



Migration, Poverty, and Inequality

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Abstract

Given the increasing importance of Migration, Poverty, and Inequality in both national and international development and current affairs, this paper focuses of Migration, Poverty, and Inequality and will be of interest both to policymakers and to students and researchers of geography, development studies, political science, sociology, demography, and development economics. This paper focuses on links between migration, poverty and inequality. This paper focuses migration, poverty, inequality and development provides an interdisciplinary to chart current and future trends in research on this topic. It looks at who these migrants are, how many they are, what socioeconomic status they belong to, what causes people to migrate, and what the impact of such migration is on people's inequality. Thus, the objectives of this paper are: To systematically address the research gap between the dynamic links of internal migration, urbanization, and the poverty nexus in India. To investigate the on the poverty-inequality-migration nexus.

Research included quantitative approach. Data used to test the association of internal and international migration with interhousehold inequality and poverty are from a household survey conducted in India 2021. We had selected for data analysis an inequality index. The Gini coefficient decomposition is useful for examining the effects of different sources of income on overall income inequality. In India, the total of metropolitan cities around 1 million people and above has increased from 35 in 2001 to 53 in 2011. In 2030, India is predicted to increase its urban population a total of 163 million, relative to an increase in the rural population by 30.9 million. The richest states (Tamil Nadu, Maharashtra, and Gujarat) have lower HCR (head count ratio) and attract more migration to urban areas. In contrast, poorer states (such as Uttar Pradesh, Bihar, and Orissa) have higher HCR and net out-migration occurs as a result. Findings support our theoretical expectation that this relationship varies by migrant destination. Researcher find evidence of a negative correlation between internal migration and inequality and a positive correlation between international migration and inequality. Comparatively high remittances from this form of migration are associated with greater inequality. The links between migration and development can be starting by mapping the different theoretical approaches to migration and development, this paper goes on to present cutting edge research in poverty and inequality, displacement, climate change, health, family, social policy, interventions, and the key challenges surrounding migration and development.

Keywords: Migration, Poverty, Inequality, Urbanization and Development.



1.Introduction

In India, the number of metropolitan cities with a population of around 1 million people and above has increased from 35 in 2001 to 53 in 2011. Around 43% of the urban population resides in metropolitan cities.² By 2030, the urban population of India is predicted to increase by a total of 163 million, relative to an increase in the rural population by 30.9 million (UN DESA 2014). Unplanned growth in the urban population tends to put pressure on regional/urban disparities and the rapidly increasing slum-dwelling population. In 2011–2012, the headcount ratio (HCR) based on US\$ 1.90 per person per day for India is around 21.3%, and the total number of people under this poverty line is 260 million. The urban Gini index increased by nearly 5 points from 34.3 to 39.1, and the urban mean log deviation (MLD) index increased by over 6 points from 19.3 to 25.5 during 1993–1994 to 2011–2012 (World Bank 2015a, b). The figures show a rapid increase in urban poverty and inequality.

Studies in India show some mixed results. Urbanization is a product of poverty-induced rural-urban migration, and it is due to urban pull and rural push (Datta 2006). Migration for employment from rural to urban areas emerges as a major tool for poverty alleviation (Kundu and Mohanan 2009). Urbanization has a systematic and strong association with poverty reduction in neighbouring rural areas (Cali and Menon 2009). Urban to rural remittances appear to be particularly important in the well-being of the poorest states in India (Castaldo et al. 2012). The positive impacts of migration improved the status of migrants of both urban and rural households. However, these positive impacts come at a cost. The cost involves the risks of injury, exposure to disease, and long periods of separation from family (Deshingkar 2010). In general, despite the importance of the rate of urbanization and its link to urban poverty and urban inequality (Jack 2006; Satterthwaite 1997), it is surprising that existing research only pays attention to each dimension in isolation.³ Accommodating appropriate models to explain the link is challenging.

Thus, the objective of this paper is to systematically address the research gap between the dynamic links of internal migration, urbanization, and the poverty nexus in India. The remaining sections are organized as follows: Section 5.2 explores the trends and patterns of internal migration, urbanization, poverty, and inequality. Section 5.3 describes the methodology of stationarity testing and explains the data, followed by a cointegration time



series analysis for a long period and a special state panel generalized method of moments (GMM) estimation at the state level. Section 5.4 discusses the results. Section 5.5 provides some conclusions related to the identified interdependencies.

Poverty and inequality determine who migrates

Income differences between developed and developing countries are vast: in 2015, GDP per capita in high income countries was 8 times that in middle income countries, and 65 times the per-capita income in low-income countries.¹ The simplest income maximization theories of migration (e.g. Sjaastad, 1962) would then predict incredibly high rates of migration from the poorest countries. Yet this is not what we see in practice. Why not?

Simply comparing income levels across countries and assuming that people who move from one country to another will gain the difference in percapita incomes assumes that: i) all of this difference in income reflects characteristics of the country, and not differences in skills of the people; and ii) that those who wish to move can do so. In practice, neither assumption is correct. Differences in skill levels and the transferability of human capital will mean that if the average person from Niger moved to France, they would not earn the average income in France. And high costs (both financial and non-financial, including policy barriers) of moving coupled with liquidity constraints mean that not all those who want to move can do so. I therefore turn to first look at what the relationship between poverty and migration is across countries, and then within countries, before summarizing research which tries to explain these patterns.

Trends and Patterns

India shifted to a higher growth path trajectory in the 1990s based on the strength of its economic reforms in 1991 and the acceleration of further economic reforms in 2000s. Since the reforms, yearly growth was on average above 5%. Economic reforms caused structural changes in the Indian economy: a slowing agricultural sector, a rising services sector, and increasing regional disparities. Growth in the agricultural sector has fallen from 24% in 2000 to 14% in 2012, while growth in the service sector has improved from 49% to 58%. There was a slight increase in the manufacturing sector. Regional differences have also increased, for example, the per capita gross domestic product (GDP) ratio of the wealthy



Indian state (Punjab) to the poor, populous state (Bihar) rose from nearly 3:1 in 1980 to over 4:1 in 2010. Urbanization is also a consequence of the structural change from agriculture to the industrial and service sectors, which may be noted as the increased share of the national population residing in urban areas. Indian censuses indicate that urban population has increased by 91 million whereas urban population share has grown from 28% (286 million) in 2001 to 31% (377 million) in 2011. Rural population has increased by 90 million whereas rural population share has fallen from 72% (743 million) in 2001 to 69% (833 million) in 2011. This can be considered rapid urbanization, and the increase in urban population is due to the increase in natural growth rate, increase in in-migration, extension of city limits, and reclassification of areas from rural to urban. Urban migration from rural areas is an important component in determining urbanization. According to national sample survey (NSS) data (55th and 64th rounds), the number of rural-urban out-migrants increased by around 42 million (24%) from 175 million in 1999–2000 to 217 million in 2007–2008. The presence of circular migration flows (the returning periodic urban to rural migration) makes it difficult to determine the actual statistics of migration.

Positive net urban migration highly influences the overall urban population, although net migration has experienced considerable variation during the study period. Urban population growth in the 1970s stagnated in the 1980s and 1990s and then accelerated in the later part of the 1990s and early 2000s. Since the late 1990s, the urban population has experienced steady increases overall.

Rapid urbanization has consequences for urban poverty and income inequality. Hugo (2014) finds three possible linkages between urbanization and poverty: falling poverty rates in both rural and urban areas, significantly lower poverty rates in urban than in rural areas, and increasingly urban issues. For India, the pattern of change in the HCR and the increase in the slum-dwelling population indicate that poverty is becoming an increasingly urban issue. Applying the \$1.90 (2011 PPP) poverty line in India, poverty dropped from 410 million people in 1987 (HCR 50%) to 260 million in 2011(HCR 21%) (World Bank 2015a, b). Even though the HCR has fallen, the rate of decrease has been much slower in urban areas as compared to rural areas. In addition, the urban Gini index increased by around 5 points from 34 to 39 during 1990–2014, and the urban MLD index increased by around 7 points from 19 to 26.



Table 1.1:Migration rates in India 1983 – 2007/08

	Male	Female	Total
Rural			
38th (Jan Dec, 1983)	7.2	35.1	20.9
43rd (July 1987 – June 88)	7.4	39.8	23.2
49th (Jan June, 1993)	6.5	40.1	22.8
55th (July 1999 –June 2000)	6.9	42.6	24.4
64th (July07-Jun-08)	5.4	47.7	26.1
Urban			
38th (Jan Dec, 1983)	27	36.6	31.6
43rd (July 1987 – June 88)	26.8	39.6	32.9
49th (Jan June, 1993)	23.9	38.2	30.7
55th (July 1999 –June 2000)	25.7	41.8	33.4
64th (July07-Jun-08)	25.9	45.6	35.4

NSSO (2010) presents changes in migration between 1983 and 2007-08 (reproduced in Table 2 and Graph 1) showing a somewhat surprising trend. The proportion of migrants in both urban and rural areas has gone up (21 per cent to 26 per cent, and 32 per cent to 35 per cent respectively). But this is entirely due to increases in female migration. The proportion of male migrants declined in rural areas and stayed the same in urban areas. In both years, intrarural migration was the most important form of migration (62 per cent), but it declined somewhat in relative importance for male migrants. The differences between trends for men and women clearly need further analysis, while the decline in male migration (in line with the analysis of labour migration in De Haan and Dubey 2006) is in itself noteworthy, particularly in a context where ‘jobless growth’ has been a main academic and policy concern.

Much of movement of labour in India has remained circular. This is of course the case for migration for seasonal occupations, particularly in rural areas, and with high concentration of out-migrants from India’s poorest areas like western Orissa. But workers in urban occupations also tend to maintain links with areas of origins, as casual observation regarding domestic workers in major cities indicate, my own research among industrial labourers in Calcutta showed (de Haan 1994), and as was recently documented for workers in the diamond industry in Surat, many of whom moved back temporarily to their villages after the economic decline of 2008 (Kapoor forthcoming). Within the NSS data, which recorded 12 per cent of the population as ‘return migrant’, the relatively small number of



migrant households as compared to members of households migrating, arguably confirms that migration by and large remains circular rather than constituting the classic rural-urban transition.

People from poor countries migrate more

It is not the case that people from poor countries are the most likely to migrate. Emigration rates are low in the poorest countries, and rise with the level of development until an income per capita of around \$6,000, and then start to fall.

Poor people migrate more from within countries

This work on the link between poverty and migration at the country-level is complimented by more micro-level studies which examine within particular countries the relationship between income levels and emigration. This inverse-U-shaped pattern describes the pattern of who migrates from several countries. This cross-sectional relationship suggests that reducing poverty may actually induce more people to migrate. This correlation applies in Bangladesh, with Sharma and Hassan (2009) finding that relatively wealthier households who own land are more likely to migrate there. Stronger evidence then comes from moving from a cross-sectional correlation towards a causal relationship. Two studies use income shocks to examine how increases in income affect migration, and whether this relationship varies with initial wealth levels. Both find results consistent with this inverse-U pattern. Bazzi (2017) finds that positive agricultural income shocks lead households with small landholdings to be more likely to send a family member abroad, while for larger landholders and in the most developed rural areas, persistent positive income shocks reduce emigration. Theoharides and Yang (2015) use exogenous variation in current migrant earnings driven by regional variation in the destinations migrants go to combined with heterogeneity in the exchange rate shocks experienced during the Asian financial crisis. They find that positive income shocks led to more migration from poor municipalities, and less migration from richer municipalities.

The poor are more likely to move when migration costs are low, networks exist, and policy makes it possible for them to do so. Abramitsky et al. (2012) show that this was the case historically during the period 1850-1913, when the



U.S. had an open border to European immigration. They use data on 50,000 Norwegian men and find during this period that the poor were more likely to move. Gibson and McKenzie (2013) show that different selection can occur within the same migration policy depending on the existing migration experience of sending areas. New Zealand set up a new seasonal worker program called the Recognised Seasonal Employer (RSE) program, which allowed workers from the Pacific Islands to work in New Zealand for up to seven months each year. When this program was launched, migrants in Tonga came from poorer households than the non-migrants, whereas in Vanuatu, it was richer households who engaged in migration. The authors attribute this selection difference, in part, to international migration being a new phenomenon in Vanuatu, and to few other emigration opportunities being available there, whereas in Tonga there were larger networks and a greater ability for the poor to meet the costs of migrating.

This discussion so far has focused on how poverty determines whether or not people migrate at all. But poverty also helps determine where people migrate. The poor tend to migrate shorter distances and/or to places which are more similar to the sending region. Bertoli et al. (2013) provide one example of this, examining the migration of Ecuadorians after an economic collapse. They find that the very poor are not very likely to migrate at all, and conditional on migrating, poorer and less-skilled individuals moved to Spain, while wealthier and more skilled individuals moved to the United States. Similarly, Wouterse (2009) shows that intercontinental migration from Burkina Faso is most common among households owning the most land; whereas intraAfrican migration is less biased towards the rich.

2. Literature review

Poverty

Aggregate economic statistics on the evolution of poverty in India point fairly unambiguously towards steady, albeit slow, progress in the reduction of poverty. The poverty headcount (based on various rounds of the National Sample Survey Organization's household surveys of consumption) declined from 53% in 1970 to 36% in 1991 (Datt, 1995, and Datt and Ravallion, 1996a). This decline was driven principally by the fall in poverty in rural areas (from 55% to 37%), where the bulk of the population still lives and where the incidence of poverty has always been highest. Poverty measures which give greater weight



to the poorest of the poor declined more rapidly: the poverty gap in rural areas declined at 1.77% per year between 1951-92 (compared to a fall of 0.82% per year for the rural headcount over this period); and in rural areas the squared poverty gap declined at 2.55% per annum (Datt, 1995). These measures suggest that the poorest of the poor, in per capita consumption terms, have seen the more pronounced improvements.

Other indicators of well-being generally lend support to the notion that living standards have been rising in India over time. Female literacy rates, for example, rose from below 10% in 1950 to 39% by 1990; male literacy rates expanded from 27% to 64% over the same period; life expectancy in India in 1950 was only 32.1 years, by 1990 rising to 59.2 years (Drèze and Sen, 1995). The complementary relationship between consumption-based poverty calculations and these other dimensions of living standards is borne out by the observation of Datt and Ravallion (1996a) that poverty reduction, measured in terms of consumption levels, has been most rapid over time in Kerala, the state which has achieved the most dramatic improvements in social indicators since independence.

The analysis based on national or state-level data are also supported by more disaggregated statistical studies. Drèze and Srinivasan (1996), for example, examine National Sample Survey data for 61 constituent regions (loosely defined in terms of agroclimatic characteristics) in India in 1972/73 and 1987/88. They find little evidence of regional "pockets" where the incidence of poverty has risen. Nor has inequality widened markedly within these regions over time.

The picture from secondary data, in terms of direction of change, is thus fairly positive. What is equally clear however, is that the absolute levels of deprivation are still very high. This is true in terms of consumptionbased poverty (where the poverty threshold defined in absolute terms is conservative by any yardstick), and also in terms of social indicators. India in the 1990s is still far from its goal of universal primary education, and freedom from hunger and preventable illness.

To enquire into the question of how poverty has evolved over time from a village study perspective requires caution because relatively few village studies track absolute poverty, measured in terms of consumption or income, over time. Rather, they tend to scrutinize the position of households relative to each other and these changes in relative poverty can occur alongside improvements in living standards for all. Beck (1994), for example,



argues that poverty rose in three West Bengal villages during the late 1980s, even though he documents an increase in incomes of the poorest households. His judgement, reflecting the perception of villagers themselves, is based on the observation that the rich in these villages enjoyed significantly larger increases in income than the poor during this same period. Of course, this combining of aspects of poverty and inequality is, in itself, quite illuminating and deserves close examination (it will also be discussed further in Section 4). In Palanpur, Uttar Pradesh, the proportion of the population below any reasonable poverty line clearly declined between 1957-8 and 1983-84 (DLS). However, the authors show that poverty rates can fluctuate markedly on a year to year basis as a result of variation in the quality of harvest and in the movement of prices. Moreover, in the income space there is much movement by households in and out of poverty. This is due not only to factors related to quality of the harvest, but is also associated with demographic factors such as household partitioning. Nonetheless Lanjouw and Stern (forthcoming) indicate that households of the low-ranked Jatab caste and households which are reliant on casual agricultural labor as a main source of household income, tend to be highly represented among the poor in any particular year, irrespective of its level. The relatively high and constant risk of poverty among agricultural labor and low-caste households is stressed in many village studies (see also Jha, 1994, Mencher, 1980, Ramachandran, 1990, Rodgers, 1984). Walker and Ryan (1990) also observe a high degree of movement in and out of poverty in their study villages. They found that two-thirds of the people moved in or out of poverty in at least 1 of the 9 consecutive years between 1975/6 1983/4. Higher income households had more diversified income streams, and also had access to a regular source of income (mostly government jobs). The non-poor (those who never crossed the poverty line in the 9 year period) were more educated, did not actively participate in the casual labour market, and owned more land. Those who kept moving in and out of poverty were middle-size cultivators, and the consistently poor were predominantly landless harijans with high dependency ratios. Overall, Walker and Ryan (1990) measure an increase in real per capita income between 1975/6 to 1983/4 of 3-5% per annum. In Kinkheda and Kanzara, this was due to improved technology, and, in Shirapur, it was due to public sector food for work programs and the depletion/replenishment cycle following the 1971-73 drought. This finding largely conforms with all-India survey results, i.e. increasing prosperity albeit from a low base.

Hazell and Ramasamy (1991) indicate that in North Arcot, Tamil Nadu, small paddy



farmers and landless laborers gained the largest proportional increases in family income between 1973/74 and 1983/84, 90 and 125 per cent respectively. They conclude that there were sizeable gains for all groups over this period and that absolute poverty declined.

Much of the impetus behind the decline, albeit slow, of rural poverty over time can be found in the process of agricultural intensification which has taken place, at a varying pace, across rural India. As we saw the "Green Revolution" in agriculture, which ushered in new technologies, expanded access to irrigation and increased mechanization (both land-augmenting and labor-displacing) was broadly scale-neutral across landholdings. Small farmers were not excluded from participating in the new opportunities. The increased intensity of cultivation, associated with heightened attention to land preparation, multiple applications of fertilizers, greater attention to weeding, and so on, led to greater employment of labor. Moreover, agricultural intensification does not appear to have coincided with a sharp rise in landlessness.

In many areas there has been an expansion of occupations into various non-farm activities. The expansion of non-farm employment has had important feedback effects on poverty, even if the recipients of the more attractive jobs have tended to be the non-poor. It has permitted increased agricultural specialization by relieving pressure on the land due to population growth and by supporting intensified agriculture through agroprocessing and the expanded supply of inputs. And by offering a crucial source of alternative employment, this process has tightened labor markets, resulting in higher real wages for agricultural laborers and helping to "pull" households out of low-productivity activities.

Inequality

An enquiry into changes in the distribution of rural living standards is closely related, but not identical, to the more specific question of how rural poverty has evolved. While the latter question is clearly of great importance, an appreciation of the overall distribution of living standards in village communities, as well as being of intrinsic interest itself, can provide important insights for poverty reduction efforts. For example, there have been many initiatives in rural India aimed at strengthening local decision-making power, under the impression that this will improve their poverty-reduction impact. The Jawahar Rozgar Yojana (JRY) employment programme, for instance, introduced by the central government in 1989, has adopted "decentralization" as a central platform. The scheme is implemented by



village panchayats, and is intended to be geared to the creation of durable community assets. How much one can expect from such schemes depends to some extent on how well represented the poor are in local decision-making. This, and factors such as village solidarity, are likely to be influenced by the degree of polarization in village living standards.

Migration Impact Poverty And Inequality

As with the examination of the determinants of migration, work on its consequences has also occurred at both the macro and micro levels. The key challenge faced by analysis at both levels is the endogeneity of migration. Section 2 discussed how poverty and inequality help determine which countries and households engage most in migration, and so simply comparing those with more migrants to those who have less risks conflating cause and effect. Papers in this conference series show how this is likely an insurmountable challenge at the cross-country level, but how considerable progress has been made at the micro level.

An earlier literature had tried to estimate the impact of migration and remittances on poverty and inequality at the cross-country level. One of the puzzles to arise out of this work was that reported remittances have soared over the last three decades, yet no noticeable changes in economic growth or poverty rates are apparent for the countries who send the most migrants and receive most remittances. For example, Barajas et al. (2009) comment that there is a “lack of a single example of a remittances success story: a country in which remittances-led growth contributed significantly to its development . . . no nation can credibly claim that remittances have funded or catalyzed significant economic development”.

Clemens and McKenzie (2017) help explain why this is the case. They point to three main reasons. First, they use a combination of micro and macro data on remittances, migration, and incomes at migrant destinations to estimate that 79% of the growth in remittances received by developing countries over the 1990 to 2010 period reflects changes in measurement, rather than genuine remittance growth. As such, the macro data to look at the impact of remittances on growth, poverty, and inequality are unreliable. Second, because so many other factors also drive growth and poverty at the level of an entire country, even if remittances had large impacts on GDP, a typical cross-country panel regression would have insufficient statistical power to detect this change. Finally, they note that because migration



is a rare phenomenon, and the remittances from these migrants are partially offset by the loss in the labor income they would earn at home, impacts that are big at the level of the families participating in migration are relatively small at the country level. Taken together, these factors suggest that it is not presently possible to reliably estimate the impact of international migration on growth (or poverty) at the macro level.

Migration has much larger impacts when it comes to the micro level and the individuals and their households engaging in migration. But self-selection into migration means that a simple comparison of the poverty levels of households with migrants to those without, or the incomes of someone who migrates to someone who doesn't, will not be informative. One of the big innovations in the field in the last decade has been around using modern identification methods to more credibly identify impacts, often coupled with original data collection to enable this estimation to occur.

The approach most typically used in the literature was a Heckmanselection approach coupled with remittance accounting, and the use of instrumental variables. Examples of this approach from this conference series is seen in Gubert et al. (2010) and Margolis et al. (2015). The approach considers households receiving remittances, then subtracts remittances and tries to add back in an estimate of what the income the migrant would have earned had they not left. A selection equation is used to try to account for differences between migrants and non-migrants in modelling this income. There are two difficulties with this approach. The first is that they typically make questionable exclusion restrictions in modelling counterfactual incomes, and the second is that it does not account for the poverty reduction gains to the migrants themselves, or other impacts their migration may have on poverty.

Papers in the conference have used a variety of different econometric methods to try to directly overcome these selection issues and compare households engaging in migration to a good comparison group of households not migrating. These include difference-in-differences (Murard, 2013), propensity-score matching (Sharma and Hassan, 2009), exogenous variation from external shocks (Theoharides and Yang, 2015), matched difference-in-differences with prospective tracking (Gibson and McKenzie, 2014), regression discontinuity (Clemens and Tiongson, 2017), and migration lotteries (Gibson et al., 2013, 2017; Clemens, 2013; Stillman et al., 2015).



The largest impacts of migration occur for the migrants themselves (including immediate family members who migrate alongside the principal migrant). While individuals do not necessarily gain the full difference in percapita incomes between countries, the gain in income from moving from a developing to developed country is immediate and large. This is seen most convincingly in Stillman et al. (2015) and Gibson et al. (2018), who look at permanent immigration of Tongans to New Zealand under a migration lottery program. They find migrants earn almost 300 percent more than nonmigrants who lost the lottery within the first year of moving, and that this impact persists for at least 10 years. These gains are larger than anticipated by migrants (McKenzie et al., 2013). They conservatively estimate a lifetime gain to migration of US\$237,000, which accrues mostly to the migrant and their immediate family who accompanies them, with no significant impact of migration on extended family members remaining in Tonga.

The absolute gains are even larger for highly skilled workers. Clemens (2013) looks at Indian software firm employees who apply to work in the U.S. A lottery was used to choose which applicants could move since the visa category was heavily oversubscribed. He finds that the lottery winners who come to the U.S. earn \$58,000 more annually than lottery losers doing the exact same job in India. Gibson and McKenzie (2011) find that Tongans who were at the very top of the country in the end of secondary school examinations earn at extra \$700 to \$1200 per week from migrating, when similar individuals who don't migrate earn only \$246 per week.

In addition to the migrants themselves, these gains are often shared by household members remaining in the home country, although this depends on the extent to which remittances and repatriated earnings are more than enough to offset the lost labor from a member moving abroad. One case where it did not was Clemens and Tiongson (2017), who find no overall income increase for those remaining in the Philippines, with the increase in remittance income offset by decreases in non-remittance income. They do find that households save more, and spend more on health and education.

In contrast, multiple studies do find positive gains for those left behind. Theoharides and Yang (2015) find that municipalities in the Philippines with more positive shocks to migrant earnings experienced higher growth in household assets. Gibson et al. (2013) shows that permanent migration to New Zealand from Samoa lowered the poverty rates of remaining household members. Average consumption is approximately 17% higher, income is 23%



higher, and the basic needs poverty rate falls by 62%. However, there is no impact on the food poverty rate that captures more extreme poverty, suggesting few very poor households could send migrants. Murard (2017) finds migration from Mexico to the U.S. increases the remaining households' consumption by 25%, although the welfare gain is offset slightly by remaining household members also having to work more to make up for the farm labor the migrant would have done. Sharma and Hassan (2009) find positive and significant impacts of migration on food and non-food consumption, and asset ownership.

These impacts can be large relative to popular development interventions. Gibson and McKenzie (2014) find the per capita income of Tongan and niVanuatu households who have seasonal migrants in New Zealand rises by over 30 percent, with this gain in income dwarfing that from development interventions like microfinance, conditional cash transfers, grants to microenterprise owners, and business training. At the aggregate level, the total development impact over the first two years of the program was equivalent to almost 50% of annual export earnings in Tonga, and 42-47 percent of total annual bilateral aid from New Zealand to these countries.

The extent to which these increases in income and consumption translate into lower poverty, and their impact on inequality, depend on the extent to which the poor are able to take part in migration in the first place, and whether the rich migrate more. Wouterse (2009) finds remittances from intercontinental migration are associated with higher village income inequality in Burkina Faso, while the opposite holds for intra-African remittances. This reflects the difficulty poorer households have in overcoming the costs of intercontinental migration. When the poor are able to engage in migration, impacts on poverty reduction in the sending regions can be large. Margolis et al. (2015) find remittances have no significant impact on inequality, but reduced poverty by 40 percent in Algeria in the two regions they look at. Gubert et al. (2010) find remittances reduced poverty by 5-11%, and reduced inequality by 5% in Mali. They estimate that an extra 300,000 to 600,000 people would be in poverty in the country if there were no remittances.

3. Methodology

To test for dynamic temporal interdependencies between the key variables, it is important to first determine the temporal properties of the data. The dynamic longrun cointegrating analysis will be followed up to show complex interdependencies



and feedback at the national level over a long period. The spatial panel analysis calculates the respective elasticities at state level. A conclusion will be drawn using both analyses.

Data

Poverty (*p*) The proportion of the population with a per capita consumption less than the poverty line is the headcount index (Datt and Ravallion 2009). In India, the urban poverty line is a nutritional norm of 2100 calories per person per day, which is endorsed by the Planning Commission (1993). The poverty line indicates the level of average per capita total expenditure at which this caloric norm was fulfilled. The urban per capita monthly expenditure was considered as Rs 57 at 1973/74 prices (Datt and Ravallion 2009).

The national headcount index of urban poverty data for 1971–2006 is collected from Datt and Ravallion (2010). The state-level headcount index of urban poverty data for the years 2006, 2009, and 2011 is obtained from the Planning Commission (2014a, b).

Inequality (*ie*) The Gini coefficient is used as a measure of inequality. National urban Gini coefficients for the period 1971–2012 are taken from the World Income Inequality Database of UNU-WIDER and the World Bank (2014). The state-level Gini coefficient data for 2006–2011 are obtained from the Planning Commission, Government of India (2014a, b). Both are based on the NSS distribution of household consumption data.

Urbanization (*ur*) The urban population share of the total population is an indicator of urbanization. The national-level data from 1971 to 2012 come from the World Development Indicator (WDI), World Bank (2014) and the state-level data from the Planning Commission (2014a, b).

Control Variables National CO₂ emissions, (*co*) (thousand metric tons of carbon, 1971–2012) and energy consumption, (*en*) (kg of oil equivalent, 1971–2011) are obtained from the WDI, World Bank (2014). National and state-level data for the urban infant mortality rate (*im*), national data for the gross enrollment ratio in primary school (*ed*), and state-level data for the all-others mortality rate (*om*) (per cent of deaths in urban areas where medical attention was received before death) are from the Planning Commission, Government of India (2014a,b). All data are in Naperian logs.



Data Analysis

Stationarity Tests

The augmented Dickey-Fuller stationarity test is used to examine the unit roots of the time series. The results reported in Table 3.1 show that all variables in Naperian logs are nonstationary in their levels except the Gini coefficient measure of inequality. Differencing and testing show that all variables become stationary in the first differences with the exception of the urban population (which is possibly nonlinear or second difference stationary—this will be considered in subsequent estimations).

Based on these results, a cointegration estimation is required in order to avoid finding spurious relationships between the stochastic variables. We start with the autoregressive distributed lag (ARDL) cointegration approach and then consider the Johansen cointegration method. These procedures are limited to using national data, which are available for the years from 1971 to 2012. The procedures allow us to identify the long-run relationships between the variables (in addition to the observed trends) and determine long-run elasticities. The short-run (error correcting) deviations from these long-run relationships can be derived, providing the elasticities of the short-run dynamics.

Table 3.1 Augmented Dickey-Fuller test

	Intercept only	Intercept and trend
m	-0.529	-1.524
p	-0.595	-2.874
ie	-1.826	-4.584***
ur	0.224	-3.050
co	-0.797	-1.634
en	1.550	-1.375
im	1.105	-1.993
ed	-0.824	-2.313

First differences

<i>m</i>	-3.987***	-3.995**
<i>p</i>	-6.953***	-6.852***
<i>ie</i>	-6.606***	-6.579***
<i>ur</i>	-1.757	-1.164
<i>co</i>	-4.409***	-4.497***
<i>en</i>	-3.524**	-3.689***
<i>im</i>	-5.537***	-5.829***
<i>ed</i>	-5.453***	-5.441***

Source: Authors' computations

Note: All variables are in Naperian logs; Definitions of the variables are in Sect. 3.5

*** significant at the 1% level; ** significant at the 5% level; * significant at the 10% level

This dynamic overview of the intertemporal interdependencies will then be complemented with the spatial panel estimation of GMM. The procedure will apply fixed effects to the state-level data and includes fixed effects for the more recent period 2006–2011. Each method will be subsequently considered.



4. Empirical Results

The dynamic, long-run cointegrating analysis will use national-level data from 1971 to 2012 and focus on urban migration, urban poverty (measured by the expenditurebased urban headcount ratio), and inequality. The spatial estimates for 16 Indian states using SGMM for the shorter period from 2006 to 2011 reinforce the time series results. The results will also show additional feedback effects that are occurring between urban poverty and inequality, demonstrating an upward/downward spiral.

TABLE 4.1 Inequality among migrants and non-migrants (Gini coefficient)

	Rural	Urban	Total
Migrants	0.273	0.335	0.333
Non-migrants	0.248	0.325	0.295

Table 4.2: Inequality Measures

	50th Round	55th Round	55th Round Adjusted	50th Round	55th Round	55th Round Adjusted
Andhra Pradesh	0.14	0.09	0.13	0.24	0.17	0.22
Assam	0.05	0.07	0.06	0.10	0.13	0.11
Bihar	0.08	0.07	0.08	0.16	0.13	0.16
Gujarat	0.10	0.09	0.11	0.17	0.18	0.18
Haryana	0.16	0.10	0.23	0.28	0.19	0.31
Himachal Pradesh	0.13	0.10	0.14	0.22	0.17	0.24
Jammu and Kashmir	0.10	0.06	0.07	0.16	0.12	0.14
Karnataka	0.12	0.10	0.12	0.21	0.18	0.22
Kerala	0.15	0.14	0.16	0.26	0.24	0.27
Madhya Pradesh	0.13	0.10	0.12	0.22	0.18	0.22
Maharashtra	0.16	0.11	0.16	0.27	0.20	0.28
Orissa	0.10	0.10	0.12	0.18	0.18	0.21
Punjab	0.13	0.10	0.14	0.22	0.19	0.24
Rajasthan	0.12	0.07	0.10	0.20	0.14	0.18
Tamil Nadu	0.16	0.14	0.15	0.27	0.23	0.24
Uttar Pradesh	0.13	0.10	0.12	0.23	0.18	0.21
West Bengal	0.11	0.09	0.08	0.17	0.15	0.15
All-India Rural	0.14	0.11	0.14	0.23	0.21	0.24
Andhra Pradesh	0.17	0.16	0.17	0.30	0.29	0.33
Assam	0.13	0.16	0.14	0.25	0.30	0.27
Bihar	0.15	0.17	0.17	0.27	0.30	0.30
Gujarat	0.14	0.14	0.14	0.25	0.25	0.26
Haryana	0.13	0.14	0.15	0.24	0.27	0.28
Himachal Pradesh	0.38	0.16	0.42	0.37	0.29	0.40
Jammu and Kashmir	0.13	0.09	0.12	0.24	0.16	0.21
Karnataka	0.16	0.18	0.17	0.31	0.32	0.34
Kerala	0.20	0.17	0.22	0.31	0.32	0.37
Madhya Pradesh	0.18	0.17	0.18	0.29	0.29	0.33
Maharashtra	0.21	0.21	0.21	0.40	0.36	0.40
Orissa	0.15	0.14	0.16	0.29	0.26	0.29
Punjab	0.13	0.14	0.14	0.25	0.25	0.25
Rajasthan	0.14	0.13	0.14	0.25	0.23	0.26
Tamil Nadu	0.21	0.27	0.20	0.39	0.34	0.35
Uttar Pradesh	0.17	0.18	0.19	0.31	0.31	0.34
West Bengal	0.19	0.20	0.19	0.34	0.31	0.35
Delhi	0.29	0.21	0.30	0.43	0.39	0.46
All-India Urban	0.19	0.20	0.21	0.34	0.34	0.37
All-India	0.17	0.18	0.19	0.29	0.29	0.32

Note: a AM is the arithmetic mean and GM is the geometric mean: the difference in their logarithms is the mean relative deviation, a measure of inequality.



Table 4.2 provides more systematic evidence on recent changes in consumption inequality within each sector of each state using two different measures of inequality. We show the logarithm of the difference of the arithmetic and geometric means (approximately the fraction by which the arithmetic mean exceeds the geometric mean), as well as the variance of the logarithm of per capita expenditure.

The table shows that the correction for questionnaire design is critical for understanding what has been happening. (Note our findings on rising economic inequality within the urban sector are consistent with recent work by Banerjee and Piketty (2001), who use income tax records to document very large increases in income among the very highest income earners. They show that, in the 1990s, real incomes among the top one per cent of income earners increased by a half in real terms, while those of the top 1 per cent of 1 per cent increased by a factor of three in real terms.

Second, it is interesting to compare the growth rate of real wages for agricultural labourers with that of public sector salaries. As we saw earlier, real agricultural wages have grown at 2.5 per cent or so in the nineties. Public sector salaries, for their part, have grown at almost 5 per cent per year during the same period.³⁰ Given that public-sector employees tend to be much better off than agricultural labourers, this can be taken as an instance of rising economic disparities between different occupation groups. Since agricultural labourers and public sector employees typically reside in rural and urban areas, respectively, this finding may just be another side of the coin of rising ruralurban disparities. Even then, it strengthens the evidence presented earlier on aspects of rising economic inequality in the nineties.

To sum up, except for the absence of clear evidence of rising intra-rural inequality within states, we find strong indications of a pervasive increase in economic inequality in the nineties. This is a new development in the Indian economy: until 1993-94, the all-India Gini coefficients of per capita consumer expenditure in rural and urban areas were fairly stable.³¹ Further, it is worth noting that the rate of increase of economic inequality in the nineties is far from negligible. For instance, the compounding of inter-state ‘divergence’ and rising rural-urban that the correction for prices has no effect within sectors and states.) The direct use of the unit record data in the 55th Round, with no adjustment, shows a substantial reduction in inequality within the rural sectors of most states, with little or no increase in the urban sectors. With the correction, we see that within-state rural inequality



has not fallen, and that there have been marked increases in within-state urban inequality. We suspect that the main reason why the unadjusted data are so misleading in this context is the change from 30 to 365 days in the reporting period for the low frequency items (durable goods, clothing and footwear, and institutional medical and educational expenditures). The longer reporting period actually reduces the mean expenditures on those items, but because a much larger fraction of people report something over the longer reporting period, the bottom tail of the consumption distribution is pulled up, and both inequality and poverty are reduced. Whether 365 days are a better or worse reporting period than 30-days could be argued either way, but the main point here is that the 55th and 50th Rounds are not comparable, and that the former artificially shows too little inequality compared with the latter. Once the corrections are made, we see that, in addition to increasing inequality between states, there has been a marked increase in consumption inequality within the urban sector of nearly all states.

Two further pieces of evidence are worth mentioning in this context disparities produces very sharp contrasts in APCE growth between the rural sectors of the slow-growing states and the urban sectors of the fast-growing states. This is further compounded by the accentuation of intra-urban inequality, which is itself quite substantial, bearing in mind that the change is measured over a short period of six years (Table 4.2).

It might be argued that a temporary increase in economic inequality is to be expected in a liberalising economy, and that this trend is likely to be short-lived. Proponents of the 'Kuznets curve' may even expect it to be reversed in due course. However, China's experience of sharp and sustained increase in economic inequality over a period of more than 20 years, after market-oriented economic reforms were initiated in the late 1970s, does not inspire much confidence in this prognosis.³² It is, in fact, an important pointer to the possibility of further accentuation of economic disparities in India in the near future.

Migrants' characteristics: a macro-micro paradox

Second, many studies show the diversity of labour migrants involved. To illustrate how diverse movements of labour are, de Haan and Dubey (2006) estimated the Gini coefficient among migrants and non-migrants registered in the 1999-2000 NSS, which showed that the inequality is higher among migrants than among non-migrants .



The recent NSSO report quoted above reporting 2007-08 data lists the incidence of migration among different income groups, showing a higher propensity of migration of households in the top income deciles than in the lower ones. In line with this, we found for 1987-88 and 1999-2000 that poverty rates amongst migrants were much lower than amongst nonmigrants, and the average years of schooling of migrants was higher, in both years, and in both rural and urban areas (Table 4.3). The Indian Village Studies project also showed that migrants were educationally better placed than non-migrants (Connell et al., 1976).

Table 4.3 Linkages between short duration migration and poverty

Poverty levels	Short-term migration levels		
	High	Medium	Low
High	West Bengal, Rajasthan, Odhisha, Madhaya Pradesh, Jharkhand, Gujarat, Chhattisgarh, Bihar, Assam, Uttar Pradesh	–	–
Medium	–	Karnataka, Maharashtra, TamilNadu, Andhra Pradesh	Haryana, Uttrakhand
Low	Jammu & Kashmir	Goa	Himachal Pradesh, Kerala, Punjab

Taking the analysis further through comparing poverty levels and short-term migration from different states helps in understanding the linkages in the recent context. Table 4.3 provides insights regarding the inter-linkages between short-term migration and poverty in 21 major states.

Overall the information from these major states brings out the following: Firstly, short-term migration continues to remain an integral part for insuring basic minimum financial support, covering as large as 10 out of 21 states. This is particularly notable because continued dependence for financial support remains a crucial part of livelihood across states having different levels of economic development. Second, six major states have relatively medium level of poverty and medium and low level of migration possibly because of relatively better economic earnings. Third, four states located mainly in high hills or closer to the ocean have low level of poverty and medium and high level of migration. This leaves Jammu Kashmir which has high level of migration (1.2%) and relatively low level of poverty (19.2%), suggesting a positive impact of migration on poverty. Overall, therefore, short-term migration continues to remain essential for meeting the basic



needs of a large proportion of the population comprising 61.9% of India's population barring the 14 states and union territories. The relative share of 6 states (Karnataka, Maharashtra, Tamil Nadu, Andhra Pradesh, Haryana, Uttarakhand) constitutes 31.1% of the population which has relatively lower poverty and short-migration levels than the states mentioned above., The population in four states (Goa, Himachal Pradesh, Kerala, Punjab) is 5.9% and has comparatively the lowest level of poverty and short-term migration as well.

Poor not migrate more

Research has offered several explanations for this inverse-U shape between income or wealth levels and international migration. At the micro level, one key reason more of the poor do not migrate is that migration is costly and they face liquidity constraints which make it hard to overcome these costs. Several studies have documented just how costly migration is. Sharma and Hassan (2009) report that the upfront cost of temporary migration from Bangladesh averaged \$2,300, about five times per capita income. Bertoli et al. (2013) estimate that the net cost of migrating to the U.S. for Ecuadorian males without a college degree is 8.5 times their income. As these costs increase, fewer of the poor migrate. An example is seen in Borger (2010), who shows that as the smuggling cost along the U.S. border increased, reaching \$2,000 in the mid2000s, the selection of migrants shifted from negative self-selection (poorer individuals being more likely to migrate) to intermediate self-selection (those with middle levels of wealth and skill being more likely to migrate). This results in an overall reduction in migration, with Feigenberg (2015) showing that when a border fence is constructed between a municipality in Mexico and the U.S., migration falls from both that municipality and the adjacent ones.

These high costs of migrating are only a barrier to the extent that the poor want to migrate. New work which uses questions about aspirations for working abroad, in addition to actual migration, enables this assumption to be tested. Docquier et al. (2014) find that less educated (poorer) people are only somewhat less likely to want to be migrants than more educated individuals, but much less likely to be able to turn these aspirations into reality. Bazzi (2017) and Theoharides and Yang (2015) then show that when poor households receive positive income shocks, they do react by migrating more.

There are several explanations for the why migration starts to fall beyond a certain level of wealth or income. One is that the opportunity cost of migrating grows with income-earning



prospects at home. Bazzi (2017) shows this in Indonesia, where richer households migrate less when domestic income generating opportunities grow. A second reason is that many people just have a preference for their home place of origin, for a variety of cultural, family, and other reasons. This is documented in a lab experiment setting by Batista and McKenzie (2017), who show that merely attaching the label of “home” on a destination makes people more likely to choose to want to work there than in an otherwise identical destination with the same wages and costs.

Additional reasons why the enormous income gains possible through migration are not sought by more individuals come from the risk of migrating, and from incomplete information about opportunities abroad. When there are no liquidity constraints and the returns to skill are higher at home than abroad (as is the case for many developing countries), then migration rates are highest for the low-skilled. Adding liquidity constraints, the risk of unemployment, and incomplete information about conditions abroad dramatically lowers migration rates, especially for the low-skilled and poor, yielding an inverse-U shape migration pattern.

While migration costs coupled with liquidity constraints help explain why more of the poor don't migrate at the micro level, they are not the only reason why we don't see more migration from the poorest countries. Dao et al. (2018) use a migration accounting method to decompose the cross-country inverse-U shape into the part due to micro-level factors like liquidity constraints, and the part due to macro factors. They find that at least two-thirds of the upward

slope in the likelihood of migrating with per-capita income starting at low levels can be attributed to two macro-level factors: i) poor countries have much less-educated labor forces, and less-educated people are less likely to want to migrate than more-educated people; and ii) poor countries have smaller migration networks than slightly richer countries, and the likelihood of migrating is increasing with network size. Of course poverty plays a role in determining how much education people can acquire, and the network countries have is in turn a function of how many people overcome liquidity constraints and educational constraints to migrating.

How does inequality affect migration?

At the country level, inequality has two effects on the rate of migration. First, all else equal, there is a mechanical effect, in which higher inequality for a given mean income results in



more poor people, which can then lower migration rates if the poor cannot afford to migrate. Second, to the extent that inequality reflects differences in the returns to skills in the country, more unequal countries with higher returns to skill will see relatively less migration of wealthy, skilled people, and relatively more of poor and intermediate wealth people, provided they can afford to migrate.

A different question is whether the mere presence of inequality affects an individual's desire to migrate. Stark and Taylor (1989) put forward the idea that relative deprivation matters in international migration decisions as well as the absolute income gains on offer. That is, a household may choose to migrate to improve its position relative to other households in its reference group. This direct influence of inequality has not been explored much in the research in this conference series. Dao et al. (2018) provide some suggestive evidence that migration aspiration patterns are based in part on relative deprivation, while Stillman et al. (2013) note a further difficulty with work on this idea is that the reference group, which individuals compare themselves to, may itself change with migration.

Conclusions

The first ten years of the AFD-World Bank conferences on migration and development have included a large number of studies that examine the relationships between international migration, poverty, and inequality. These studies are notable for bringing new data and new empirical methods to help refute some popular perceptions on this topic and provide a richer understanding of the way poverty and inequality shape who migrates, and in turn, are affected by this migration.

Perhaps the most fundamental point to note is that migrants gain massively in moving from a poor to a rich country. While the gap in per-capita incomes does not accurately reflect what a poor migrant can expect to gain from moving, the gain in income from moving is still immediate and huge. It is at least an order of magnitude larger than the income gains from any other development program that has been rigorously evaluated.

Secondly, while migration costs, liquidity constraints, policy choices, and the presence of networks all influence the extent to which the very poor from within a country, or people from the poorest countries get to migrate internationally, many of those who are migrating from developing countries would be classified as poor by global standards. Lant Pritchett, one of the conference's keynote speakers, has made this point most strongly, noting that no developed country accepts a standard of poverty for its citizens of under \$10 per day (Pritchett, 2013). Clemens and Pritchett (2008) then show that at a \$10 per day poverty line, 82 percent of non-poor Haitian-born reside in the United States, as do 43 percent of non-poor Mexicans and 27 percent of non-poor Indians.



For these reasons, we should not think of development as a substitute to international migration, but rather international migration as an important path for development for many people. This will be most important for the smallest of countries, for which migration rates are highest and alternative paths to development are most limited. This is seen most clearly in small island countries like Tonga and Vanuatu, where the measured development benefits from even enabling a couple of thousand people a year to seasonally work in New Zealand are sizeable.

Surveying this research shows the tremendous progress made, but also highlights three areas for future work to build upon. The first is to expand the range of countries and types of migration flows for which we have this evidence. Data continues to be a large constraint to research on migration, so continued efforts to improve the quality and richness of migration data are needed. Second, the extent to which inequality acts directly as a determinant of migration has received limited attention in the past decade. A key difficulty with all studies which purport to measure the determinants of migration is identifying causal relationships rather than just correlations, and so clever designs which use exogenous variation in inequality to examine its impacts on international migration are needed. Finally, we need much more work on the role of policy efforts to make international migration work better for the poor. McKenzie and Yang (2015) provide a recent survey of research on this topic, noting there are few papers which provide concrete evidence as to whether particular policy efforts are effective or not.

In order to show the interdependencies, the dynamic long-run cointegrating analysis and the spatial Indian state-level panel analysis using SGMM have been used. There are significant long-run bidirectional linkages between urban poverty and urbanization.

The two-way effects are positive with urbanization, m (increasing urban population due to migration and urban sprawl) increasing urban headcount poverty, p . The elasticities range from 2.2 to 0.3, with the larger elastic response identified and estimated concurrently with all the other possible relationships while the inelastic estimate comes from estimating the individual urbanization-poverty pairing in isolation. These relationships are determined net of the longer term drifts for these variables and so demonstrate the linkages based on variations in the annual data over and above the trend effects. Both estimation procedures show a feedback where urban poverty is linked to urbanization with a mid-range inelastic



value of around 0.5. This may reflect the long-run process whereby rural areas develop into urban areas and the previously defined rural poor are reclassified as new urban poor. These statistically significant estimates clearly show that increasing urban populations contribute to urban poverty in India.

There is also an interesting bidirectional feedback between relative urban size, ud , and urbanization, m . The major direction of influence, with an elasticity of nearly 3, runs from relative urban size to urbanization. This is consistent with agglomeration, in terms of urban growth being concentrated in larger cities, which, in turn, feeds through to increasing urban poverty. This is consistent with the outcomes of Ravallion et al. (2007) who provide evidence that urbanization facilitated a fall in absolute poverty, in general, but did little for urban poverty. They found that over the 1993–2002 period, the estimate of the “\$1 a day” poor reduced by 150 million in rural areas but increased by 50 million in urban areas. In contrast, one can find there is no indication of any significant long-run linkages between urban inequality ie , and urban poverty p nor with any of the other variables.

The linkages differ for the spatial estimations for India over the later and shorter time period. Urban inequality ie is very much part of the story, having bidirectional links with urban poverty p across the 16 Indian states. Urban inequality adversely affects urban poverty with an elastic estimate of over 3, dominating the reverse inelastic measure for poverty to inequality. The estimated bidirectional elasticities between poverty and urbanization for the Indian states remain and are comparable with the intertemporal long-run estimates. Urban poverty is therefore central to the development of the Indian states, having links with both urbanization and inequality. They are significant at the 1% or 5% levels, whereas the longer-run demographic influences via urban size are not significant for the 16 states over this shorter and later time period.

Based on this evidence, urban poverty and urban inequality should therefore not be considered independent and separable problems, particularly with the identified further linkages with migrant expenditure and the process of urbanization. This interdependence requires formulating appropriately encompassing and consistent urban development strategies. Policies therefore need to take into account possible policy-induced linkages when attempting to reduce urban inequality and urban poverty.



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