



(This is a sample cover image for this issue. The actual cover is not yet available at this time.)

This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



Contents lists available at SciVerse ScienceDirect

Regional Science and Urban Economics

journal homepage: www.elsevier.com/locate/regecDevelopment, agglomeration, and the organization of work[☆]Marcel Fafchamps^{*}

University of Oxford, United Kingdom

ARTICLE INFO

Article history:

Accepted 14 October 2011

Available online 23 December 2011

JEL classifications:

R11

O18

O12

Keywords:

Migration

Worker allocation

Hierarchies

Intra-household allocation

Social norms

ABSTRACT

This paper discusses how the mechanisms that allocate workers to tasks vary systematically with isolation from markets and hence with distance from urban centers. This in turn affects social norms, household structure, and the perceived benefits of migration. The relevance of the framework is illustrated with empirical evidence from personal research, much of which is based on a detailed analysis of Nepal in the 1990s. The evidence shows that away from cities, economic activity reverts largely around the family and the household. Agglomeration makes gains from specialization possible. This leads to self-employment in non-farm activities, but not necessarily to wage employment. The evidence also shows that proximity to markets generates not only higher monetary income but also welfare gains that attract migrants and foster urbanization.

© 2011 Elsevier B.V. All rights reserved.

1. Introduction

The relationship between cities and development has attracted the attention of a number of researchers, notably [Jacobs \(1984\)](#) who argues that cities are central to the wealth of nations – and have been for a very long time. A similar conviction emerges from reading the work of economic historians such as [North \(1973\)](#) and [Braudel \(1986\)](#). Much of this emphasis has been justified by the role that cities play in the innovation process. Because competition is more intense in cities, the incentive to innovate is stronger. Furthermore, because cities also favor human interaction, they facilitate the spread of new ideas regarding technology or institutions. New business practices regarding contracting or internal firm organization appear to diffuse more easily in cities, and to diffuse to peri-urban areas first before they diffuse further afield.

Over the last few decades, economic development has been accompanied by rapid urbanization. This is particularly true in Africa where urbanization has proceeded at a rapid pace. Innovation is essential for economic development. If cities facilitate the introduction and diffusion of innovations, then the urbanization we currently observe is good news for much of the developing world.

The relationship between cities and development is not, however, limited to the diffusion of innovations. Agglomeration also affects gains from specialization and the way economic activity is organized. Sub-Saharan Africa, for instance, experienced rapid urbanization during the 1980s and 1990s at a time when economic growth was slow and gains in total factor productivity were hard to find. A similar process was observed in other parts of the world as well. This raises the question of the role of cities in less developed economies, and particularly in the way economic activity is organized and workers are assigned to specific tasks.

In this paper I offer a simple framework to characterize the relationship between isolation from markets and the mechanisms by which individuals are allocated to tasks. I start by observing that labor markets are not the only mechanism that allocates workers to specific tasks and duties. Workers can also be allocated to tasks within firms and organizations or within households. A proper understanding of how work is assigned to workers cannot therefore be complete unless we integrate mechanisms other than labor markets.

The purpose of this paper is to show how the mechanisms that allocate workers to tasks vary systematically with isolation from markets and hence with distance from urban centers. The variation in allocation mechanism affects not only the environment in which people work but also what they do and how they are matched to specific jobs and tasks. The relationship between markets and allocation mechanisms in turn affects social norms, household structure, and the perceived benefits of migration.

To illustrate the relevance of the framework, I present evidence from personal research extending over several years. Much of this research is based on a detailed analysis of Nepal, a mountainous country with poor

[☆] I am grateful for the excellent comments received from an anonymous referee and from participants to the Paris Conference on Migration, September 2010. I thank Hillel Rapoport and Yves Zenou for their encouragements to write this paper.

^{*} Department of Economics, University of Oxford, Manor Road, Oxford OX1 3UQ, United Kingdom. Tel.: +44 1865 281446; fax: +44 1865 281447.

E-mail address: marcel.fafchamps@economics.ox.ac.uk

road infrastructure. Throughout our analysis isolation is defined in terms of travel time, not actual distance. Isolation thus depends on infrastructure and transportation technology. At the time the data used in the analysis were collected, many communities remained isolated from markets and many people still had to travel long hours to reach the nearest small towns. For this reason, Nepal is the perfect place to study the relationship between isolation and economic activity. Observing how economic activity is organized as a function of distance from markets and cities thus provides a useful – even if partial – source of insights regarding the long-term effect of urbanization.

Based on the evidence discussed here, I argue that, away from cities, economic activity reverts largely around the family and the household. Institutions that are not normally conceived as serving a primarily economic purpose – such as marriage or norms regarding gender roles – turn out to play a key allocative role, and marriage markets are, in effect, a form of labor market. By broadening the scope for exchange, markets and urban centers make gains from specialization possible. This translates into a surge in self-employment in non-farm activities. This surge in entrepreneurship has been documented in many parts of the developing world, and is often associated with the concept of ‘informal sector’, that is, microenterprises operating in an unsophisticated way. In the microenterprise sector, workers are allocated to tasks through demand and supply for goods and services.

The adoption of innovations not only in technology but also in forms of organization and contracting makes large firms and bureaucracies possible. With large organizations comes a hierarchical allocation of workers to tasks. This gives scope for a labor market to arise, but the allocative role of this labor market in turn depends on how long employment contracts are. The evidence suggests that, in Nepal at least, urban centers have managed to expand rapidly without the expansion of large firms in many sectors of the economy. Important exceptions are in education and health which are more commonly found in urban centers and are dominated by employment in large government-run organizations.

Agglomeration generates negative externalities due to congestion, crime, etc. Subjective welfare may also be affected negatively if proximity to markets and cities heightens feelings of rivalry and envy between people. It is therefore an empirical issue as to whether the gains from specialization and increasing returns achieved through larger organizations are sufficient to counterbalance the negative externalities from markets and agglomeration.

This paper summarizes empirical evidence from Nepal that proximity to markets generates important welfare gains in terms of subjective welfare, even after controlling for consumption expenditures. These benefits gains are at least partly due to better access to education and health care, and to a larger range of available consumer goods and services. There is no evidence that markets foster rivalry – in fact, the evidence points in the opposite direction. This is further confirmed by the observation that Nepalese internal migrants, when they select a destination, prefer districts with a high population and population density, i.e., more urban districts. The evidence also shows that the appeal of urban districts is not explained solely by higher material welfare and access to amenities.

Taken together, these findings suggest that rapid urbanization in the developing world has profound effects not only on what people do but also on the organization of local economies and their social norms. There appear to be large agglomeration externalities without returns to increased firm size, except in a few government-dominated sectors. A likely partial explanation is that agglomeration facilitates an entrepreneurship revolution that leads to gains from specialization – hence the explosion in self-employment and microenterprises.

The paper is organized as follows. In [Section 2](#), I introduce a simple conceptual framework that becomes the lens through which the allocation of workers to tasks is studied in the rest of the paper. [Section 3](#) discusses the implication of this framework in terms of agglomeration effects and presents empirical evidence. [Section 4](#) concludes.

2. Conceptual framework

It is easy to forget that labor markets are not the only way of allocating workers to tasks. Workers can also be allocated to tasks within firms or organizations, typically through command and control. A similar process takes place within the household to assign members to specific chores. The allocative function of the labor market therefore depends on how much production takes place within firms and organizations and within households.

How much allocation takes place hierarchically within the firm or through the labor market ultimately depends on the duration of labor contracts. If labor contracts are of short duration, workers are allocated to tasks through the labor market: if a task must be undertaken a worker is hired to undertake it. If a task is no longer required, the worker is laid off – or simply not hired again. Short term labor contracts – from a day to a few weeks – are common in certain industries, such as agriculture and construction.

If labor contracts are of long duration, workers are allocated to tasks through command and control: if a task must be undertaken, a worker from within the firm is reallocated to undertake it; if a task is no longer required, the worker is reallocated to another task. The allocation role of the labor market thus depends on the duration of employment contracts.

The allocation of workers to tasks can also be organized via the market for goods and services. Consider microenterprises employing no wage workers – there are many such firms in developing countries. In this case, employment creation and firm creation coincide. It follows that workers are ‘told’ what to do by the demand for their products and the supply for raw materials and other inputs. The allocation of workers to tasks is thus determined directly by the markets for goods and services. It follows that the importance of the labor market as allocation mechanism depends on the size distribution of firms: the larger firms are, the more important is the labor market but also, possibly, hierarchical allocation.

I argue here that agglomeration affects the mix of labor allocation mechanisms along several dimensions: the boundary between what is self-provided and what is purchased from the market; the boundary between what is provided by microenterprises and what is provided by large firms; and the duration of employment contracts. The size and allocative role of labor markets depend on where an economy is along these three dimensions.

Having clarified how different allocation mechanisms affect who does what, we now discuss each allocation mechanisms more in detail.

2.1. Self-provision

Many goods and services are self-provided within the household (Becker, 1965). This is particularly true in poor rural areas where households self-provide a large number of essential commodities, such as: food crops, milk and other animal products, firewood, and water. Household members also provide many services to each other, notably food processing and meal preparation; house construction and repair; child care and elderly care; insurance; entertainment; and various personal services (e.g., haircut, tailoring). Fafchamps and Quisumbing (2008) provide an extensive discussion.

Within the household, there is no market exchange. The allocation of workers to tasks is based on gift exchange or reciprocal exchange between co-resident, and often related, individuals. Gift exchange and reciprocal exchange occasionally spill over between different households, often with related individuals. Risk sharing is the manifestation of gift and reciprocal exchange across households that has received the most attention from economists (Coate and Ravallion, 1993; Ligon et al., 2001). Other examples include the exchange of favors (Jackson et al., 2010) and the pooling of land within the lineage (Platteau, 2000; Otsuka and Quisumbing, 2001).

Within the domain of self-provision, the allocation of workers to tasks is achieved through some form of intra-household bargaining. A large literature has looked at the distribution of welfare within households and has identified various determinants of intra-household bargaining (McElroy and Horney, 1981; Lundberg and Pollak, 1993; Fafchamps et al., 2009). The literature on the intra-household division of labor is more sparse. Fafchamps and Quisumbing (2003) find evidence that the allocation of household members to specific tasks is responsive to comparative advantage, as hypothesized by Becker (1981). But they also find evidence that social norms matter, particularly regarding the division of labor between the sexes, but also across generations and between daughters and daughters in law.

In societies where tasks are divided along gender and age lines and skills are complementary, productivity in self-production depends on whether the household has the right mix of skills. For instance, if the husband is good at animal husbandry and fodder production, the farm's productive potential will not be achieved unless the wife is also good at milking and ghee production, which often are traditional female tasks. Similarly, a husband may earn an income sufficient to send his children to college, but this potential may not be achieved unless his wife can effectively encourage the children through school, for instance, by helping with homework. If this is true, the productivity of husband education in terms of reproductive success is increasing in the wife's education level (see Fafchamps and Shilpi, 2011 for evidence). What these examples illustrate is that the combination of self-provision and social roles typically creates complementarities between male and female attributes.

Because the formation of a new household marks the creation of a new production unit, the efficient allocation of workers to tasks therefore depends on how individuals are matched into households. This formation process is largely regulated by the marriage market. The assortative matching of spouses on ethnicity, religion, education, and family background affects not only the inter-generational transmission of skills and wealth but also the productivity of the newly created households in the self-provision of goods and services (Fafchamps and Quisumbing, 2002, 2005a).

This is well understood by parents who often get involved in the selection of a mate. This is especially true in agrarian societies where familiarity with farming is paramount for the long-term reproductive success of the couple. Parents also play a role in providing start-up capital (e.g., land, livestock, a house) and vocational skills in preparation to marriage (Fafchamps and Quisumbing, 2005b). The allocation of skills and wealth that results from this process is typically inequitable – e.g., the rich marry the rich – and this affects social mobility. But if complementarities between attributes are strong, positive assortative matching is a natural outcome (Legros and Newman, 2007).

If returns to matching are large, we expect marriage markets to span a large geographical area. Migration at the time of marriage should then be understood as a process geared towards a better allocation of workers to tasks, while at the same time respecting various social constraints (e.g., similarity of ethnicity, caste, or religion). The migration of young women for marriage purposes is usually treated separately from labor migration. Once we recognize that these women join a self-provision unit where their labor is valued, their migration should be seen as an equally important labor allocation process.

Self-provision also affects household size and composition in ways other than marriage. In particular, if parents cannot purchase elderly care from the market, they may choose to have more children (or to foster other people's children) in the hope of being better looked after in their old age. For similar reasons, parents may hold onto land and assets so as to retain control over dependent adults as unpaid family work. These decisions can reduce the efficiency of the allocation of workers to tasks. For instance, if young farmers are more

receptive to innovation than their parents, delaying the marriage age of young men reduces innovation.

2.2. Markets

Self-provision means that individuals are not specialized: they undertake many different tasks at different times of the day or year. Since the range of skills they can acquire is limited, they are not necessarily very good at what they do. Gains from specialization can be achieved when workers focus on a smaller range of activities at which they become really proficient. But for this to be possible, they must provide the good or service not just within the household but to a larger number of people.

There are in principle various mechanisms by which exchange between households can be organized. There exists a large literature outside of economics describing these mechanisms and their limitations (e.g., Sahlin, 1972; Scott, 1976). One of them is gift exchange. Economists have mostly studied one particular manifestation of gift exchange, namely, informal risk sharing (e.g., Altonji et al., 1997; Coate and Ravallion, 1993; Ligon et al., 2001; Bloch et al., 2008), although some papers have looked at the exchange of favors more generally (e.g., Jackson et al., 2010). The general agreement is that gift exchange has many limitations that constrain its usefulness beyond the extended family (e.g., Cox and Fafchamps, 2007).

This means offering these goods and services to others through the market. If people are geographically isolated, this often is not possible because of transport costs. It follows that, in activities where gains from specialization are present, urban and peri-urban areas are expected to have more market provision and less self-provision. One can therefore gain a feeling for gains from specialization by observing the range of goods that go from being self-provided to being market provided as one gets closer to urban areas.

When combined with market provision, gains from specialization generate what has sometimes been coined an entrepreneurship revolution whereby individuals learn skills that enable them to produce for the market. This process is quite distinct from increasing returns and does not imply that the firms that emerge from the entrepreneurship revolution are large. In Adam Smith's pin factory parable, nothing precludes the organization of each task into a distinct one-worker firm, in which case gains from specialization are achieved through the market.

This process of specialization through small firms, which is often known as the development of the 'informal sector', underlies the urbanization of much of the developing world. It is an important process because the social norms required for success are not the same as those governing self-provision (Fafchamps, 2011). In market exchange, reciprocity in the form of payment is often immediate rather than delayed. Moreover, risk sharing (e.g., insurance) is separated from compensation for effort (e.g., price). This stands in contrast with gift exchange within the household or extended family, where reciprocity is typically delayed and combined with insurance. This means that as they begin interacting through the market, people discover hard budget constraints, which is the way the market ensures reciprocity and compensation – but not insurance. As people are learning hard budget constraints, simple transaction forms such as cash-and-carry tend to dominate to minimize breach of contract (Fafchamps and Minten, 2001; Fafchamps, 2004).

2.3. Hierarchies

With the application of science to technology comes the industrial revolution, that is, an acceleration of the innovation process. Innovations in technology (e.g., machines, electrical power) and organizational methods (e.g., accounting, stock market) enable firms and organizations (e.g., civil service, hospitals) to grow. As firms and organizations grow, wage employment develops.

Wage employment does not, however, by itself implies a large role for the hierarchical assignment of workers to tasks. If workers are hired for very short periods, the allocation of workers to tasks takes place primarily through the labor market; hierarchical assignment to task only affects the reallocation of workers within the short duration of a specific employment spell. It is indeed common for firms to employ a sizeable proportion of casual production workers – the more so when restrictions are strict on laying off workers with permanent contracts (Fafchamps and Quinn, submitted for publication). Agricultural laborers, for instance, are often hired by the day or the task.

Large firms cannot however function solely with casual labor. In large hierarchies, labor management becomes important. Because size makes difficult if not impossible for decisions to all be made centrally, delegation of authority is essential to deal with local problem solving. This calls for intermediate management personnel. Delegation of authority to sub-units in turn creates a need to coordinate the activities of the various parts of the organization. This coordination cannot be accomplished without clerical personnel to process information, e.g., via accounts, reports, minutes of meetings, etc.

Supervision and coordination tasks require skill and involve an element of trust. Because skill and trustworthiness are not perfectly observable, casual labor contract are therefore seldom appropriate for middle management and clerical (white collar) workers. Indeed, holding onto good workers economizes on screening for skills and loyalty. Furthermore, workers who are unsuitable or who misbehave are laid off or not renewed. The fear of losing the job thus disciplines workers (Shapiro and Stiglitz, 1984).

This leads to the development of so called 'permanent' employment contracts. In developed economies these are so pervasive that they are regarded as normal employment. Permanent employment contracts dramatically shift the burden of risk from worker to employer. As a result most people prefer such employment to facing the stress and uncertainty of self-employment or casual employment. Evidence of this can be found in many developing countries where queues of school and college graduates form who prefer to wait a long time for wage employment or civil service jobs rather than to opt for self-employment or casual work (see for instance Kingdon and Knight, 2004 for South Africa and Serneels, 2007 for Ethiopia).¹

2.4. Geography

Not all locations develop at the same time and at the same pace. This is true not only across countries but also within countries. This is perhaps not entirely surprising given that development involves the diffusion of innovations in technology and institutions (Parente and Prescott, 1994), and the diffusion of new ideas is probably faster within locations than across locations. This is because the diffusion of ideas largely takes place within networks of social interaction (e.g., Mobius et al., 2005), and diffusion is easier where social interaction is easy and frequent, such as in markets and cities. Given that cities are more exposed to external influences than isolated rural areas, they typically lead the way in the adoption of innovations from abroad (Jacobs, 1969). It follows that comparing urban and isolated locations is a bit like comparing different stages of development, and thus can serve as testing ground for the ideas developed above.

Of particular interest is how workers are allocated to tasks in the towns and cities and how this compares to isolated areas: is allocation taking place through self-provision, self-employment, or wage employment in hierarchies and, in the latter case, is wage

employment casual – in which case allocation occurs primarily through the labor market – or permanent – in which case allocation occurs primarily through command and control. The expansion of the microenterprise sector in urban sub-Saharan Africa has often been interpreted as a problem and the symptom of a development failure. This interpretation rests on the idea that wage employment in large private and public organizations is one of the hallmarks of development. Spatial concentration in towns and cities also makes specialization possible and this unleashes the entrepreneurship revolution. What if the development of a microenterprise sector is equally important to the development process, especially for economies starting from a low level of market development?

Knowing which allocation process dominates provides useful information about the nature of the growth process and the engine behind it. If urban growth at low levels of development is associated with an expansion of microenterprise, this suggests that market specialization is, at least initially, an important driver of growth. In contrast, if wage employment is concentrated in cities, this would suggest that the growth process is associated with the rise of larger organizations. Compared to microenterprises, the hierarchical organization of production raises numerous difficulties relating to incentives and information processing. We therefore suspect that hierarchies can only blossom either thanks to technology-induced increasing returns, or because of innovations that improve incentives and information processing (e.g., keeping accounts, giving directions to workers). Given that the latter typically require some numeracy and literacy, we expect the development of large organizations to require a better educated workforce.

The presence of large organizations therefore raises returns to education and generates incentives for parents to educate their children. It is reasonable to expect that parents residing in the immediate vicinity of large organizations perceive these incentives more strongly. If large organizations are primarily located in urban centers, we expect to observe more urban demand – and thus supply – for the general purpose academic skills (literacy, numeracy, awareness of scientific methods) that are provided by primary and secondary education. In contrast, returns to these skills are likely to be lowest in self-provision where specialization is minimal, organization of production is not hierarchical, and vocational skills are learned on the job (e.g., Fafchamps and Quisumbing, 2003). Hence children born where returns to education are lowest – and perceived to be so by their parents – should receive less education on average while those who do are expected to migrate to areas where there is demand for the general purpose academic skills they have learned. A corollary is that parents residing in isolated areas who ambition a better life for their children are likely to see education as a passport to an urban lifestyle.²

Hierarchical organizations need not be private, something that is often ignored in growth models that typically focus on private enterprises. This is perplexing because the first large organizations to emerge historically – e.g., armies, churches – were not for-profit, and they had to solve the same incentive problems that large corporations must solve today. In the growth literature little attention is given to the public and non-profit sectors that dominate education and health provision. Yet innovation is no less important in these sectors, often determining the range and quality of services that are offered (e.g., new health treatments and prevention measures; new school curriculum reflecting the expansion of knowledge). Government and non-profit ventures cannot build large hierarchical organizations without mastering some key innovations such as reporting procedures, double-entry bookkeeping, communication equipment, an understanding of legalistic rules and principles, and various organizational devices for monitoring and incentivizing workers.

¹ The switch from self-employment to permanent employment contracts often involves a subtle change in individual morality (Fafchamps, 2011). Indeed, the norms of conduct required for an effective labor force are not the same as those governing entrepreneurship. In wage employment opportunism is discouraged; in entrepreneurship, it is essential. In wage employment discipline is required; in entrepreneurship, personal initiative is essential.

² This brief discussion obviously does not exhaust the various feedback mechanisms between education and growth, such as income effects on the demand for education, or the self-selection of education-minded parents in urban areas.

There are many examples of large dysfunctional organizations in developing countries, riddled with absenteeism, corruption, and low effort. This indicates that learning how to run large organizations is not a trivial task, even if most countries do try in the hope of capturing the large potential welfare gains that adequately run organizations can deliver. If we find that most wage employment is found in sectors dominated by government and non-profit organizations, while sectors such as manufacturing and trade are dominated by microenterprises, this will suggest that reliance on the profit motive to innovate and adopt may be misguided, and that more attention should be placed on government and non-profit organizations in our understanding of the growth process.

Geographical patterns in the allocation of workers to tasks received some attention in the early development literature of the 1950s and 1960s, particularly in the works of Myrdal (1957) and Hirschman (1958). These authors and their contemporaries saw the development process as by and as largely synonymous to urbanization since it involved the transfer of workers from a rural-based, subsistence-oriented mode of production to urban-based, market-oriented production. This led to an interest in labor migrations from rural to urban areas, interest that has been sustained to this day.

Migration patterns are thus yet another lens through which we can try to understand the interaction between development and the allocation of workers to tasks. Of particular interest here is whether returns from specialization achieved through urbanization and the development of small enterprises serve as an additional incentive for people to move from economically isolated areas towards locations with a higher population density. Is the draw of high population density at least partly due to better access to markets and to a diverse supply of goods and services, including amenities (e.g., water, fuel, sewerage), that supplant self-provision, broaden consumption choices, and enable specialization for the market? An answer to these questions would provide useful insights about what underlies development and urbanization.

3. Empirical evidence

Having presented our conceptual framework, we now discuss how it tallies with the evidence. We seek to document global patterns. Our aim is not to dissect causal mechanisms, which are undoubtedly complex and involve a multiplicity of relay mechanisms. A maintained assumption running through our analysis is that sustained growth and urbanization are not possible without innovation in technology, institutions, and organizational practices. The factors that trigger – or hinder – the adoption of these innovations are many but without these innovations continued growth and urbanization could not be sustained.

To focus the attention of the reader, I offer a number of empirical findings that come from several years of empirical work on Nepal and elsewhere. Nepal is a good choice because the mountainous nature of the country means travel times are large, and the country only recently started building roads. So there is room for a stark contrast between cities and isolated areas. The data used come from various surveys undertaken in the 1990s. In the analysis, distance is measured in travel time and is thus affected by the terrain and type of road.³

Fafchamps and Shilpi (2003) study the relationship between proximity to markets and cities and various forms of employment. Fig. 1 reports non-parametric regression lines and 95% confidence intervals between various general occupations and distance to various towns and cities. Fig. 2 does the same for distance to local markets. We observe that non-farm wage employment is concentrated in and around markets and cities. In contrast, farm wage employment is highest at intermediate distances from markets and cities. This is the zone of commercial farming where farmers aim for a market

surplus, grow commercial crops, and use modern agricultural inputs. Non-farm self-employment is highest near markets and, to a lesser extent, near towns and cities. Taken together, these results suggest that as we get closer to markets and cities, the allocation of workers to tasks switches from self-provision (not recorded as employment) to market provision (recorded as either wage employment or self-employment). The Figures also show that the effect of urban proximity extends way beyond city boundaries: the effect on non-farm wage employment, for instance, is statistically significant up to 4 h of travel time from urban centers (Fig. 1). This means that peri-urban areas are different in terms of employment composition from more isolated rural areas.

Fafchamps and Shilpi (2005) document how employment by sector varies with proximity to urban centers. We observe that, as could be expected, agricultural employment is proportionally less important in urban centers. Employment in all other sectors is higher in and around urban centers, the effect being felt well beyond city boundaries – e.g., up to 2 h of travel time from urban centers (Fig. 3). We note that, regarding manufacturing, these findings stand in contrast with those of Desmet and Fafchamps (2005, 2006) who find that, in the US since the 1950s, manufacturing employment has tended to leave urban centers to relocate in peri-urban areas. They reckon that this shift was driven partly by stronger agglomeration effects in certain service sectors such as finance and insurance, and by pollution concerns that militate for relocating manufacturing plants away from population centers. It appears that centrifugal forces in manufacturing were not yet noticeable in Nepal at the time the data were collected.

To understand this switch between different labor allocation mechanisms, we examine how specialized people are. In a self-provision economy, we expect individuals to be relatively unspecialized, i.e., to produce many different things. At the same time, economies that rely on self-provision may be largely undifferentiated in the sense that every household by and large produces the same set of things. In contrast, markets make gains from specialization possible. As different individuals specialize in different tasks, we expect more differentiation in tasks across individuals and households. What is unclear is whether gains from specialization are achieved through the market or within firms. Just to illustrate this point, in the pin factory parable, workers specialize in different tasks but remain within the same factory; but they could just as well operate as an upstream–downstream chain of enterprises buying and selling from each other. If gains from specialization are achieved through the market only, we should observe a rise in self-employment together with a rise in specialization. If these gains are achieved within firms, we should instead observe a rise in the importance of hierarchies and thus a rise in wage employment. Furthermore, if specialization requires learning and acquired skills are only partly observable, we expect more permanent employment contracts.

Fafchamps and Shilpi (2005) provide evidence regarding the shift away from self-provision towards market work as one gets closer to towns. This shift is associated with an increase in individual specialization but an increase in the diversity of activities recorded in a given location (Fig. 4).⁴ In Fig. 5 we see that this increase in aggregate diversity is accompanied by a reduction in individual occupational diversity: individuals in and around cities report a smaller range of occupations even though there is a higher aggregate range of occupations reported by all individuals in the location.⁵ Fig. 5 also shows that

⁴ In Fig. 4, individual specialization is a Simpson index computed for each surveyed individual using data on hours spent working in each of seven different broadly defined activities – wage work, non-farm self-employment, agriculture, construction, food processing, handicrafts, and other work. Household chores are omitted. Ward specialization is calculated similarly, aggregating the Simpson index across individuals in the same ward. See Fafchamps and Shilpi (2005) for details.

⁵ In Fig. 5, the ward specialization index S_k is calculated as: $S_k = \frac{\sum_{i=1}^{56} p_{ik}^2}{P_k}$ where p_{ik} is the number of individuals in ward k whose main activity is in one of 56 sectors defined according to the ISIC classification, and P_k is the total number of sampled working individuals in ward k .

³ Fafchamps and Shilpi (2003) show that similar results obtain whether or not travel time on roads is instrumented using geographical variables and walking distance in the absence of roads.



Fig. 1. Employment category and urban proximity.

this result is not simply driven by agriculture. This finding is consistent with gains from specialization being more prominent in cities: presumably people living in rural areas consume many of the same goods and services as urban dwellers, but the production of many self-provided goods and services requires so little time at the individual level that they do not register as distinct activities in household surveys – e.g., hair cut, transport, guest accommodation, entertainment.

The shift from self-provision to market provision is mirrored to some extent by change in household chores (Fig. 6). Households spend less time fetching water and firewood since water and fuel are provided by specialized providers. They also spend more time shopping, which is to be expected since they now secure more

goods and services from the market. We also note an increase in the time devoted to cooking and cleaning among households living in and around cities, which may reflect an income effect: as material welfare increases, the household wishes to consume a better home environment.

This in turn affects what women do and how they work, that is, whether they work for self-provision or for the market. It also affects what children do. We see from Fig. 7 that, in and around cities, women are more likely to work for the market, e.g., as self-employed or wage employed workers, but also more likely to work on household chores. What is reduced is the time women spend on activities (such as farming) that serve both self-provision and market provision roles. These different effects combine to result in an

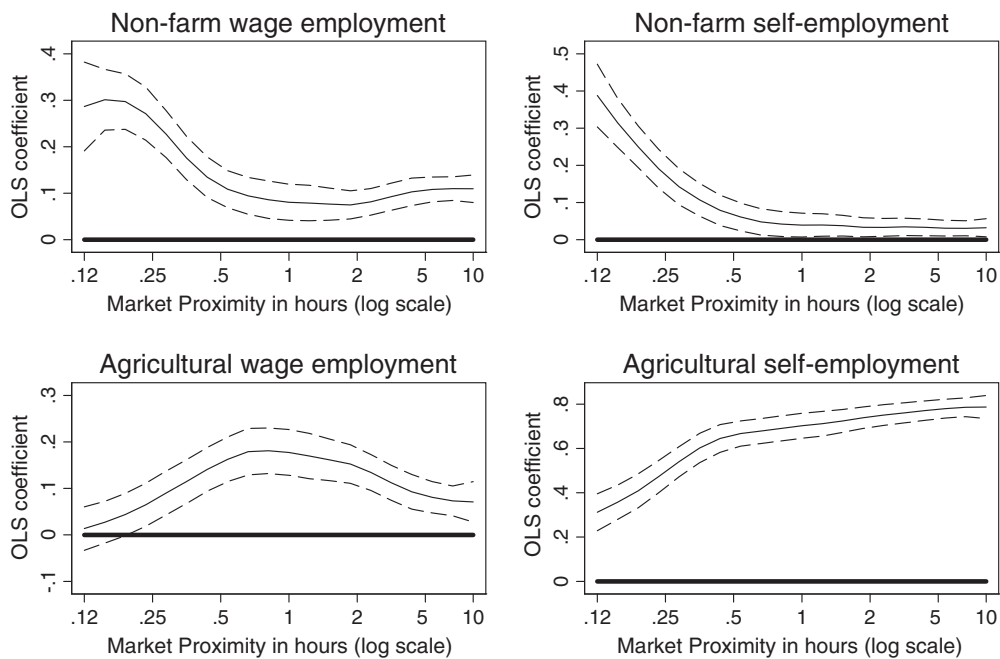


Fig. 2. Employment category and market proximity.

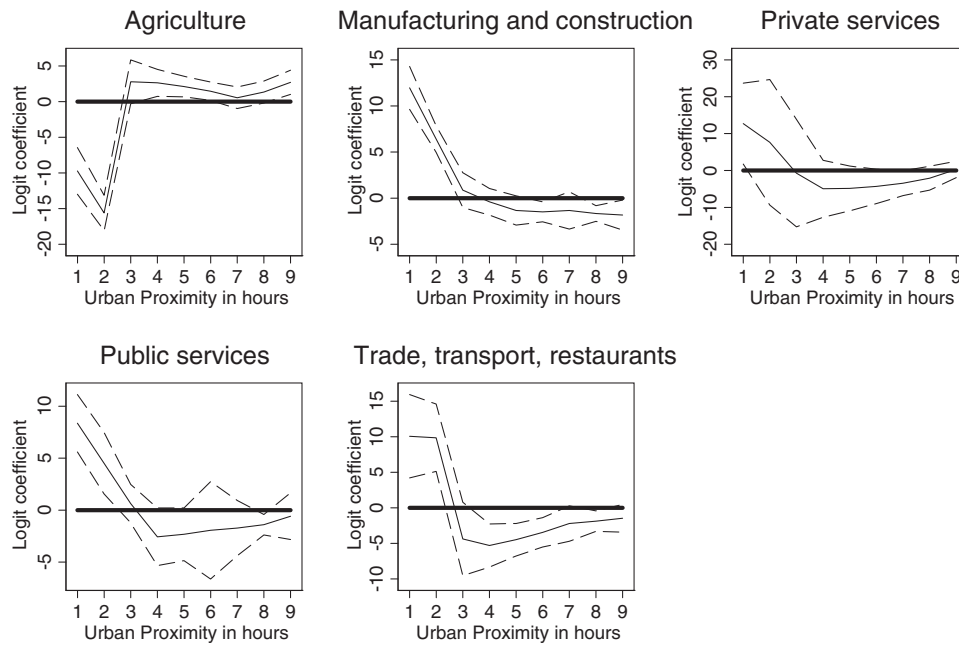


Fig. 3. Sectoral employment and urban proximity.

increased specialization of women: on average, individual women living in and around cities have a less diversified list of activities they undertake in a given week.

Fafchamps and Wahba (2006) show that similar processes affect what children do. As shown in Fig. 8, in and around towns children participate less to household chores and home production. We observe a slight increase in market work by children, a phenomenon that is driven primarily by older children (i.e., teenagers) included in the study. Children also go more to school, a finding that is consistent with a greater need for numerate and literate workers in self-employment but especially in wage employment where reports and accounts are critical for the internal coordination of tasks. Using data from rural Pakistan, Fafchamps and Quisumbing (1999) indeed

show that returns to education are larger in non-agricultural activities which, in their sample, are dominated by self-employment. Given that non-farm employment is more prevalent not just in cities but also in their hinterland, this probably explains why returns to education rise with proximity to urban centers and hence why school enrollment is higher.

We have shown that there is more specialization in and around cities. The next question is whether this specialization occurs within firms, which implies larger firms, or whether it simply occurs through the market. Fafchamps and Shilpi (2005) document a shift towards more wage employment as one gets closer to towns (Fig. 9 – bottom right panel). This is reflected in higher open unemployment in and around towns (Fig. 10): people looking for wage employment are

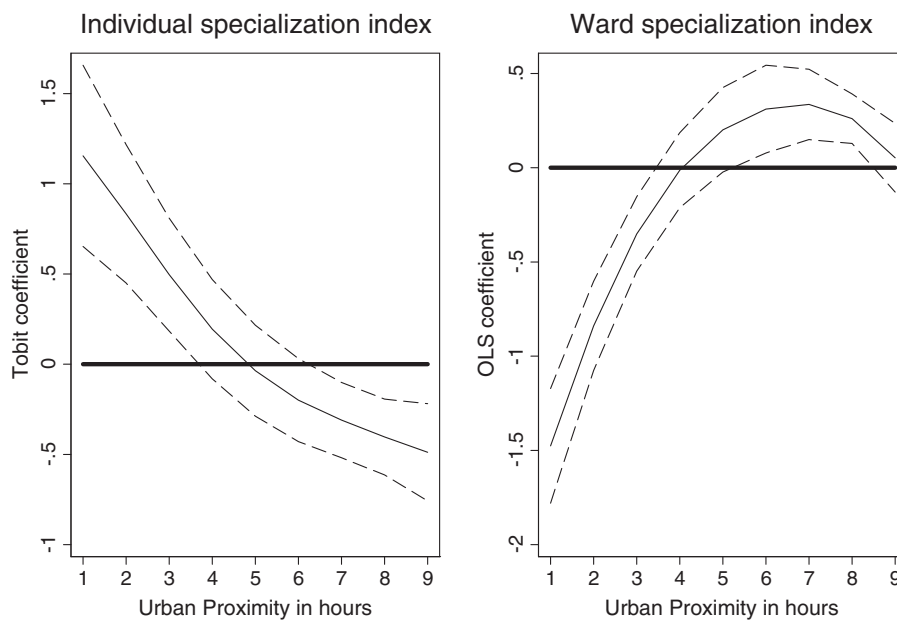


Fig. 4. Specialization index and urban proximity.

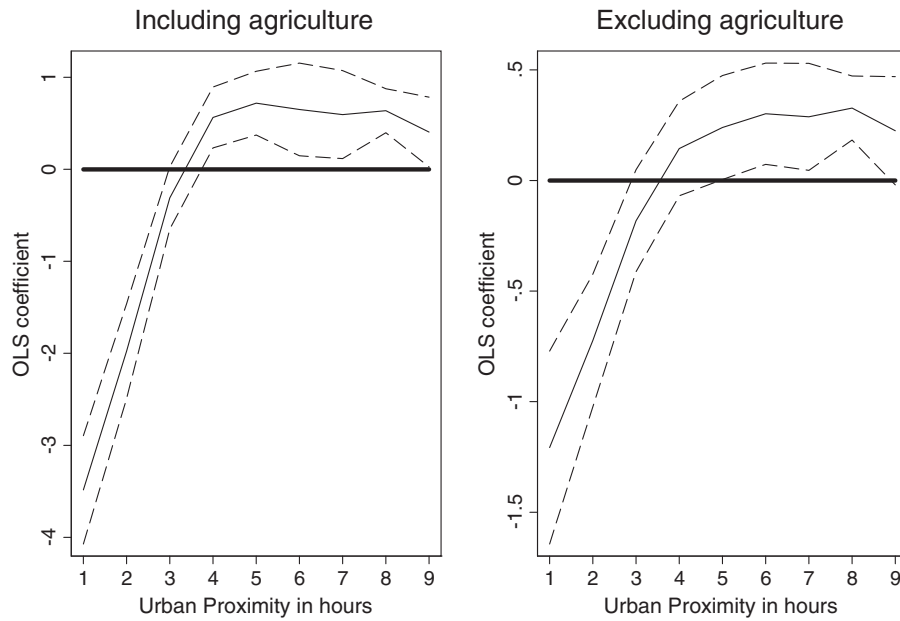


Fig. 5. Occupational diversity in wards and urban proximity.

more likely to declare themselves as unemployed than people considering setting up their own enterprise. Based on our earlier reasoning, this suggests that there are more hierarchies in and around towns.

As is clear from Fig. 9, however, in Nepal the shift towards wage employment near cities is driven mostly by changes in sectoral composition. There is more wage employment in sectors such as health and education dominated by large public employers. Given that there is more employment in these sectors in and around cities, there is more wage employment in aggregate. Within sectors, however, Fig. 9 suggests that the only broad sector in which there is statistically more wage employment in and around cities is agriculture. In manufacturing, private services, and trade, there is on average more

wage employment in cities, but the difference with rural areas is not statistically significant.

In other words, there is no significant statistical evidence that hierarchies are more common in cities for manufacturing, private services, and trade. This interpretation is confirmed in Fig. 11 which shows average firm size in various broad sectors for workers in wage employment. Results mirror those in Fig. 9: although average firm size tends to be higher in and around urban centers in most sectors, the relationship between firm size and urban proximity is not statistically significant in all sectors except agriculture. Yet, across all sectors, wage employees in and around cities work on average in much larger firms and organizations. This confirms that the

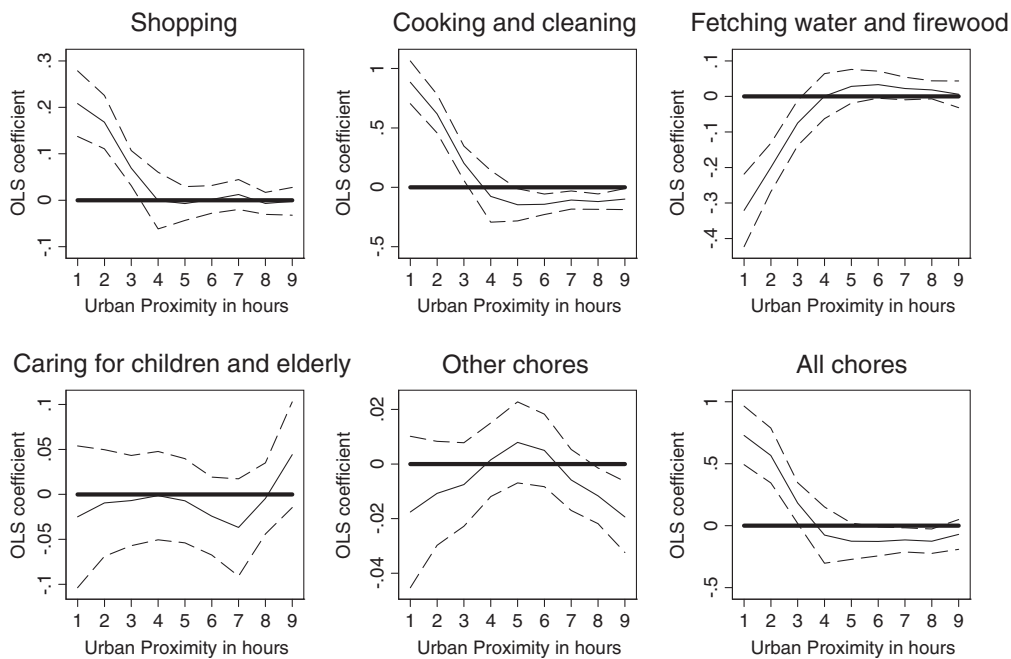


Fig. 6. Household chores and urban proximity.

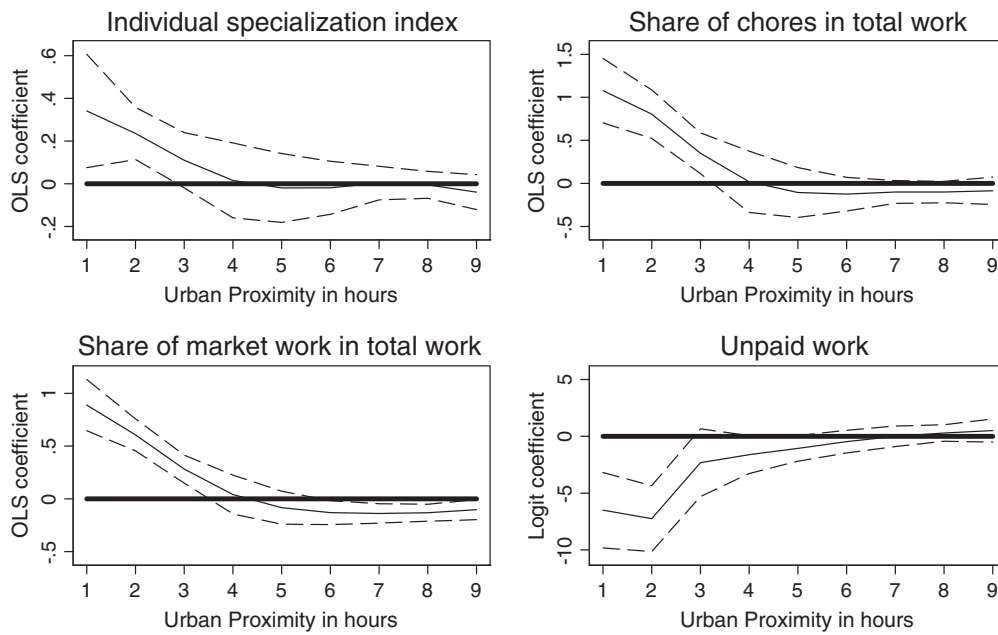


Fig. 7. Female specialization and urban proximity.

hierarchical allocation of workers to tasks is more common in and around cities and this is driven primarily by sectoral differences.

In the conceptual section I have argued that the existence of large firms and organizations signal the presence of returns to scale normally associated with innovations in equipment, organization, and business practices. Interpreted in this light, the findings suggest that, for reasons that cannot be investigated with the data at hand, in Nepal returns to scale had been captured in some sectors irrespective of location. These sectors are primarily education, health, and government services. In these sectors, innovations in communication and information processing (e.g., telephones, accounting) have made possible the emergence of large organizations with standardized procedures and procurement (e.g., schools, hospitals, bureaucracies). But at the time the Nepalese data were collected, these innovations did

not appear to have affected all sectors of the economy equally, particularly manufacturing, private services, and trade.

There are important welfare implications from the relationship between agglomeration and the mechanisms by which workers are assigned to tasks. The first of them is that differences in monetary income between locations do not adequately capture differences in welfare. On the one hand, rural surveys tend to underestimate consumption because it is difficult to measure and impute a value to all consumption from self-provision. On the other hand, monetary consumption expenditures fail to capture welfare gain from product diversity. Gains from specialization mean that urban centers offer a wider diversity of consumer goods and services, which implies that consumption expenditures underestimate the welfare value of consumption in urban areas. Similarly, welfare gains from proximity to

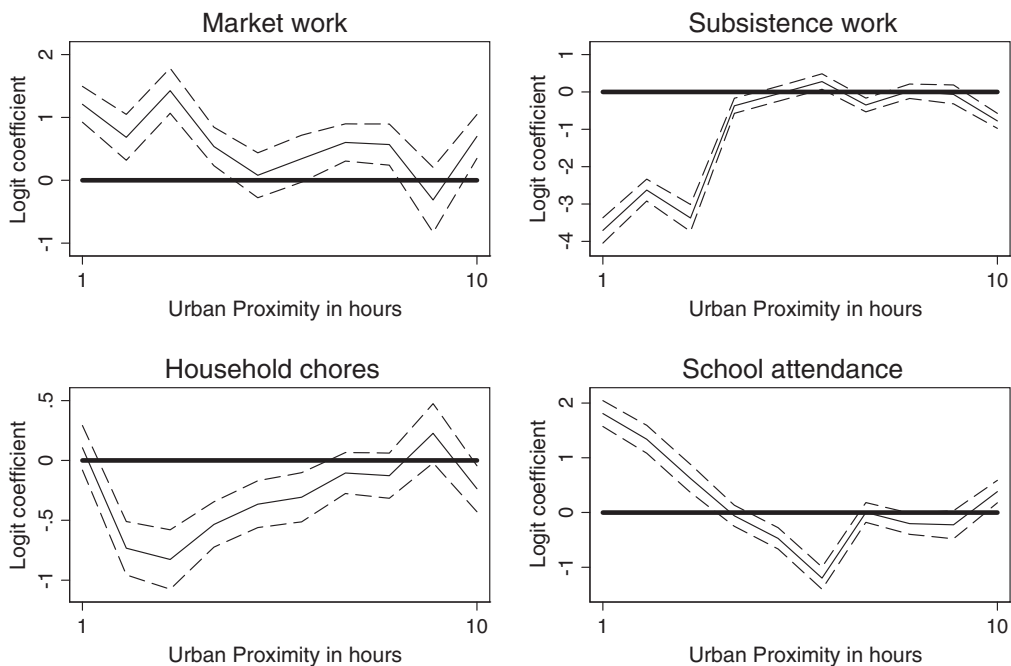


Fig. 8. Child labor, schooling, and urban proximity.

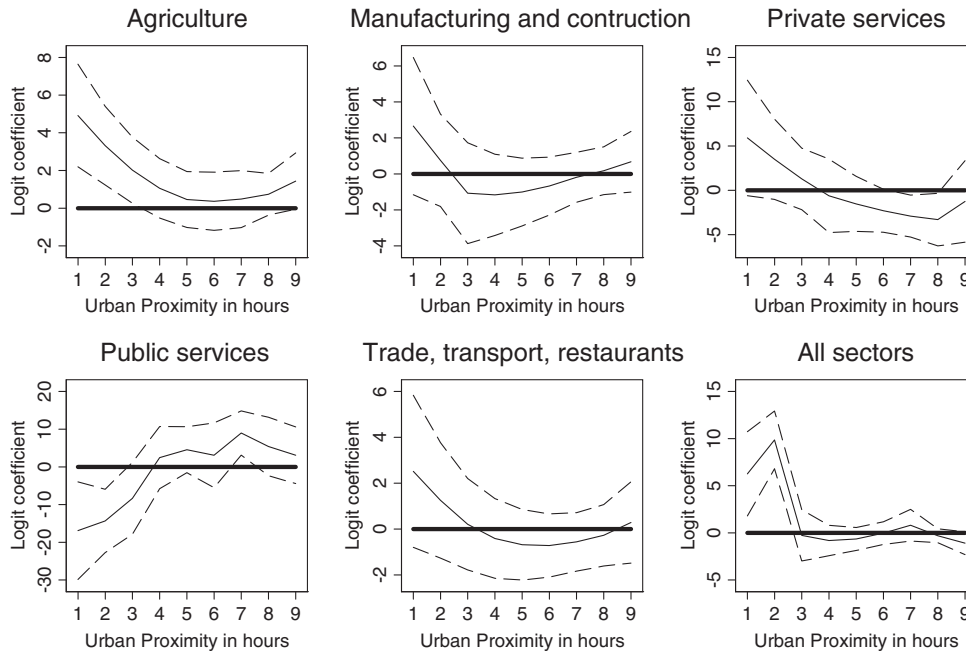


Fig. 9. Share of wage employment and urban proximity.

public goods (e.g., health care) are not fully captured in monetary consumption, and we have seen that the provision of these public goods is also better in and around urban areas. Rural dwellers, however, may derive some subjective satisfaction from their bucolic surroundings.

These simple observations suggest that welfare differences between urban and rural lifestyles are not adequately captured by differences in monetary consumption. To circumvent these difficulties, Fafchamps and Shilpi (2009a) turn to subjective consumption adequacy measures to estimate the welfare cost of isolation in Nepal. As observed elsewhere, they find that monetary consumption falls with distance from markets (Fig. 12). As explained earlier this by

itself does not imply that welfare is lower in more remote areas: perhaps the difference is due to the underestimation of self-provided consumption.

This does not, however, appear to be the case. In Fig. 13, we see that subjective satisfaction with income and consumption unambiguously falls with distance from markets. The same result is obtained if we consider possible confounding factors. In particular, controlling for monetary consumption, people's subjective welfare is higher when closer to cities and markets. To estimate the welfare cost of isolation, Fafchamps and Shilpi (2009a) calculate the compensating variation of distance to the nearest market. Their results are summarized in Table 1. Point estimates are fairly large, especially for housing,

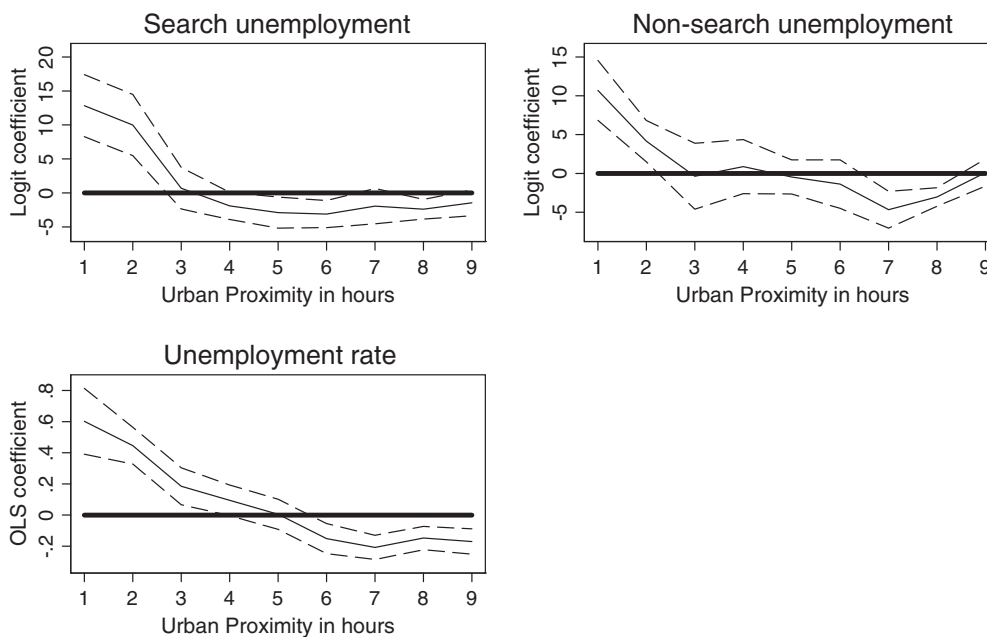


Fig. 10. Unemployment and urban proximity.

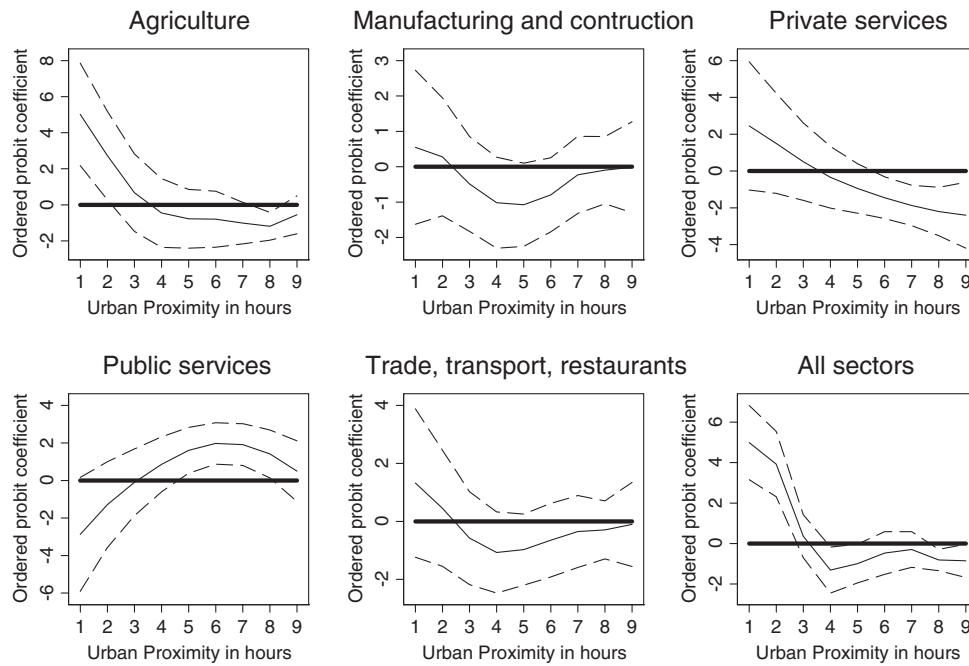


Fig. 11. Firm size and urban proximity.

schooling, and health care. This is hardly surprising given that schooling and health care provision are, as we have seen, better in and around cities. For housing this probably has to do with housing quality, utilities, and proximity to amenities – although the authors try to control for these factors directly.

The subjective cost of market isolation reported in Table 1 may be misleading if people living in more isolated areas have a stronger sense of community that makes up for reduced material welfare. To investigate this possibility, Fafchamps and Shilpi (2008) test whether people in isolated areas care more about what others around them consume. The literature has indeed shown that people tend to judge the adequacy of their consumption relative to that of others nearby. We have argued in the conceptual section that the replacement of gift exchange with market provision changes the nature of reciprocity and insurance. Market exchange and specialization also make more room for income differentiation than undifferentiated self-provision. Given this, it is conceivable that feelings of rivalry and envy are exacerbated by markets. If this is true, people living near markets may derive less subjective satisfaction from their material consumption relative to that of others nearby.

This is not what Fafchamps and Shilpi (2008) find in Nepal. If anything, the negative effect of other people's consumption level on a person's subjective satisfaction is less strong in cities than in more remote areas. In other words, there is less rivalry in and around cities. Why this is the case is unclear, but it does not confirm fears that market interaction generates more rivalry compared to gift exchange and self-provision. The authors also find that individuals who have relocated to a new district still partly judge their consumption relative to households in their district of origin. This effect, however, weakens over time: the longer someone has been in a given location, the more strongly their subjective satisfaction depends on average consumption in their district of residence, and the less it depends on consumption in their district of origin.

If isolation from markets represents a welfare cost, we expect people to migrate in order to locate closer to markets and urban centers. Fafchamps and Shilpi (2009b) investigate this possibility looking at the choice of destination among internal migrants in Nepal. The starting point of their analysis is that, having decided to migrate, people choose where to migrate to achieve a better livelihood for themselves and their children. If they choose to live in or around a town, they are more likely to be self-employed or work for wage. Since gains from specialization tend to raise the returns to education, migrating to a town or market may translate into higher material welfare for those who are better educated. Moving to a city also means that the migrant will live in an area with more individual specialization but also more aggregate diversity, especially in services, which are largely non-tradable. This means a more market-oriented consumption with more to choose from.

Table 2 summarizes the results from Fafchamps and Shilpi (2009b) in terms of relative magnitude. The first column presents the standard deviation of the variable of interest and the second column gives the effect of an increase in the variable of interest equivalent to a standard deviation. The larger the relative effect is, the larger the magnitude of the (unconditional) effect that the variable has on the choice of migration destination. We see that monetary income matters, as predicted by economic theory. But other factors matter more, such as distance to the nearest paved road and rice prices (which tends to be lower in big cities and higher in mountain valleys where rice cultivation is difficult). Migrants systematically move

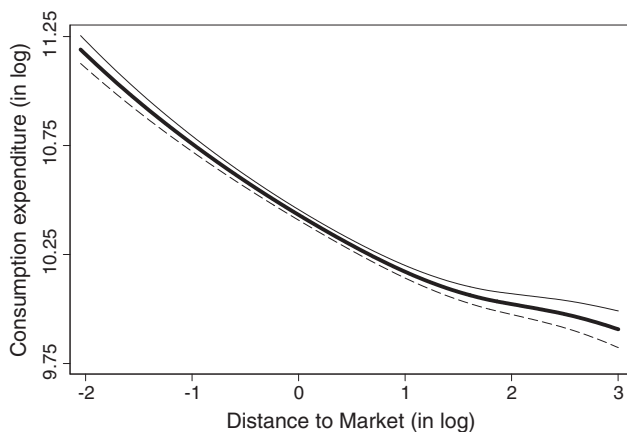


Fig. 12. Consumption and market proximity.

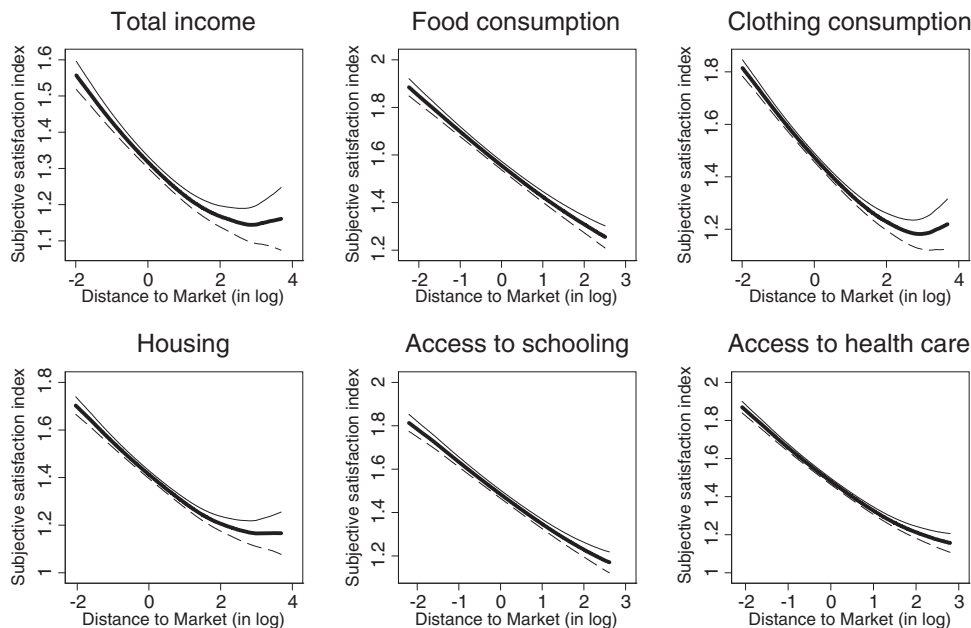


Fig. 13. Subjective satisfaction and market proximity.

towards more urban districts, that is, districts with a higher population and population density. These results are consistent with our earlier findings that the subjective cost of isolation is not solely due to lower monetary income in isolated areas. Other factors matter as well, such as distance from the district of origin and ability to speak the language of the destination district.

4. Conclusion

In this paper I have argued that the development process is closely related to changes in the relative importance of various mechanisms to allocate workers to tasks. Development is associated with a shift from self-provision to market exchange and a shift from market exchange to large firms. This transformation need not happen everywhere in the economy at the same time. Rather, development is characterized by shifting boundaries between the domains of application of different allocation mechanisms.

These relatively simple observations help understand the relationship between urbanization and labor markets. We observe a rapid urbanization in many parts of the developing world. This affects how people are allocated to tasks. Because roads regulate the extent to which agglomeration effects can arise, they play an important role in the location of economic activity and the spatial division of labor.

By extending gains from specialization and circulating information conducive to innovation in technology, organization, and business practices, agglomeration effects also have a profound effect on the mechanisms by which workers are allocated to tasks. The emergence of a labor market is only one of the manifestations of economic development, and is inherently associated with the presence of increasing returns that enable the creation of large firms and organizations.

In Nepal we found that many urban jobs are based on market specialization through self-employment, not through wage employment. There are more wage jobs in and around markets and towns but also little evidence that increasing returns foster the emergence of large urban firms and organizations in all sectors except health, education and government services. We also find that what households do varies systematically with proximity to markets and towns. The switch from self-provision to market provision occurs around 3 h travel time to nearest town and is strongest in urban centers. This also affects what women and children do within the household.

Relative to self-provision and gift exchange, market exchange allows gains from specialization. This diversifies the range of goods and services consumers have access to. This raises subjective welfare and attracts migrants. In some cases, migrants may even seek to combine low-cost self-provision in rural area (e.g., housing, child care) with market provision via temporary migration to urban centers

Table 1
Compensating variation of travel time to markets.

Source: Fafchamps and Shilpi (2009a), "Isolation and Subjective Welfare: Evidence from South Asia", Economic Development and Cultural Change, 57(4): 641–83.

	Moving from 75th to 25th distance percentile			At mean (1)	At 90% perc. (2)
	CV	(95% confidence interval)		CV	CV
Food consumption	13.0%	3.4%	22.8%	32.6%	3.9%
Clothing	10.3%	–0.1%	20.1%	26.2%	3.0%
Housing	22.5%	4.4%	40.7%	51.1%	6.9%
Children's schooling	22.0%	8.2%	35.8%	50.2%	6.8%
Health care	[20.2%–60.8%]	[13.4%–46.9%]	[27.0%–74.7%]	[46.9%–92.7%]	[6.2%–23.2%]
Total income	8.2%	–4.6%	21.1%	21.4%	2.4%
Weights equal to consumption share	[13.7%–15.7%]			[33.9%–38.1%]	[4.1%–4.7%]

All figures expressed in percentage of average consumption expenditures.

- (1) Compensating variation generated by moving from the mean distance to the smallest recorded distance of 1 min.
- (2) Compensating variation generated by reducing distance by the same amount as in (1) but from the 90% percentile.

Table 2

Relative magnitude of effect of regressors on choice of migration destination.

Source: Fafchamps and Shilpi (2009b), "Determinants of the Choice of Migration Destination", CEPR Discussion Papers: 7407.

	Standard deviation	Relative effect
Income and consumption		
Combined income effect	0.70	0.12
Relative log income controlling for education and language	0.06	0.09
Combined consumption effect	0.54	0.24
Relative log consumption controlling for education and language	0.03	0.17
Prices and amenities		
Log of rice price	0.29	−1.28
Housing price premium (log)	1.74	0.73
Travel time to nearest paved road	1.34	−1.09
Travel time to nearest bank	0.83	0.22
Elevation in meters	1.08	−0.46
Population		
Population density	0.47	0.43
Log(population)	0.92	0.29
Ethno-caste similarity index	0.17	0.13
Language similarity index	0.38	0.54
Religion similarity index	0.23	−0.08
Distance		
Distance above 100 km	0.19	−1.84

Relative effect of a one standard deviation calculated as (coefficient×standard deviation).

(e.g., consumer durables). This is the best of both worlds, but generates costs due to separation. Innovations in communication (e.g., mobile telephones, mobile money) tend to reduce this cost.

We are now in a better position to understand why massive urbanization is taking place in the developing world without always observing a simultaneous increase in wage employment. To the untrained eye, cities look bad because of congestion, crime, housing costs, etc. Based on this, many assume that people move to cities because income is higher, but otherwise would prefer to stay in rural areas.

Incomes in cities are observed to be higher than in rural areas. If the cost of urban living is also higher, perhaps the income differential compensates people for moving to cities. Our research in Nepal suggests otherwise. Controlling for monetary expenditures, people appear less satisfied with their consumption level when they live in low population areas, far from markets and urban centers. Migrants select their destination in response to income differences but also for other reasons having to do with life in towns and cities. While we do not claim having identified all these reasons, there is some evidence that they include better amenities and access to more variety of goods and services. People may also internalize the differences in labor allocation mechanism and expect their children to have a better future if they move to cities and provide them with education. Finally, migrants who move into self-employment may hope to gain higher returns from specialization in something they are good at.

More subjective factors may also play a part. People may simply prefer to live around other people or, more prosaically, they may seek to escape the hot house feeling of village life, with the associated rivalry and jealousy between neighbors. Another possibility is that people do not realize that they will adjust their subjective wellbeing after having migrated. They expect a higher absolute income in the city, but fail to recognize that they may also obtain a lower income relative to other urban dwellers. Time inconsistency may arise if they do not realize that, with time, this will reduce their subjective satisfaction.

In Nepal we find some evidence consistent with these conjectures. People judge the subjective adequacy of their lifestyle relative to that of others around them. Migrants initially compare themselves to their place of origin when answering questions about their subjective

satisfaction with life. But as they spend more time in the new location they begin comparing themselves with people there. This reduces their subjective satisfaction if their relative income in their destination is lower than in their place of origin, even though the absolute income may be higher. It is unclear whether this effect is strong enough to make most migrants regret having moved to the city. McKenzie et al. (2006) have recently shown that migrants to New Zealand systematically underestimate the income they will earn. If this finding applies more generally, perhaps it is sufficient to compensate for the erosion on subjective satisfaction gains. These issues deserve more investigation.

References

- Altonji, Joseph G., Hayashi, Fumio, Kotlikoff, Laurence J., 1997. Parental altruism and inter vivos transfers: theory and evidence. *Journal of Political Economy* 105 (6), 1121–1166 December.
- Becker, Gary S., 1965. A theory of the allocation of time. *The Economic Journal* 75 (299), 493–517 September.
- Becker, Gary S., 1981. *A Treatise on the Family*. Harvard U.P., Cambridge, Mass.
- Bloch, Francis, Genicot, Garance, Ray, Debraj, 2008. Informal insurance in social networks. *Journal of Economic Theory* 143 (1), 36–58 November.
- Braudel, Fernand, 1986. *Civilization and Capitalism*. Harper and Row, New York.
- Coate, Stephen, Ravallion, Martin, 1993. Reciprocity without commitment: characterization and performance of informal insurance arrangements. *Journal of Development Economics* 40, 1–24.
- Cox, Donald, Fafchamps, Marcel, 2007. Extended family and kinship networks. In: Schultz, T. Paul, Strauss, John (Eds.), *Handbook of Development Economics*, 4. Elsevier, Amsterdam.
- Desmet, Klaus, Fafchamps, Marcel, 2005. Changes in the spatial concentration of employment across U.S. counties: a sectoral analysis 1972–2000. *Journal of Economic Geography* 5, 261–284 June.
- Desmet, Klaus, Fafchamps, Marcel, 2006. Employment concentration across US counties. *Regional Science and Urban Economics* 36 (4), 482–509 July.
- Fafchamps, Marcel, 2004. *Market Institutions in Sub-Saharan Africa: Theory and Evidence*. MIT Press, Cambridge, Mass.
- Fafchamps, Marcel, 2011. Development, social norms, and assignment to task. *Proceedings of the National Academy of Sciences (PNAS)* 108 (Suppl. 4), 21308–21315 December.
- Fafchamps, Marcel, Minten, Bart, 2001. Property rights in a flea market economy. *Economic Development and Cultural Change* 49 (2), 229–268.
- Fafchamps, Marcel, Quisumbing, Agnes R., 1999. Human capital, productivity, and labor allocation in rural Pakistan. *Journal of Human Resources* 34 (2), 369–406 Spring.
- Fafchamps, Marcel, Quisumbing, Agnes R., 2002. Control and ownership of assets within rural Ethiopian households. *Journal of Development Studies* 38 (2), 47–82.
- Fafchamps, Marcel, Quisumbing, Agnes R., 2003. Social roles, human capital, and the intrahousehold division of labor: evidence from Pakistan. *Oxford Economic Papers* 55 (1), 36–80.
- Fafchamps, Marcel, Quisumbing, Agnes R., 2005a. Marriage, bequest, and assortative matching in rural Ethiopia. *Economic Development and Cultural Change* 53 (2), 347–380.
- Fafchamps, Marcel, Quisumbing, Agnes R., 2005b. Assets at marriage in rural Ethiopia. *Journal of Development Economics* 77 (1), 1–25.
- Fafchamps, Marcel, Quisumbing, Agnes R., 2008. Household formation and marriage market. *Handbook of Development Economics*, 4. Elsevier, Amsterdam, pp. 3187–3248. Chapter 51.
- Fafchamps, Marcel, Shilpi, Forhad, 2003. The spatial division of labor in Nepal. *Journal of Development Studies* 39 (6), 23–66.
- Fafchamps, Marcel, Shilpi, Forhad, 2005. Cities and specialization: evidence from South Asia. *The Economic Journal* 115 (503), 477–504.
- Fafchamps, Marcel, Shilpi, Forhad, 2008. Subjective welfare, isolation, and relative consumption. *Journal of Development Economics* 86 (1), 43–60.
- Fafchamps, Marcel, Shilpi, Forhad, 2009a. Isolation and subjective welfare: evidence from South Asia. *Economic Development and Cultural Change* 57 (4), 641–683.
- Fafchamps, Marcel, Shilpi, Forhad, 2009b. Determinants of the choice of migration destination. CEPR Discussion Papers: 7407.
- Fafchamps, Marcel and Forhad Shilpi (2011), "Household Welfare and Female Education", Department of Economics, Oxford University, mimeograph.
- Fafchamps, Marcel, Wahba, Jackline, 2006. Child labor, urban proximity, and household composition. *Journal of Development Economics* 79 (2), 374–397.
- Fafchamps, Marcel, Kebede, Bereket, Quisumbing, Agnes R., 2009. Intrahousehold welfare in rural Ethiopia. *Oxford Bulletin of Economics and Statistics* 71 (4), 567–599 August.
- Fafchamps, Marcel and Simon Quinn, Africa Competitiveness in Light, Simple Manufactured Goods: Results from the Quantitative Firm Survey, May 2011. Report submitted to the World Bank.
- Hirschman, Albert O., 1958. *The Strategy of Economic Development*. Yale University Press, New Haven.
- Jackson, Matthew O., Tomas Rodriguez-Barraquer, and Xu Tan (2010), "Social Capital and Social Quilts: Network Patterns of Favor Exchange", Stanford University (mimeograph).
- Jacobs, Jane, 1969. *The Economy of Cities*. Random House, New York.

- Jacobs, Jane, 1984. *Cities and the Wealth of Nations*. Random House, New York.
- Kingdon, Geeta, Knight, John, 2004. Unemployment in South Africa: the nature of the beast. *World Development* 32 (3), 391–408.
- Legros, Patrick, Newman, Andrew F., 2007. Beauty is a beast, frog is a prince: assortative matching with nontransferabilities. *Econometrica* 75 (4), 1073–1102 July.
- Ligon, Ethan, Thomas, Jonathan P., Worrall, Tim, 2001. Informal insurance arrangements in village economies. *Review of Economic Studies* 69 (1), 209–244 January.
- Lundberg, Shelly, Pollak, Robert A., 1993. Separate spheres bargaining and the marriage market. *Journal of Political Economy* 101 (6), 988–1010.
- McElroy, Marjorie B., Horney, Mary Jean, 1981. Nash-bargained household decisions: toward a generalization of the theory of demand. *International Economic Review* 22 (2), 333–349 June.
- McKenzie, David, Gibson, John, Stillman, Steven, 2006. How important is selection? Experimental vs. non-experimental measures of the income gains from migration. IZA Discussion Papers 2087. Institute for the Study of Labor.
- Mobius, Markus M., Paul Niehaus and Tanya S. Rosenblat (2005), "Social Learning and Consumer Demand", Harvard University, mimeograph. December.
- Myrdal, Gunnar, 1957. *Economic Theory and Under-Developed Regions*. Gerald Duckworth and Co. Ltd., London.
- North, Douglas C., 1973. *The Rise of the Western World*. Cambridge U.P., Cambridge.
- Otsuka, Keijiro, Quisumbing, Agnes R., 2001. Land rights and natural resource management in the transition to individual ownership: case studies from Ghana and Indonesia. In: de Janvry, Alain, Gordillo, Gustavo, Platteau, Jean-Philippe, Sadoulet, Elisabeth (Eds.), *Access to Land, Rural Poverty, and Public Action*. Oxford University Press, Oxford.
- Parente, Stephen L., Prescott, Edward C., 1994. Barriers to technology adoption and development. *Journal of Political Economy*, University of Chicago Press 102 (2), 298–321 April.
- Platteau, Jean-Philippe, 2000. Allocating and enforcing property rights in land: informal versus formal mechanisms in Subsaharan Africa. *Nordic Journal of Political Economy* 26 (1), 55–81.
- Sahlins, Marshall, 1972. *Stone Age Economics*. Aldine-Atherton, Inc., Chicago.
- Scott, James C., 1976. *The Moral Economy of Peasant: Rebellion and Subsistence in South-East Asia*. Yale University Press, New Haven.
- Serneels, P., 2007. The nature of unemployment among young men in urban Ethiopia. *Review of Development Economics* 11 (1), 170–183.
- Shapiro, Carl, Stiglitz, Joseph E., 1984. Equilibrium unemployment as a worker discipline device. *The American Economic Review* 74 (3), 433–444 June.