

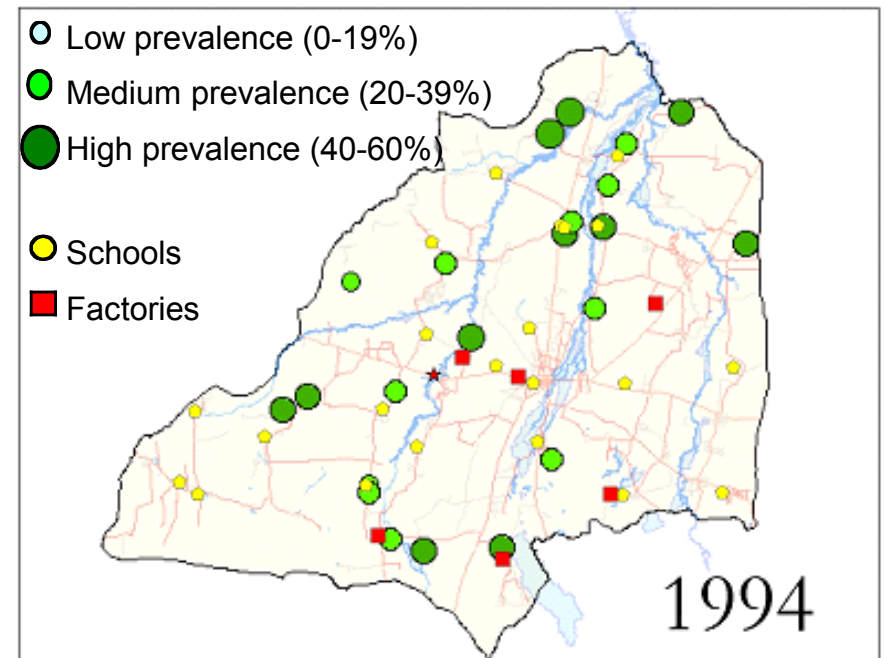
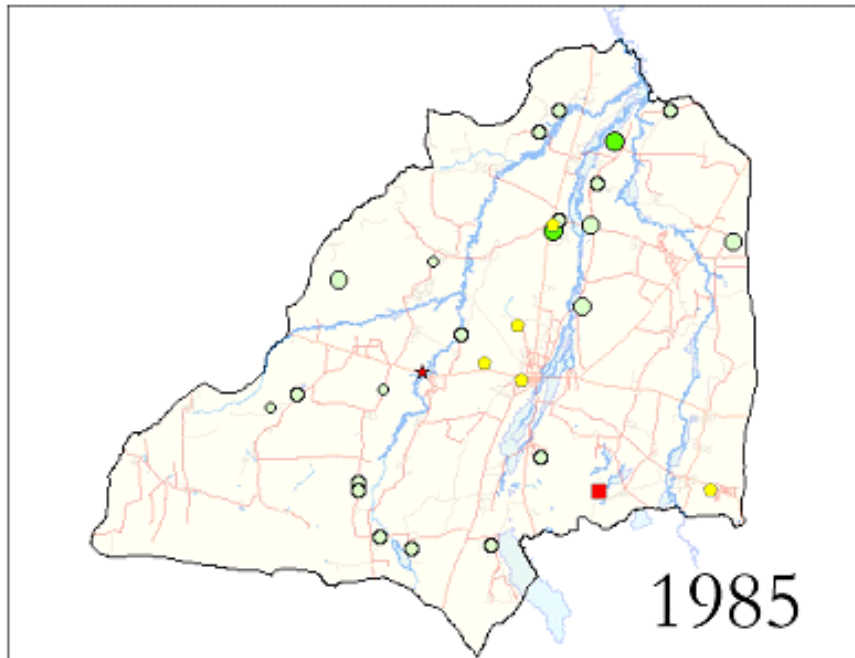
Social Networks, Migration and Inequality¹

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The Thai Puzzle



My Argument

Differences in migration levels of the Thai communities is explained by how migrant social capital accumulates in these communities.

Migrant social capital differentially affects migration outcomes depending on its level, diversity, and accessibility.

Because social capital accumulates over time, even small initial differences may be aggregated to large discrepancies in migration patterns over time.

Social Capital Theory

Resources linked to possession of a durable network of relations (Bourdieu 1986)

Three distinct dimensions of social capital (Portes 1998)

- Recipients (those making demands)
- Sources (those agreeing to those demands), and
- Resources

Social Capital and Migration

Migrant social capital is...

a **resource** (information or assistance) that **recipients** (potential migrants) access through their social ties to **sources** (prior migrants)

Resources of Migrant Social Capital

The higher the **amount, diversity and accessibility of resources** available to recipients, the greater their propensity to migrate.

Sources of Migrant Social Capital

The stronger the **ties to sources**, the more reliable the resources, and the greater the recipients' propensity to migrate.

The weaker the **ties to sources**, the broader the scope of resources, and the greater the recipients' propensity to migrate.

Recipients of Migrant Social Capital

The higher the **migration experience of recipients**, the greater their propensity to migrate.

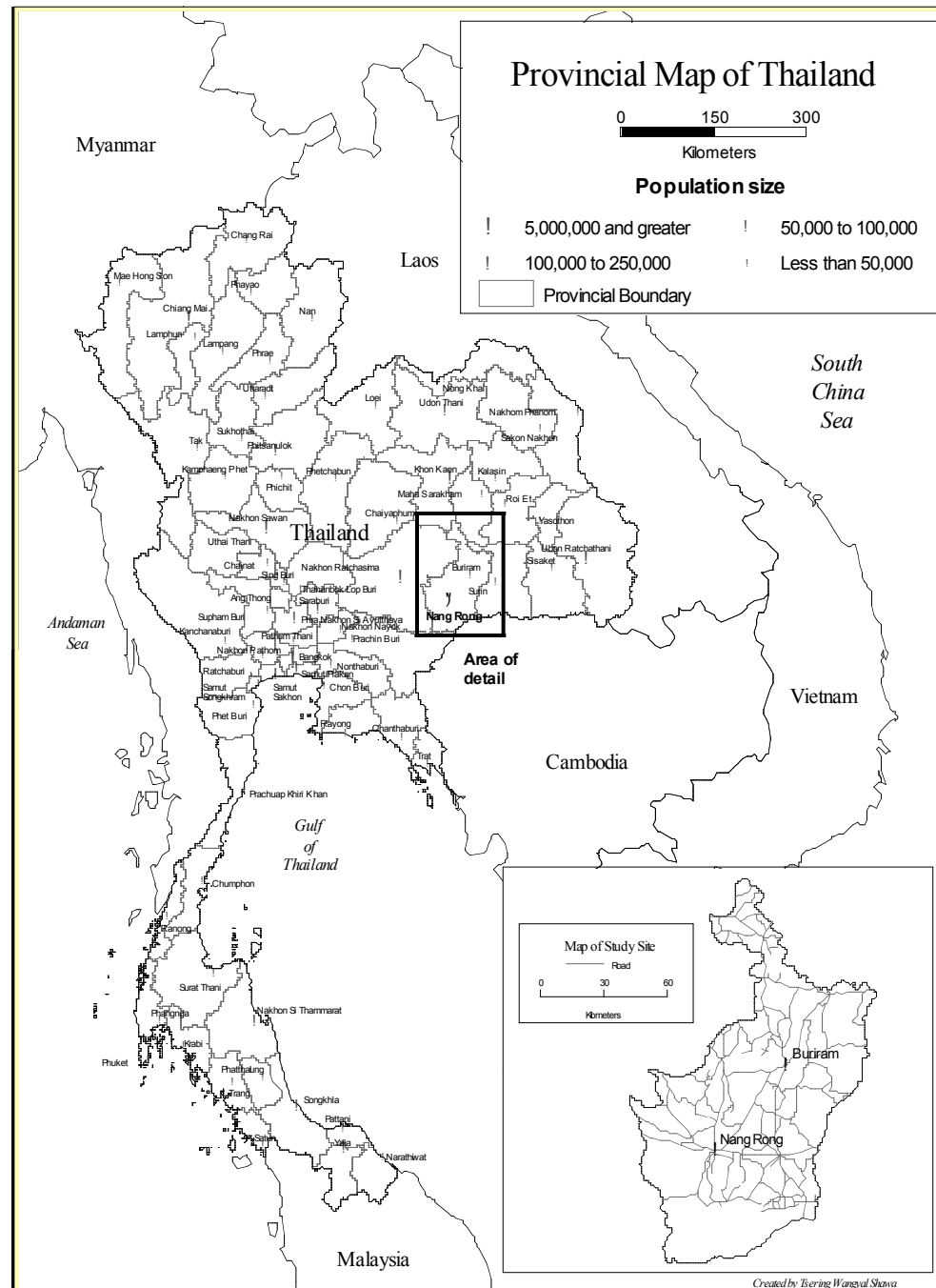
The higher the **migration experience of recipients relative to other sources**, the less valuable the resources from those sources, and the lower their effect on the propensity to migrate.

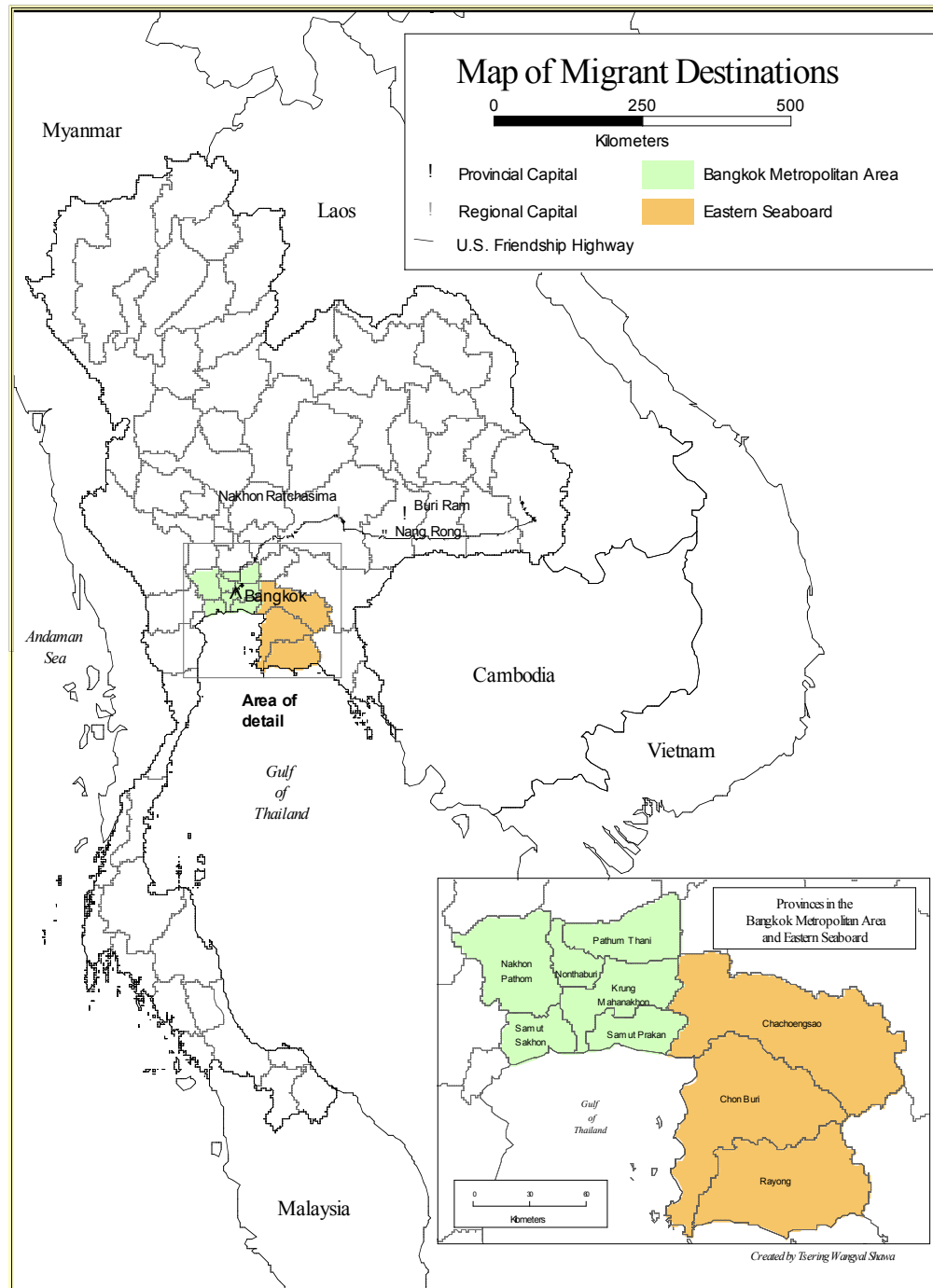
Thai Setting

Dramatic economic change and growth from mid-1980s to mid-1990s

Shift of the economic base from agriculture to export processing

Increased rural to urban migration and diverse demographic base of migrants





Nang Rong Survey Data

Household and village censuses, combined with life histories of all individuals aged 13-35 between 1984 and 1994

Migrant follow-up component, 70% of migrants interviewed in destination

Qualitative Data

Focus group discussions with village leaders, return migrants and migrant-sending households

24 focus groups in 8 villages with a total of 160 participants

Inquired about past and current migration patterns, and their consequences for households and villages

Operational Measures of Migrant Social Capital

	<u>Amount</u>	<u>Diversity</u>	<u>Accessibility</u>
Resources <i>(Information or assistance)</i>	Accumulated migrant trips in household or village	Entropy of trips by destination & occupation in household or village	Equality of distribution of trips in village
Sources <i>(Prior migrants)</i>		<u>Strength of ties</u>	
Recipients <i>(Potential migrants)</i>		<u>Attributes</u> Relative migration experience index	

Operational Measures - Details

$$\text{Accumulated Village Trips (V,T)} = \sum_{t=1984}^{T-1} \sum_{i=1}^{N_V} \text{Individual trips (i,t)}$$

$$\text{Destination Entropy of Trips (V,T)} = - \sum_{d=1}^D \frac{p_d(V,T) \log p_d(V,T)}{\log(D)}$$

$$\text{Equality of Trips (V,T)} = 1 - \frac{\sigma_{V,T}}{\mu_{V,T}}$$

$$\text{Relative Migrant Experience (x)} = F(x)E[x-z|z < x]$$

$V=1..22$, $T=1985..1994$, $D=1..4$,

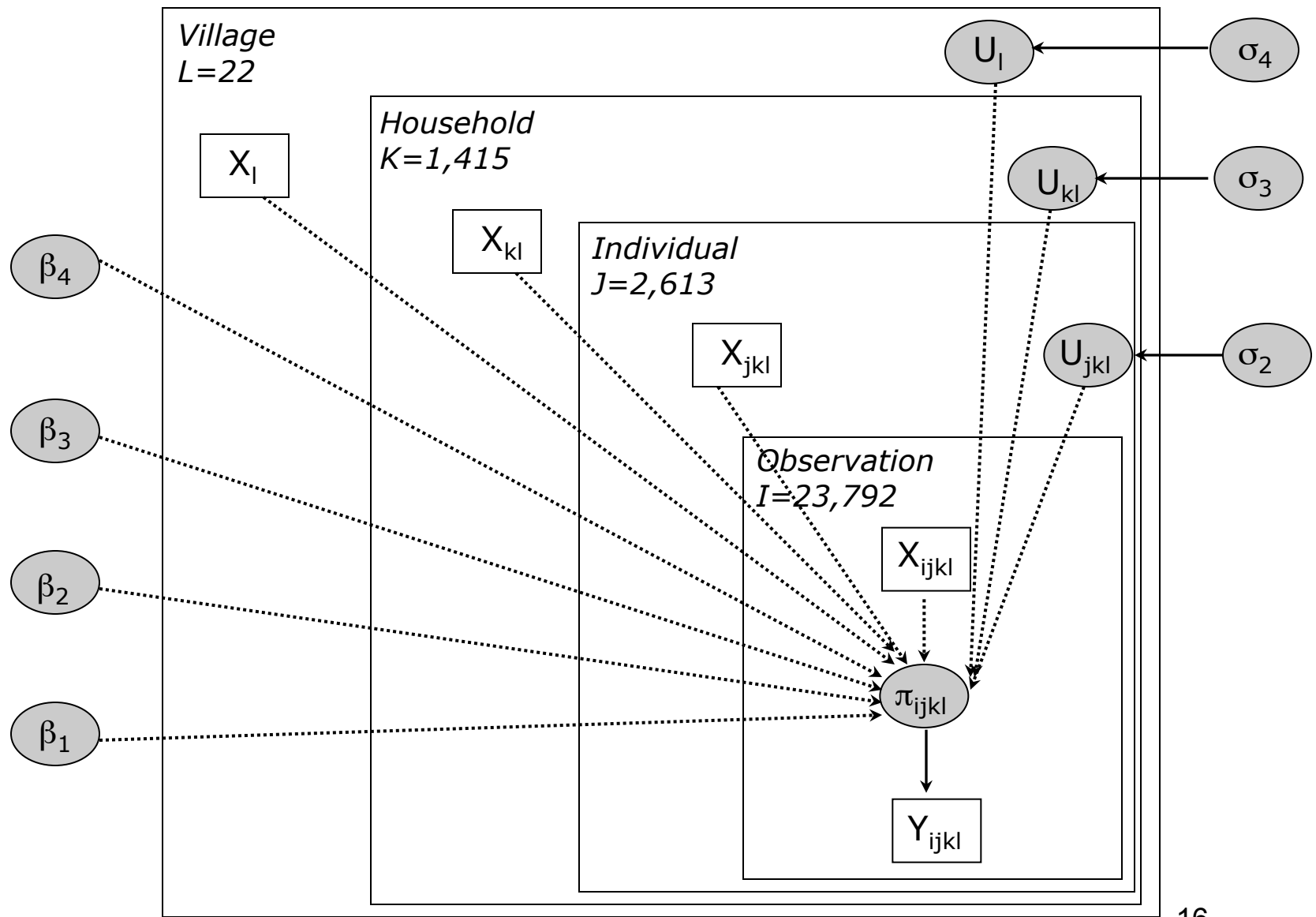
$p_d(V,T)$: proportion of village trips to destination d ,

$\sigma_{V,T}$: standard deviation of individual trips,

$\mu_{V,T}$: mean of individual trips

x : number of trips of index individual

Modeling Strategy



Estimation Procedure

$$Y_{ijkl} \sim B(1, \pi_{ijkl})$$

$$\text{logit}(\pi_{ijkl}) = \beta_0 + \beta_1 x_{ijkl} + \beta_2 x_{jkl} + \beta_3 x_{kl} + \beta_4 x_l + U_{jkl} + U_{kl} + U_l$$

$$U_{jkl} \sim N(0, \sigma_2^2)$$

$$U_{kl} \sim N(0, \sigma_3^2)$$

$$U_l \sim N(0, \sigma_4^2)$$

Model can be estimated by...

MLwiN software with Penalized Quasi Likelihood

STATA Gllamm application

HLM software with three-level hierarchy

WinBUGS software for Bayesian estimates

Impact of Migrant Social Capital on Migration

	Odds Ratio	
Trips in household	1.14	*
Trips in village	1.30	*
Destination diversity in household	0.98	
Destination diversity in village	0.87	*
Occupation diversity in household	1.08	*
Occupation diversity in village	0.98	
Equality of trips in village	1.39	*
Relative migrant experience	1.89	*

* $p < 0.05$ (Diversity, equality and rme indices are centered)
Controls for age, education, wealth, household structure,
village development, and unemployment rate

Summary of Results

Individuals are more likely to migrate when:

- migrant social capital resources are greater, more accessible, and more diverse,
- migrant social capital resources are from weakly-tied sources,
- they have prior migration experience themselves.

Summary of Results from Interaction Models

Individuals benefit more from migrant social capital resources when:

- resources are more accessible, and of high diversity,
- they have relatively low migration experience themselves.

Insights from Focus Groups



"I followed my friends. We went as a group and worked together. If the place paid good money, we stayed." (Male return migrant, 45)

"I had relatives who invited me to go. They found a job for me." (Male return migrant, 44)

"A lot of information is from prior migrants. They come home for a visit and recruit more people to work where they are working. I used to work in a factory. I recently changed jobs because I heard from my former co-factory worker, who resigned to work elsewhere, that the new job is better. So, I followed her there." (Female migrant, 27)

"It is risky to go without help because we might end up not finding work at all." (Male migrant, 22)

Insights from Focus Groups

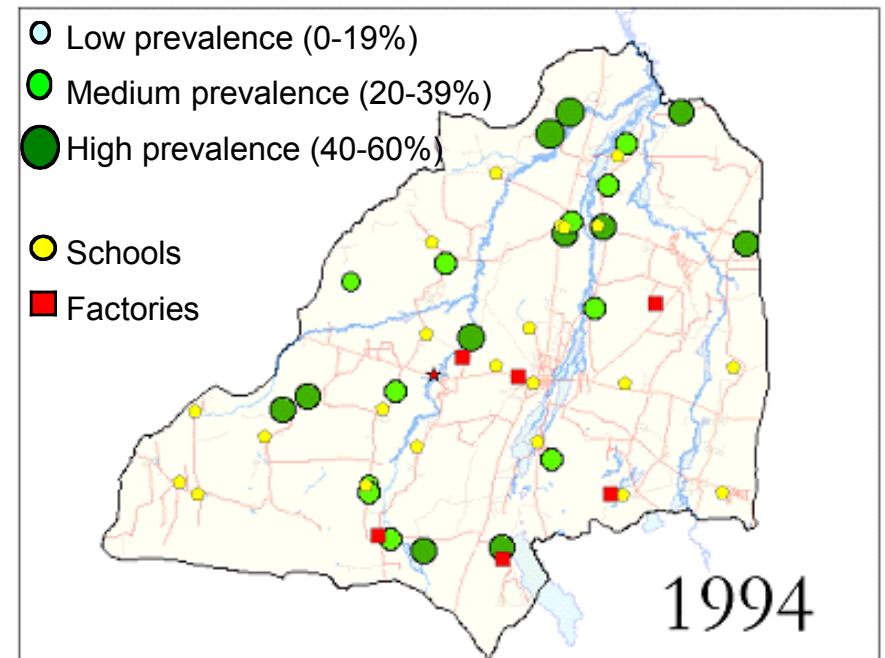
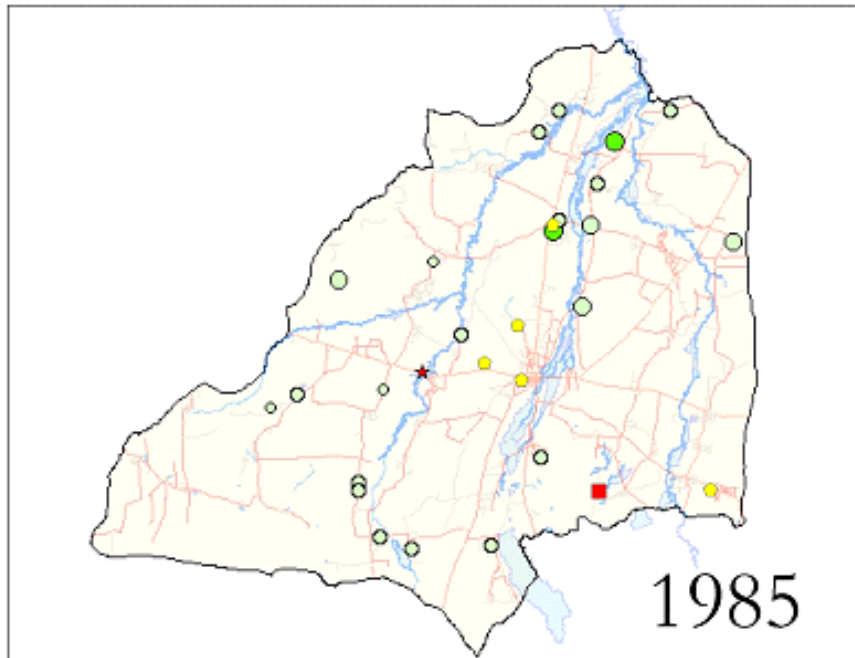
“They choose to go to [Bangkok or Chonburi] because the previous migrants are there.” (Head of the mothers group, 43)

“They follow the lead of their relatives and other prior migrants. When these people say that it is good where they are and that there is a job opening where they work, many people are interested.”

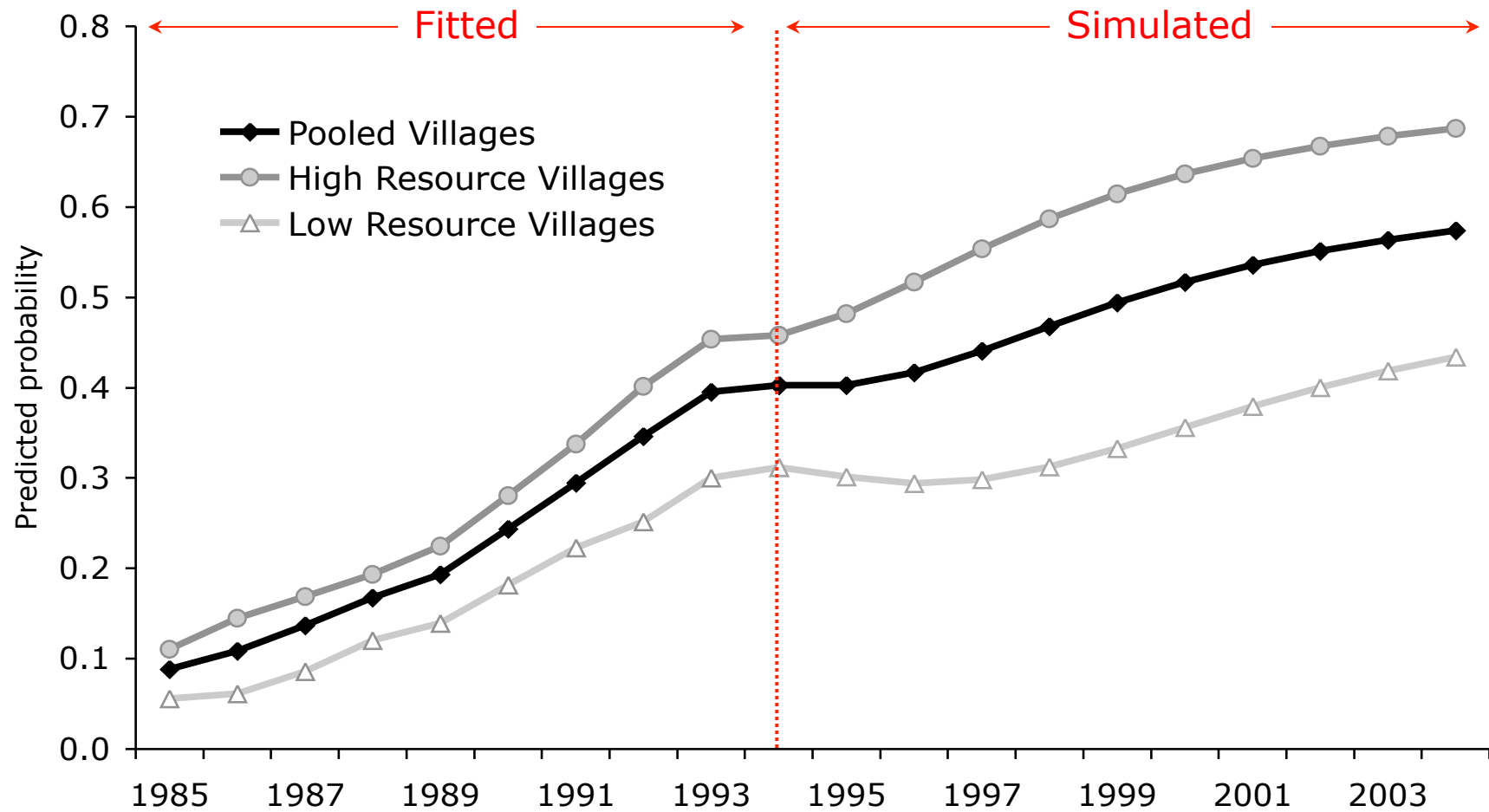


“...and yet when the C-Bird center (a nearby factory) announces job openings every month, nobody is interested because there is nobody they know that works there.” (Village headman, 54)

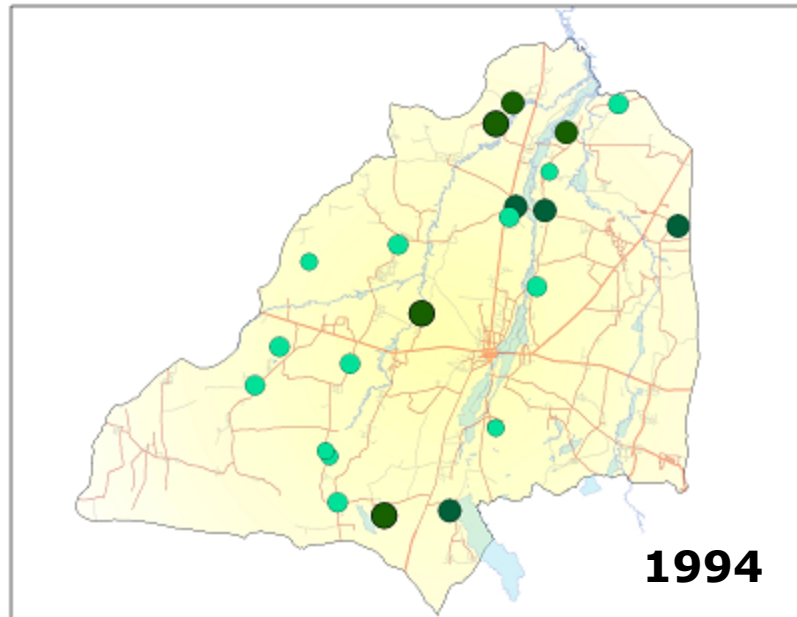
Explaining the puzzle



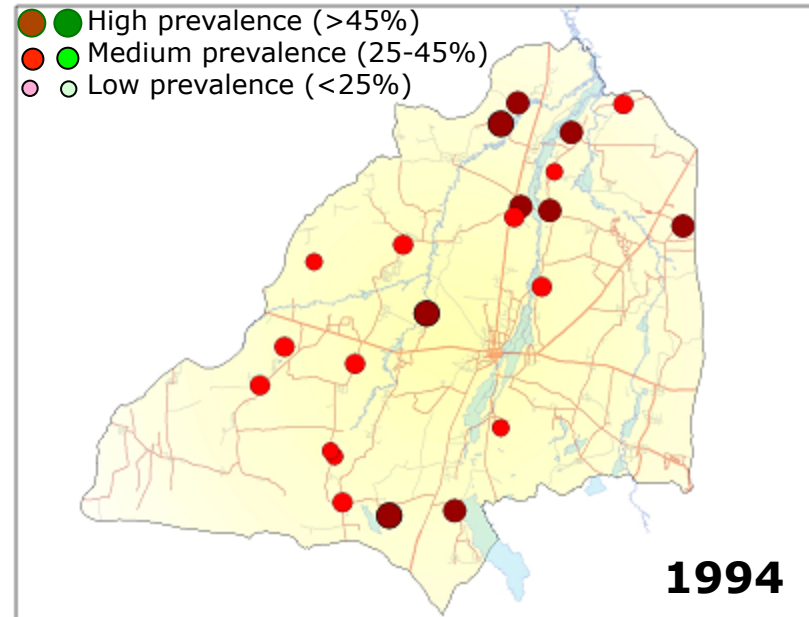
Migration Outcomes by Level of Resources



Predicting village level variation?

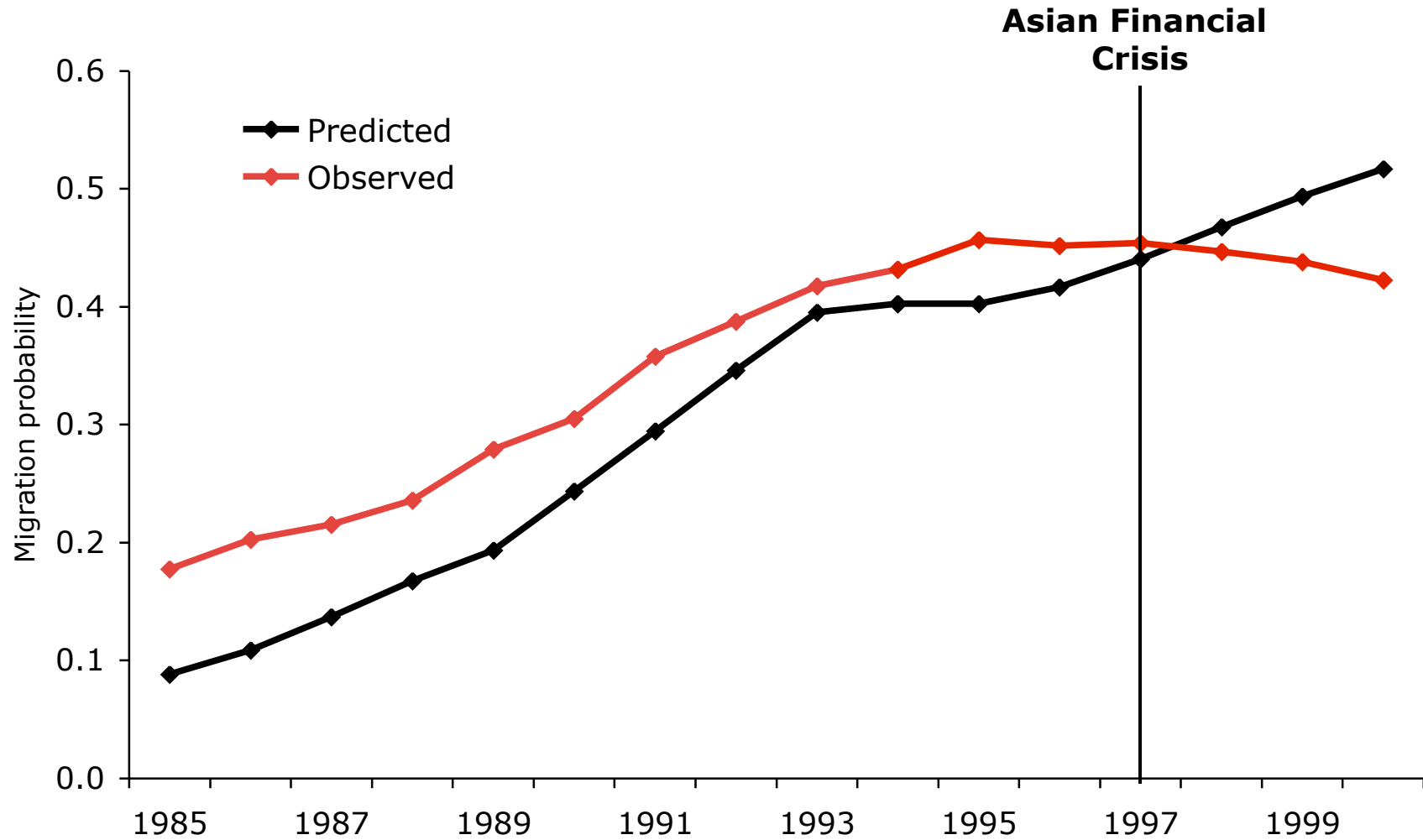


Observed

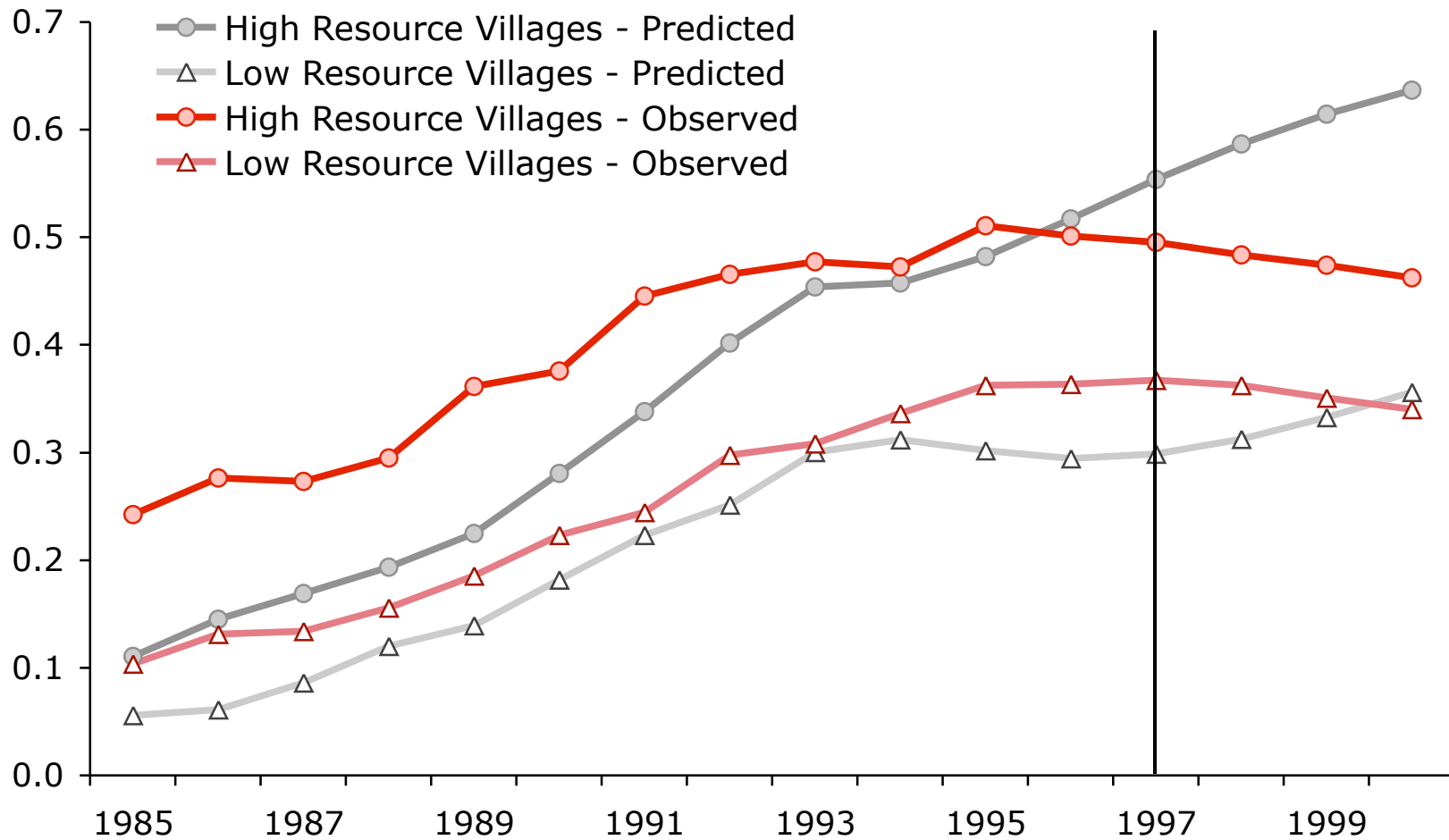


Fitted

Capturing real trends?



Capturing real differences?



Implications for the Thai case

Even small discrepancies in the level, diversity and accessibility of social capital resources can lead to striking differences in migration patterns over time.

Because of its cumulative nature, social capital may be a powerful mechanism generating or exacerbating inequalities.

Generalizing the idea (with Paul DiMaggio)

Basic idea:

Identify the conditions under which network externalities exacerbate inequalities

Two cases:

1. Inequality in the Internet adoption rates between African Americans and Whites in the United States
2. Inequality in the urban migration rates among 22 rural villages in Thailand

Our argument

Inequality among groups is exacerbated by diffusion practices that....

...can help you get ahead, and

...are more valuable if your friends do them
(**network externalities**), and

...spread within networks whose members are
similar to one another (**homophily**)

Example: AP Courses

There is substantial inequality in who takes Advance Placement (AP) courses in high schools.

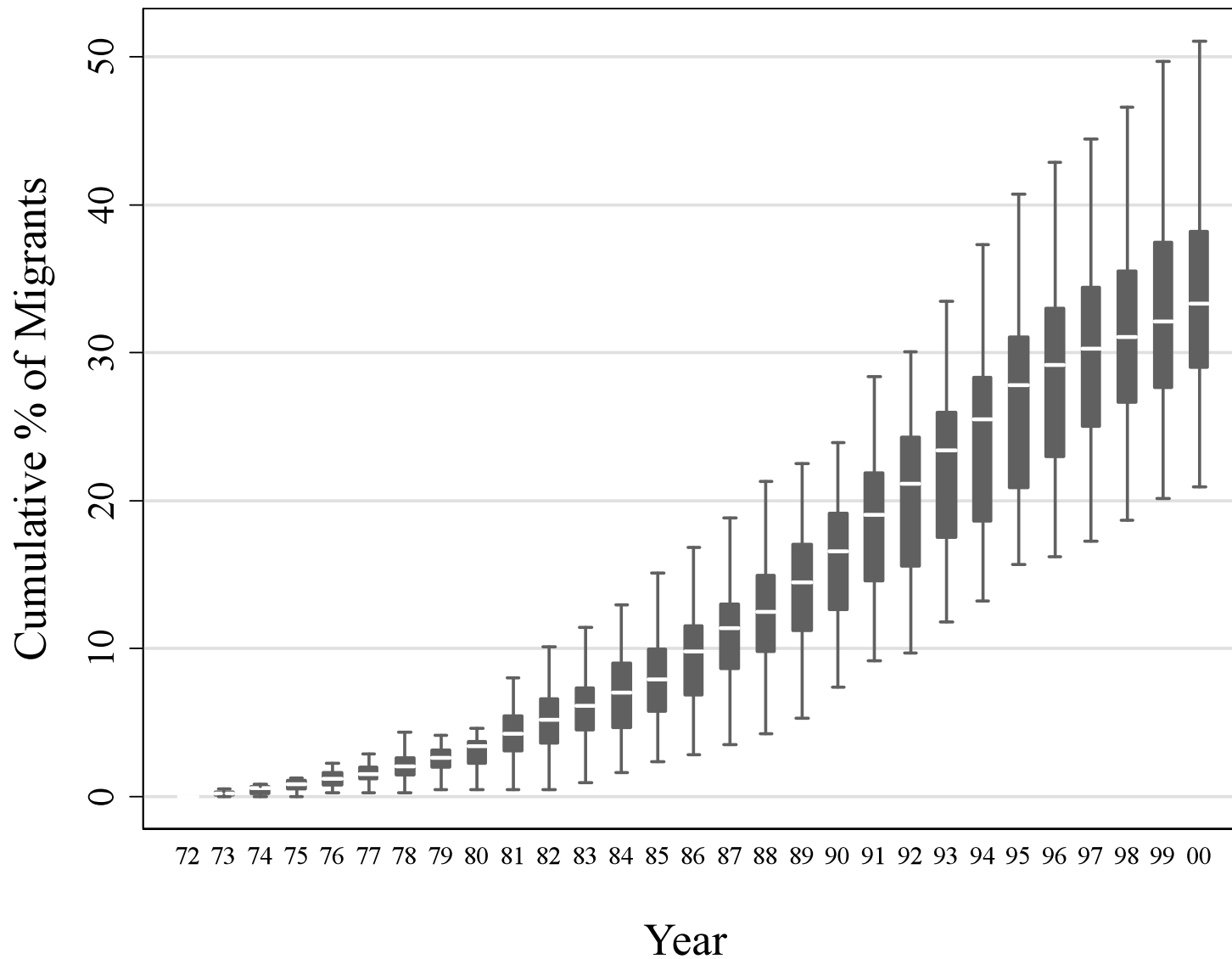
Network externalities: Having friends who are taking AP courses reduces the costs (and increases the benefits) of taking them.

Homophily: High-school networks are notoriously segregated by class and race.

Positive advantages of networks flow disproportionately to those already advantaged.

Source: Maureen Hallinan, "Whatever Happened to the Anti-Tracking Movement"

Inequality in the Diffusion of Migration in 22 Nang Rong Villages (1972-2000)



Network Externalities, Homophily and Migration

Three diffusion channels for migration: household, village, and Nang Rong

Specific networks (household and village) will have a higher positive impact on migration than general networks (Nang Rong).

Social homophily will moderate the impact of networks on migration.

Impact of Networks on Migration

	Hazard Ratio
Number of prior migrants	
in the household	1.077 *
in the village (excl. hh, in 100s)	1.151 *
in Nang Rong (excl. vill, in 100s)	1.010 *
N (person-years at risk)	50,198

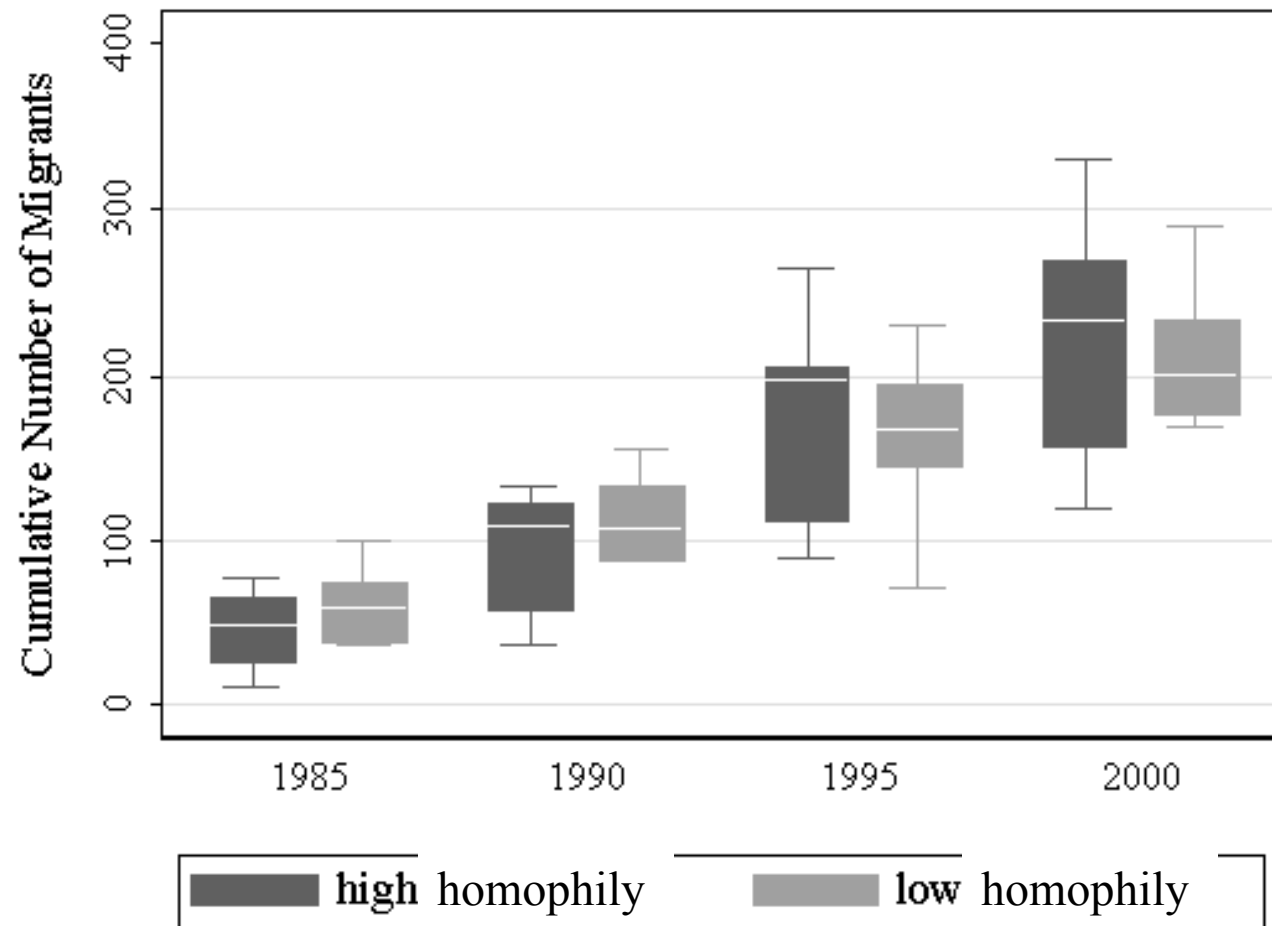
*p<0.01 Includes controls for age, sex, education, marital status, wealth, household structure, and village development indicators.

Impact of Networks and Homophily on Migration

	Homophily in	
	Education	Occupation
Number of prior migrants		
in the household	1.061 *	1.048 *
in the village (excl. hh, in 100s)	1.254 *	1.467 *
in Nang Rong (excl. vill, in 100s)	1.002 *	1.001 *
Homophily in year [0,1]	1.857	1.757
Homophily * No of prior migrants	1.036 *	1.018 *

*p<0.01 Includes controls for age, sex, education, marital status, wealth, household structure, and village development indicators. Also includes indicators of mean education level in the village, and percent working in each occupation.

Dispersion of Migration across 22 villages by Education Homophily

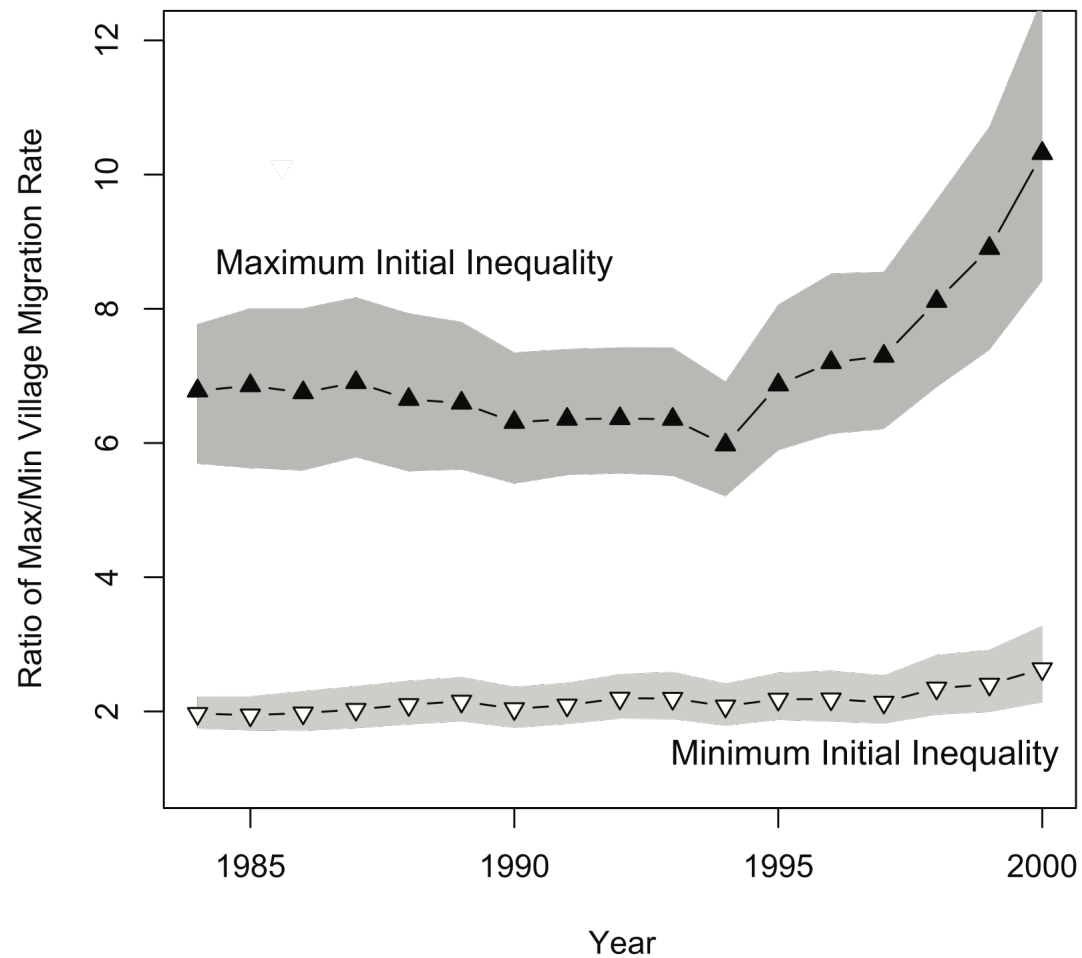


Conclusions for the migration model

The results are consistent with the posited mechanism.

1. Strong net effects of networks, especially local ones on migration.
2. Positive interactions of homophily with networks.
3. Homophilous systems (e.g., clusters of villages) develop greater variance, consistent with accentuation of initial differences over time via network effects.

The importance of initial conditions (with Bruce Western)

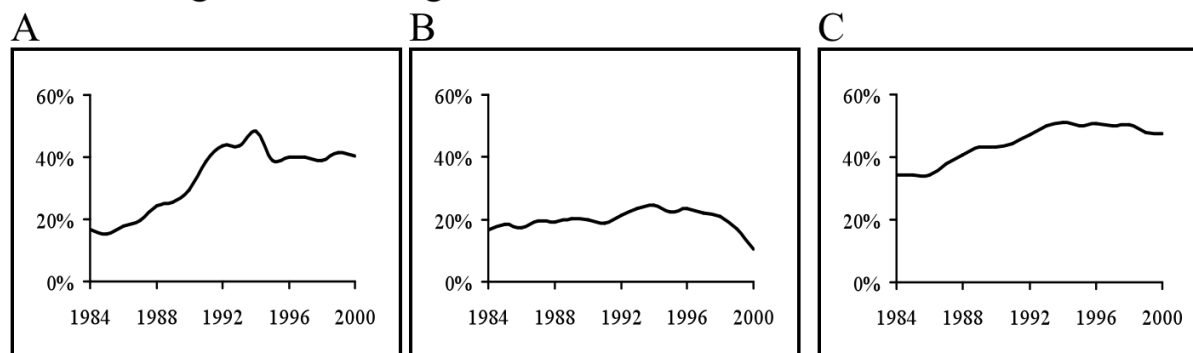


What is next?

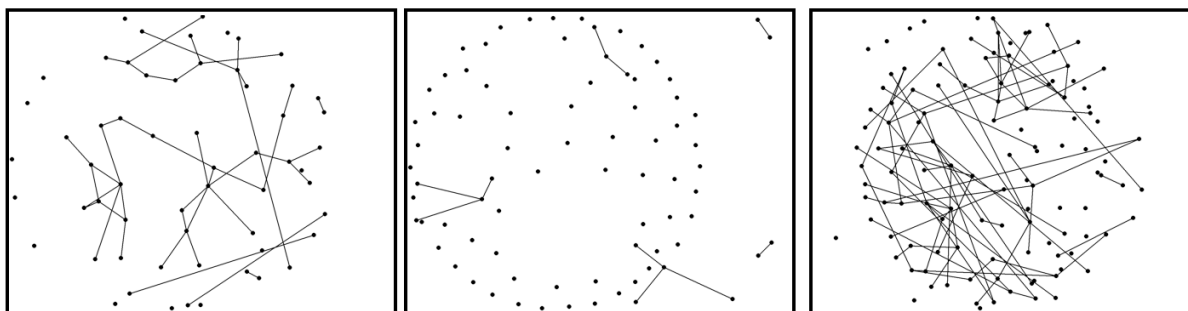
Studying peer-effects in migration and remittance behavior with data on sibling and rice harvesting networks

Collaboration with Alan Qi (Computer Science, Purdue) to model the structure and evolution of social networks in Thai villages

Percent Migrants in Village in Year



Help with the Rice Harvest (1994)



Sibling Ties (1994)

