Rural Road Development and Ethnic Inequality in Vietnam

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Introduction

Rural roads are commonly portrayed as a catalyst for poverty reduction and economic development throughout the developing world. Considerable resources have been allocated toward road construction and improvement under this assumption (e.g., Word Bank 2009). Indeed, existing research suggests that rural road development often has positive effects in the form of increased consumption (Stifel et al. 2012), increased agricultural productivity (Stifel and Minten 2008), increased non-farm production (Jacoby and Minten 2009), and market development (Mu and van de Walle 2011). However, existing research also suggests that these returns may be contingent upon the social context in which road development occurs (Mu and van de Walle 2011, Pinstrup-Anderson and Shimokawa 2006, Wilson 2004), but the potential mediating role of contextual factors has not been systematically studied to date. The current study addresses this gap by examining the relationship between rural road development and ethnic inequality in the case of Vietnam. By considering whether the distribution of economic returns to rural roads in affected communities varies between historically advantaged and disadvantaged groups, we contribute to the literature on rural road development by highlighting the potentially heterogeneous impact of such interventions.

Vietnam as a Case Study

Beginning with the implantation of post-socialist economic reforms in 2001, Vietnam experienced tremendous economic growth. This growth created millions of new jobs and reduced poverty throughout the country. To facilitate growth in rural areas, the Vietnamese government and World Bank implemented a series of rural road development programs know as the Vietnam Rural Transport Projects (VRTP). The goal of these projects was to link isolated areas to larger economic markets. Previous work by Mu and van de Walle (2007) shows that these projects were successful in helping to reduce poverty and create new markets. However, their results also suggest that the effect of VRTP were not even across ethnic groups, and areas with high concentrations of ethnic minorities received lower returns from the VRTP. However, no research to date has systematically measured how these heterogeneous returns to VRTP affected inequality. Given its rapid infrastructure expansion, significant ethnic cleavages, and availability of data before and after the completion of the VRTP, Vietnam represents an excellent case study of the affects of rural road development on inter-ethnic inequality.

Data/Methods

To examine the effects of rural road development on within-community and inter-ethnic inequality we use data from the Vietnam Household Living Standards Surveys (VHLSS) between 2002 and 2008. The VHLSS are household and commune level surveys administered by the Vietnamese government in conjunction with the World Bank. The data include demographic, economic, and community characteristics. The VHLSS also includes specific information on road development at the commune level.

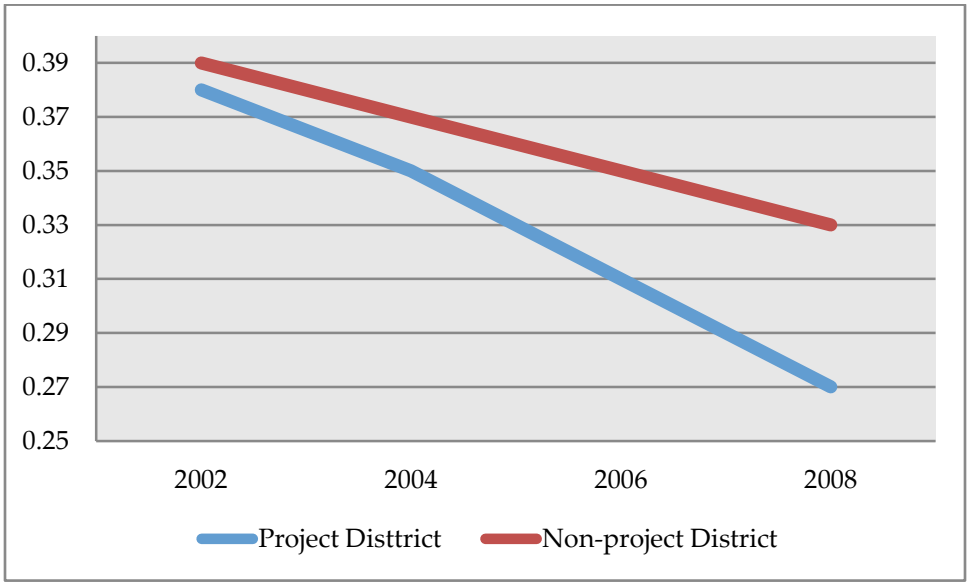
This includes the beginning and completion date of a VRTP project; how much funding was allocated for the project; and if the project created new roads/bridges or refurbished existing infrastructure. To ensure that there is sufficient sample coverage, data is aggregated to the district level. Gini coefficient are then generated for each district and followed between 2002 and 2008.

To examine the effects of road development while controlling for potential selection bias, we compare inequality trends in quasi-treatment (i.e., affected by road development) and quasi-control (i.e., no road development) districts, which we assign using propensity scores. We calculate these scores using binary logit models. We then estimate the impact of road development on inequality by comparing the 2002–2008 change in Gini coefficient for districts with road projects to 2002–2008 the change in Gini coefficients for comparison districts. Our analysis includes 229 districts, with 137 districts affected by VRTP and 92 comparison districts that did not participate in VRTP.

Results

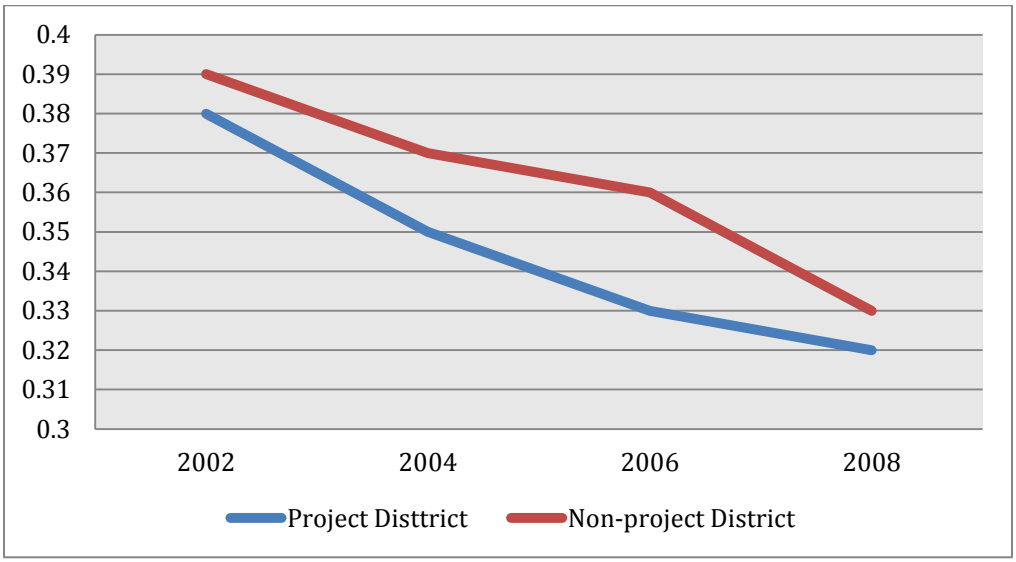
Our results show that there is a significant decrease in inequality in districts that received road related to districts that did not receive road development (See Figure 1). Our analysis also indicates that the time after the completion of the VRTP, percentage of households owning a motorcycle, and the type of road development also had a significant negative effect on within-district inequality. The percentage of ethnic minorities in a district was also significant, but positive. This indicates that districts with a higher concentration of minority households reported smaller decreases in inequality.

Figure 1. Within District Inequality: Change in Gini 02- 08



Our analysis of inter-ethnic inequality indicates that although there was an overall decrease in inequality between 2002 and 2008, the changes are not significant. This finding suggests that the benefits of new roads are not significant enough, or not distributed in such a way as to overcome the existing social and economic barriers facing minority households in Vietnam.

Figure 2. Majority/Minority Inequality: Change in GINI 02- 08



The results of the research show that although rural road development projects help to reduce the overall level of inequality between households in Vietnamese districts, the benefits of road development do not significantly reduce levels of inequality between ethnic majority and minority groups in Vietnam. The findings of this research suggest that future development projects should take distributional effects into account.

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