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Who is an internal migrant?

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Abstract

There is no internationally accepted definition of an internal migrant. Different surveys and academic papers use varied definitions that are open to subjectivity. Our paper stresses this issue and tests the sensitivity of results obtained by econometric analysis to the use of different defining criterion. Using four definitions of an internal migrant based on aspects of varied time intervals, purpose of migration and geographical shifts, we examine the determinants of the migration decision and the impact of migration on the household's income. We employ Probit modelling and difference-in-difference Probability Score Matching to estimate the two questions, respectively. We find that a change in definition alters the target sample and therefore induces identification errors. In case of determinants, the magnitude and significance of variables capturing human and social capital, socio-demography and wealth of the household change across the four definitions. Additionally, having a migrant, increases the household's income under two definitions, while negatively impacting the household's income under the other two definitions. Therefore, it is pertinent to standardize the definition of an internal migrant before assessing the impact of migration. Our paper aims to bring this issue to the attention of international organizations and future researchers who work in the area of migration. It advocates for a standardized definition by proposing basic guidelines.

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Introduction

Internal migration is an important feature of our world. According to the World Bank (2016), there are about 756 million internal migrants around the globe which is roughly three times the size of international migrants. Internal migration is not only evident in developed countries where job hopping takes individuals across many cities during their lifetime, but also in developing countries where growing job opportunities and better education in certain parts of the country attract the population from other areas. Around 40% of the urbanization process in Asia, Latin America and Africa could be attributed to internal migration (Skeldon, 2006).

While there is ample literature available on the determinants, patterns, consequences, and other facets of the phenomenon, there is no universally accepted definition of internal migration. The World Bank (2016) states that "*internal migrants are those who have moved across administrative boundaries within national borders*". The United Nations provides a manual for measurement of internal migration which defines internal migration as "*a move from one migration-defining area to another that was made during a given migration interval and that involved a change of residence.*" Therefore, a (internal) migrant "*is a person who has changed his usual place of residence from one migration-defining area to another at least once during the migration period*" (UN, 1970: p.2). However, these definitions are very broad and can be interpreted in various ways. Therefore, the definition of internal migration and hence internal migrant are open to subjectivity.

This creates the following problems. Firstly, there is no way to harmonize various internal migration data sets across nations because each country defines and measures internal migration differently (UN, 2013). An international comparison of individual results could provide more substantial insights and aid to identify unique findings (Bell et al., 2015). Secondly, non-standardization of definitions leads to what we could call the 'poverty line syndrome' – where a change in the poverty line by governments could change the proportion of poor in the country. In our context, changing the definition of an internal migrant would change the sample and hence the target population. Therefore, not using the correct definition could lead to identification errors such as errors of inclusion and exclusion (Cornia & Stewart, 1993). As the effectiveness of most policies and welfare programs is contingent on the composition of their target groups, this could entail significant consequences. Lastly, due to these inclusion errors, it is possible to obtain unequivocal relationships between variables.

Our paper aims to highlight the sensitivity of econometric results to a change in definition of an internal migrant. Furthermore, we intend to bring this issue to the attention of international organizations. The United Nations has recently finalized the Global Compact for Safe, Orderly and Regular Migration. The first objective of this compact is "*collect and utilize accurate and disaggregated data as a basis for evidence based policies*" (UN, 2018). This entirely rests on the assumption that the migrant is precisely defined which is not the case. Though this pact is pertaining to international migration, it is also relevant in the context of internal migration. Also, we aim to create awareness of the issue in the research community. Lastly, we endeavor to provide basic guidelines for a standardized definition.

Our main research question is – does a change in definition of internal migrant impact econometric/statistical results. In order to examine this, we analyze two questions relating to

the determinants of internal migration and the impact of internal migration on income of migrant households. We use data from Vietnam which provides an excellent example of an emerging economy where the current internal migration rate stands at 14% (Sharma & Grote, 2018).

Current definitions

Existing literature has used various ways to define an internal migrant. The most common basis is 'time' where an individual is deemed to be a migrant if he/she spends more than a certain amount of time away from their respective home. However, there is no consensus on this time interval. While some papers use a threshold of a month (Nguyen et al., 2015), others define a migrant as a person who has been away from home for at least half a year (Gröger & Zylberberg, 2016). Additionally, in the internal migrant literature, permanent and temporary migrants which can be categorized based on this time interval, are generally not separated because of lack of a standard demarcation.

Furthermore, geographical shifts have also been used to define a migrant. While there is a general notion that internal migration is mainly about rural-urban migration, this might not always be the case. Many laborers in developing countries tend to migrate to neighboring villages or emergence of a new factory in rural areas could entail urban-rural migration. An example would be Dang et al. (1997), who stress on interprovincial migrants because (in the country specific context) policy and socioeconomic development entails movements across provinces rather than intra-provincial movements. Thus, this definition overlooks migrants who migrate within the province but might perform similar activities and spend similar time away from their homes, as their inter-provincial migrating counterparts. Furthermore, spatial frameworks differ widely across nations and therefore, add to the question of comparability.

The main motivation of migration such as job search, education or environmental shocks have also been utilized to define an internal migrant (Gröger & Zylberberg, 2016). Though they lend more specificity to the definition, these are harder to measure and could also overlap.

In addition, papers or reports could also base their analyses on information from censuses, population registries, migrant surveys, and household surveys (Pham & Coxhead, 2016; Biyase & Tregenna, 2016). These could be conducted by the government or be privately funded and again utilize their own criteria to define an internal migrant. For example, the General Statistics Office in Vietnam in their internal migrant survey term an individual as migrant if he/she has been away from the origin household for at least five years, while in the United States, there is a time interval of 1 to 5 years[1]. The drawbacks of using these forms of data on internal migrants are discussed extensively in the UN handbook of measurement of internal migration (1970).

Data and Methodology

The study uses data from 2008 and 2010 collected under the 'Vulnerability in Southeast Asia' project (currently the Thailand Vietnam Socio Economic Panel). 2200 households in three provinces in Vietnam, namely, Thua Thien Hue, Ha Tinh and Dak Lak were randomly selected[2].

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[1] In addition to other defining factors. Refer to GSO (2015) and Population Association of America (1988)

[2] For more information see Nguyen et al. 2015

Definitions used:
In order to test the robustness of the econometric results to the change in definition, we use the following four definitions – (1) Individual is a migrant if he/she has been away from home for at least a month, regardless of the spatial movement and the purpose of migration; (2) Individual is a migrant if he/she has been away from home for at least half a year, regardless of the spatial movement and the purpose of movement; (3) Individual is a migrant if he/she moved in search of job opportunities, regardless of the time interval and spatial movement; and (4) Individual is a migrant if he/she moved to another province, regardless of time interval and purpose of movement. Based on these, we are able to obtain the total number of migrant households. All these definitions have been borrowed from existing literature that have worked with data in Vietnam.

To facilitate easier readability, the definitions are renamed as (1) short time migration, (2) long time migration, (3) employment migration, and (4) inter-provincial migration.

Model specification:
Equation A is used to identify the determinants of migration.

$$Prob\big(Mig_{ij,2010} = 1\big) = \alpha_o + \alpha_1 HC_{ij,2008} + \alpha_2 PC + \varepsilon_{ij} \qquad \text{(A)}$$

The dependent variable takes the value 1 if the household i in village j has any migrants in 2010 and 0, if otherwise. We regress this on household characteristics (HC) from the year 2008 and provincial fixed effects. We use Probit modelling to analyze this question. If the household has a migrant in 2008, this could influence the household's current wealth and cause endogeneity. Therefore, we drop households with migrants in 2008 to deal with this problem.

Equation B is used to examine the impact of migration on the annual income of the households.

$$ATT = [Y_{2010}^1 - Y_{2008}^1 | X_{2008}, D = 1] - [Y_{2010}^0 - Y_{2008}^0 | X_{2008}, D = 0] \qquad \text{(B)}$$

The dependent variable *ATT* is the average treatment effect on the treated that captures the impact of migration on the change in annual income of the migrant household between 2008 and 2010. As it is not possible to compare the outcome of the same household with and without a migrant, we use difference in difference in combination with Propensity Score Matching to estimate our model. We use (A) to obtain the propensity score and nearest neighbor matching, kernel based matching and radius matching to assess the impact of migration on change in per capita income of the household.

Results

Change in sample size:
The building block of the analysis is the target population or the number of internal migrant households. As expected, this varies across the four definitions. While we obtain 376 households with internal migrant under short time migration, there are 392 households that have internal migrants engaged in long time migration. The number of households is 224, when we consider internal migration is for job purposes and 111 under inter-provincial migration. It should be mentioned that these numbers are obtained after dropping the households that had internal migrants falling in the respective definitions in 2008.

Table 1: Sample size under different definition

	Total households	Migrant households	Non-migrant households
Short time (1)	977	376	601
Long time (2)	1251	392	859
Employment (3)	1403	224	1179
Inter-provincial (4)	1968	111	1857

Determinants of internal migration:

Table 2 shows the results for the first question on determinants of the migration decision. There are noticeable differences in magnitudes and significance of variables across the four definitions. Migration is a possible livelihood strategy for households that have experienced a demographic shock under long time migration. In contrast, a negative impact of demographic shocks on migration decision is noticed under inter-provincial migration. Socio-demographic variables such as gender and age of household head illustrate a homogeneous relationship across the four definitions. This does not hold true for human capital and social capital variables. For instance, having a higher share of members with completed higher education positively influences the migration decision only under the definitions pertaining to time while being member of the political or social organization is positively associated with short time migration decision and job related migration. Furthermore, if a household is engaged in off-farm employment, it has a positive influence only on inter-provincial migration. Wealth of the household is captured by land per capita which is only significant when migration is for job purposes. The anomalies are also visible across provincial controls.

This highlights the identification errors that are induced by changes in the defining criterion. In this case, different households form the sample under the four definitions. Hence, the composition of household characteristics varies, leading to different results.

Table 2: Determinants of internal migration

Variables	Def 1 – *short time migration*	Def 2 – *long time migration*	Def 3 – *employment migration*	Def 4 – *inter-provincial migration*
Household Characteristics (2008)				
HH experienced demographic shock (1-yes, 0 - no)	0.156 (1.65)	0.179 (2.11)*	-0.009 (0.10)	-0.242 (2.13)*
HH experienced social shock (1-yes, 0 - no)	0.330 (0.37)	0.262 (0.46)	--- ---	0.223 (0.42)
HH experienced agricultural shock (1-yes, 0 - no)	0.103 (1.05)	0.127 (1.34)	0.153 (1.49)	-0.072 (0.63)
HH experienced economic shock (1-yes, 0 - no)	0.108 (0.68)	0.255 (1.86)	0.223 (1.47)	0.013 (0.07)
Female headed HH (1-yes, 0 - no)	-0.031 (0.26)	0.001 (0.00)	-0.094 (0.80)	-0.264 (1.74)
Age of HH head (years)	0.012 (3.66)**	0.020 (6.66)**	0.008 (2.22)*	0.028 (5.88)**
Share of HH members w/completed secondary school	0.601 (2.71)**	0.332 (1.63)	0.247 (1.10)	0.603 (2.32)*
Share of HH members w/completed high school or professional education	0.888 (3.21)**	0.613 (2.59)**	0.085 (0.38)	0.464 (1.90)
HH members belong to political or social organization (1-yes, 0 - no)	0.241 (2.06)*	0.104 (0.92)	0.302 (2.21)*	0.180 (1.00)
Dependency ratio	-0.663 (3.61)**	-1.290 (7.35)**	-1.505 (6.98)**	-0.640 (2.32)*
HH engaged in off-farm activities	0.012 (0.12)	0.147 (1.57)	-0.100 (1.01)	0.519 (4.30)**
Log of land per capita (ha)	-0.023 (0.60)	-0.031 (0.95)	-0.121 (2.97)**	0.058 (1.20)
HH is indebted (1-yes, 0 - no)	0.037 (0.41)	0.089 (1.02)	0.049 (0.52)	0.158 (1.37)
Village Characteristics (2008)				
Village road condition (1- good, 0 - bad)	-0.138 (1.23)	-0.097 (0.97)	-0.148 (1.34)	-0.236 (1.95)
Log of distance from village to district headquarters (km)	-0.020 (0.40)	0.035 (0.72)	-0.008 (0.16)	0.083 (1.28)
Ha Tinh province (1- yes, 0 – no)	-0.017 (0.11)	0.049 (0.36)	0.313 (2.21)*	-0.091 (0.57)
Hue province (1- yes, 0 – no)	0.036 (0.28)	0.231 (1.95)	0.340 (2.60)**	0.033 (0.21)
Constant	-1.124 (4.33)**	-1.789 (7.14)**	-1.838 (6.42)**	-3.504 (9.21)**
Total observations	977	1,251	1,394	1,968

Source: own calculations

Note: *** p<0.01, ** p<0.05, * p<0.1, Social_shock is omitted in Def.3 as there are not enough observations that experienced a social shock.

Impact of internal migration on income:

Table 3 shows the results of the difference in difference with PSM used to analyze our second objective. We find that under short time migration (definition 1), the ATT is between 1,087 to 1,719 $PPP which means that having a migrant who has been away from home for at least 1 month could lead to an increase in the annual income of the household in the same range. Interestingly, in case of long time migration (definition 2), where the migrant migrated for at least half a year, there is a decrease in household annual income between -1,172 and -1,599 $PPP. In case of definition 3, significant results are obtained only under the Nearest Neighbor Matching (1) approach. In contrast to long definition and in resonance with short time definition, when migration is for job purposes, the annual income increases by 1,487$ PPP. For inter-provincial migration, the household experiences a decrease in annual income in the range of -1,101 and -1,529 $PPP.

The results show a dramatic difference in income effects because different households are included under the four definitions. They also provide perspective on how different types of migrations can have different impact on the household's income. If all these types are clubbed together under a broader definition to assess the impact of migration on households, it could lead to a distorted picture. There is no consensus in literature about the impact of migration on the household's income and welfare (Nguyen et al., 2015; Andersson, 2014; Mberu, 2006). A standardized definition could help to settle this debate.

Table 3: Impact of internal migration on per capita income of the household

Matching algorithm	Average Treatment Effect on the Treated (ATT)			
	Def 1 – *short time migration*	Def 2 – *long time migration*	Def 3 – *employment migration*	Def 4 – *inter-provincial migration*
Income change (Nearest neighbour (1))	1,719.29**	-1,599.09*	1,487.17**	-1,529.28*
Income change (Kernel based (6))	1,100.80*	-1,172.35*	486.43	-1,138.47*
Income change (Kernel based (3))	1,093.49*	-1,237.69**	449.01	-1,101.41*
Income change (Radius (6))	1,114.46*	-1,168.12*	509.27	-1,161.26*
Income change (Radius (3))	1,087.08*	-1,196.26*	472.28	-1,106.32*

Source: Own calculations

Note: ** $p<0.05$, * $p<0.1$; all definitions satisfy the balancing property; Def 3 was run without road_condition variable to ensure that balancing property is satisfied.

Conclusion

The paper aims to emphasize the need for a universally accepted definition of an internal migrant. We examine the sensitivity of econometric/statistical results to the defining criterion and find that altering the definition changes the results significantly.

If the robustness of the results can be compromised by such simple alterations, it becomes imperative to think why no such definition has yet been produced. It is a concept that is hard to specify due to cultural differences of perception and also behavioral differences. However, similar issues can also be cited in regards to international migration. Despite the concerns about a common definition in the international context (Bilsborrow et al., 1997), organizations such as the World Bank and the United Nations do have more detailed definitions that add some

more specificity (in terms of time)[3]. Though not comprehensive, presence of acknowledged definitions for international migrants at least provide a basis for standardization. In contrast, no such clarity is available for internal migration.

Long (1988) enlisted three dimensions of internal migration definition – (1) in terms of geographical locations which implies area of origin and destination, (2) time period and (3) type of residence. The first and third dimensions might be harder to standardize across various nations due to variation in shapes and sizes of spatial areas where migration takes place across countries[4]. It is also difficult to measure areal units of varying sizes (UN, 1970). Time, however, is less tricky to involve in the definition and could at least provide a basis for consistency across definitions. Addressing this dimension would also provide specificity in terms of seasonal, temporary and permanent internal migration.

Through our study, we endeavor to provide empirical evidence to the problems that are created by the use of various operational definitions of internal migration. Additionally, we expect that our paper would encourage future researchers and policy makers to be more careful while formulizing definitions and analyzing the phenomenon of internal migration. Lastly, we would like to bring the attention of international bodies to the issue. Internal migration can impact the long-term socio-economic structure of a country, in this case it would be imperative to at least have a definition to start with.

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[3] According to the United Nations (2017), *While there is no formal legal definition of an international migrant, most experts agree that an international migrant is someone who changes his or her country of usual residence, irrespective of the reason for migration or legal status. Generally, a distinction is made between short-term or temporary migration, covering movements with a duration between three and 12 months, and long-term or permanent migration, referring to a change of country of residence for a duration of one year or more.*

[4] According to Shyrock and Siegel (1976), "*the minimum distance might be set at the point at which commuting to work becomes so time-consuming and expensive as to require the substitution of a change of residence*".

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