalist legacies of the former Republic of Vietnam played a strong role in aiding provinces in the south in attracting FDI and subsequently reducing provincial poverty.

KEYWORDS: *poverty, foreign direct investment, globalization, economics*

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