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Tales of Migration without Wage Differentials: Individual, Family, and Community Contexts

by Oded Stark*

Abstract

By means of examples that pertain to individual, family, and community contexts, it is shown that migration between locations is compatible with a zero expected net earnings differential between locations. The examples give rise to testable predictions that differ sharply from the predictions that emanate from a standard postulate of earnings differential.

This article elaborates on the idea that migration between locations is compatible with a zero expected differential in net earnings between locations. It presents examples that yield such a relationship in different contexts. By giving rise to testable predictions that differ sharply from the predictions that emanate from a standard postulate of earnings differential, the examples point to a limitation of conventional policies aimed at affecting migration flows, and imply new policy instruments.

1. The individual context

It is difficult to conceptualize a context in which the migration of individuals can meaningfully be studied independently of family or

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community attributes. Still, imagine a setting in which an individual receives no migration-related support of any type from anyone, nor does he share with anyone the returns that arise from his migration. The interaction then is of the individual - market type. Let there be two markets: the village of origin, and the (possible) destination city. Almost every scholar who has written on migration has noted that the migration tale is fairly straightforward: anticipate the individual to migrate if his expected earnings in the city net of his expected earnings in the village and net of the direct costs of migration are strictly positive. What have we overlooked by endlessly replicating this paradigm? We highlight two omissions: first, we have not studied the role of culture and tradition or, to put it succinctly, the role of taste; and second, we have not paid enough attention to return migration.

1.1. Taste

Taste plays an important part in determining behavior. Heterogeneity in taste is a major reason for variations in behavior across individuals. Stating that an individual behaves in a particular manner because the individual's taste favors that manner may plausibly sound tautological. But distinguishing the role of taste from the role of other variables that impinge on a concrete behavior, inquiring into the acquisition of taste, and tracking the way in which the transmission of taste gives rise to conduct that would not have arisen absent the transmission, are anything but tautological.

Think about migration as a taste-propelled behavior. In a way, the study of migration is all about taste and not at all about taste. For example, when an individual responds to a wage differential by migrating, the individual can be said to exhibit a taste for a high wage. But it can also be the case that the individual who responds to a high wage by migrating is the one who possesses an underlying taste for migration; the wage differential merely unearths and facilitates the taste-prompted behavior.

Consider an overlapping-generations economy. An individual lives for two periods: childhood and adulthood. Preferences are acquired in childhood through the imitation of adults. By the time adulthood is reached, migration preferences are fully formed. Adults can either have

tastes that favor migration or tastes that resent migration. The initial distribution of adults between those who are inclined to migrate and those who disfavor migration is historically given. At the beginning of each period, *N* individuals are born. Each child has one parent and each parent has one child. Individuals acquire their tastes and preferences only during their childhood, and work only during adulthood. Individuals die at the end of the second period of their lives. If migration takes place, it occurs at the beginning of the adult period. The "technology" of preference formation is the imitation of adults within the economy. For the moment, the technology is not characterized further, except for pointing out that it is exclusive – preferences are acquired only through imitation, and precise: if the adult whom the child imitates favors migration, the child will also favor migration; if there are no adults who favor migration, no child will favor migration upon becoming an adult. The assumption that children imitate only adults who are present in the economy draws on the idea that visibility is a critical input into the imitation process. Adults who migrated and who are not visible to the taste-forming children cannot be imitated; invisible adults do not serve as role models.

Suppose, first, that nearly all the adults have preferences that favor migration, yet none leaves; there is an exogenous shock that determines whether all, some, or none of those favoring migration can actually become migrants. The initial realization of the shock precludes migration. In this case nearly all the young acquire migration-favoring preferences and, should the exogenous environment subsequently allow free migration, there will be migration by approximately *N* individuals. Thereafter, there will be no more migration because the next young generation will have only those adults who do not favor migration to imitate. Hence, the migration sequence is 0, *N*, 0, 0, … . Alternatively, suppose that all the adults who favor migration can and do leave. None of the young will acquire migration-favoring tastes and all migration will cease after the initial, approximately N-strong, migration. In this case, the migration sequence is *N*, 0, 0, 0, ... The result we derive is that given the process of transmission and the formation of preferences, the inability of the first cohort to act upon its migration preferences does not affect the overall magnitude of migration, only its intertemporal structure.

Suppose, alternatively, that a large proportion, π, of the adults are favorably inclined to migrate, but that only a fraction, p, find it possible to do so. Left in the economy are $(1-p)\pi N$ adults with migration tastes and $(1-\pi)N$ who do not favor migration. If the imitation technology is also such that tastes are replicated exactly proportionately, the new cohort of adults will have $\frac{(1-p)\pi N}{(1-p)\pi N+(1-\pi)N} N$ migration-favoring individuals. If all those who are favorably inclined to migrate can now migrate, migration will rise in time (this follows from π being sufficiently large) and the pattern of migration will become $p\pi N$, $\frac{(1-p)\pi}{(1-p)\pi+(1-\pi)} N,0,0,\ldots$. The economy generates more migrants under this scenario than if all those who could have migrated at the outset were to do so; $p\pi N + \frac{(1-p)\pi}{(1-p)\pi+(1-\pi)} N > \pi N$. What appears to propel migration is the evolution of a migration-favoring taste. Indeed, and quite interestingly, when π is large (close to 1), a larger number of migrants is generated upon and along with taste transmission than if all the adults were to favor migration and to migrate at the outset.

The same outcome can hold if there is an exogenous capacity constraint such that the per period number of adults who can be let out as migrants is a constant $\overline{M}$, where $\overline{M}$ is smaller than the initial number of adults with a taste for migration, that is, $\pi N > \overline{M}$. In such a case, the periodic numbers of the remaining adults favoring migration are

$$(\pi N - \overline{M}) = a_1, (\frac{\pi N - \overline{M}}{N - \overline{M}} N - \overline{M}) = a_2, (\frac{a_2}{N - \overline{M}} N - \overline{M}) = a_3, \ldots .$$

Since π<1, these numbers decline, and after a finite number of periods it must be the case that all those with a migration-favoring taste are able to leave; the constraint does not bind and migration ceases. If the number of periods that elapse until and including the period during which the constraint ceases to bind is greater than $\left[\frac{N}{\overline{M}}\right]$, the imitation process leads to

more migration than that which would have taken place had there been no constraint to begin with, and had all members of the population been of the migration-favoring type.

The idea that at least to some extent migration behavior is the outcome of a taste for migration contrasts with the usual approach that attributes migration to economic variables such as wage differentials. The pattern of migration as an outcome of taste depends on two key factors: imitation technology and migration feasibility. These factors jointly determine the outcome of a taste for migration. Deriving results pertaining to migration patterns and behavior requires the researcher to make ad hoc assumptions with regard to the technology of imitation and the feasibility of migration, and the results obtained are sensitive to these assumptions. We have shown how the prevalence and transmission of a migration-forming taste yield distinct patterns of migration. In particular, the imitation of a migration-favoring taste yields migration that would not have taken place absent the imitation.

We have argued that taste is transmitted through imitation but we have not explained where the taste originated. Plausibly, a taste for migration was formed during human evolution when a change of location conferred survival edge and reproductive fitness upon populations who faced dwindling food supplies in given locales. Populations differ in the extent to which their survival and wellbeing are attributable to their migration experience. Consider populations that over the millenia engaged in nomadic practices, or in shifting cultivation, or in exchange, commerce, and military pursuits closely associated with extensive movement across space. Conceivably, when the long run migration experience of a population had contributed significantly to its survival and wellbeing, the population could have developed a widespread and deeply rooted proclivity for migration. Today, as the link between shifting location, survival, and the maximization of offspring is no longer significant, the grip of the taste on a population may be tenuous, and it should not be all that surprising for the taste to dissipate. Yet it is also plausible that at a given point in time, different populations are on different rungs of the evolutionary ladder. Thus, in the case of populations that are at earlier stages of their evolutionary path, the taste for migration may still be hard-wired and the preference for migration is likely to be transmitted genetically rather than culturally. In those populations in which the link between a taste for migration and the chances

of survival has been severed, transmission is wholly cultural; the presence of the taste in adults will be replicated by the presence of the taste in children if the adults are present but not if the adults are absent.

The idea that the taste for migration is transmitted intergenerationally suggests interesting dynamics not only over time but also across economies. Suppose that individuals who are motivated by a taste for migration move into economy *E* that is devoid of such a taste. If, as assumed before, preferences are acquired in childhood through the imitation of adults, children in *E* will exhibit a taste for migration and, assuming that migration is feasible, will migrate. If, alternatively, the taste for migration is acquired by imitating parents and the migrants marry locals, children of the mixed couples could exhibit a taste for migration and, assuming that migration is feasible, will migrate. Thus, migration into *E* will be followed by migration from *E* not because the migrants push out the locals from their jobs but because the migrants confer upon the locals a taste that they did not have. However, the taste for migration could attenuate upon migration. The stronger the attenuation, the less likely the population in *E* will acquire a taste for migration.

1.2. Return

Quite often the duration of labor migration is shorter than the duration of the individual's working life. If individuals choose where to offer their labor freely, though not necessarily costlessly, in a world consisting of two locations, this statement implies return migration. Why do migrants return? Let us outline a model of return migration which is not associated with a reversal of the inter-location wage differential.

Return migration may occur because of the higher purchasing power of savings (generated from work at the city) at the village than at the city.

Consider the following "naive model" in which an individual lives for two periods in a two-location world. In the first period the individual works but does not consume; in the second period the individual consumes but does not work. Utility is derived solely from consumption which, in turn, is of a single (composite) consumption good. There are no migration costs and there is no uncertainty. Wage earnings can be moved costlessly across locations. If wages in the city *F* are higher than in the home village *H*, while the price of the consumption good is lower

in *H* than in *F*, the village *H* individual will migrate to *F* (for work) in the first period and return-migrate to *H* (for consumption) in the second period. The optimal duration of migration is shorter than the duration of life, and the returns to migration are realised when the individual returns to *H*. Put differently, optimization (attainment of maximal utility) mandates return migration.

A less naive yet very simple model can be constructed by invoking the following assumptions:

1. Consumption per time-period is fixed at a constant baseline consumption level, that is, the income elasticity of consumption is equal to zero, and consumption at the home village and consumption at the city are equal.
2. The wage in the home village is zero. The wage in the city, W_F, is positive and is higher than consumption in the city, C_F.
3. The life expectancy of individuals is fixed at *T*.
4. The duration of staying in the city, denoted by $t_F \leq T$, is continuous.
5. Purchasing power at the home village is *E* times higher than at the city. This implies that savings are *E* times higher in value when transferred to the home village.
6. At the end of his or her life the individual leaves zero net wealth; there are no bequests in the model.
7. All else equal, a given level of consumption at the home village is (marginally) more enjoyable than the same level of consumption at the city.

It follows that consumption at the home village must be equal to *E* times savings generated from work at the city, that is

$$(T - t_F)C_F = (W_F - C_F)t_F E \ . \tag{1}$$

From equation (1), the duration of staying abroad can be expressed as:

$$t_F = \frac{T}{1 + E\left(\frac{W_F}{C_F} - 1\right)} \ . \tag{2}$$

Equation (2) yields two results:

$$\frac{\partial t_F}{\partial E} = -\frac{T\left(\frac{W_F}{C_F} - 1\right)}{\left[1 + E\left(\frac{W_F}{C_F} - 1\right)\right]^2} < 0 \ , \tag{3}$$

and

$$\frac{\partial t_F}{\partial W_F} = -\frac{T\left(\frac{E}{C_F}\right)}{\left[1 + E\left(\frac{W_F}{C_F} - 1\right)\right]^2} < 0 \ . \tag{4}$$

Thus, an increase in purchasing power at home (equation (3)) and a rise in income at the city (equation (4)) *shorten* the duration of migration. Conventional migration models could have led us to expect that a higher wage at destination increases the destination's relative attraction, presumably prolonging a stay there. Equation (4) predicts the converse.

An interesting implication of the simple model is the possibility that a migrant may return home even though wages there are zero. But if some portion of the wage earned in the city cannot be saved and transferred home, return migration will not take place.

2. The family context

Consider a second possibility in which the individual is affiliated with a family and refer to the simple case in which the affiliation takes the form of marriage. Recognition of this affiliation opens up a rich domain of inquiry. In line with the taste and return examples, in this example marriage prompts the individual to migrate from his home village to the city in spite of a zero city-to-village wage differential.

Suppose that a two-member family residing in a village faces two states of nature: good and bad. In a good year each of the two members produces 150 units, in a bad year 50. Half the years are good and half are bad, and whether a year is good or bad is completely random. The probability that a year is good, or bad, is $\frac{1}{2}$. There are no capital markets, and output is perishable. In half the years (the good years) the family's total income (consumption) is 300, in the other half (the bad years) it is 100. Think of consumption of 100 per member being an adequate consumption level, of 50 being very inadequate. Aversion to risk implies that having 200 in each and every year is preferable, but the family cannot possibly achieve the inter-year zero income variance sequence. Suppose next that an employment opportunity opens up in the city that provides an income of 150 in a good year and 50 in a bad year; and suppose that a bad year in the village coincides with a good year in the city, and *vice versa*. The family decides that one member, say the husband, will migrate to the city, and that, regardless of which state of nature prevails, the two spouses will fully pool together and equally share their incomes. The family's income variance is thereby completely eliminated. The family's pooled income will always be 200, ensuring a per-member consumption of 100 each and every year. (Had both members migrated, nothing would have changed. The only way of securing the favorable zero income variance outcome is to have one of the members migrate while the other stays put.) It is worth noting that migration takes place even though the wage differential that the migrant faces is $\frac{1}{2}\cdot 150+\frac{1}{2}\cdot 50-(\frac{1}{2}\cdot 50+\frac{1}{2}\cdot 150)=0$.

Formally, if we assume an increasing and strictly concave utility function in consumption, $U(C)$, and $U(0)=0$, it must be that for each family member, $U[E(C)]>EU(C):\ U(100)>\frac{1}{2}U(50)+\frac{1}{2}U(150)$. Even if the inter-location transfers involve a utility cost, *k*, as long as *k* is small enough such that $U(100)-k>\frac{1}{2}U(50)+\frac{1}{2}U(150)$, the familial migration strategy will be beneficial to both individuals.

The diversification cum risk-lowering example suggests and illustrates why marriage facilitates rather than hinders migration: when market institutions in general and capital and insurance institutions in particular are not too well developed, a spouse may assume an important role in conferring financial support and insurance benefits. The typical view taken in the migration literature is that being married, as compared to being single, renders it harder to migrate. The reason is as follows: suppose that both spouses work and that upon migration the expected net earnings of the husband rise by $\Delta W_m > 0$, while the expected net earnings of the wife decline by $\Delta W_f < 0$. All else held equal, if unmarried the individual (male), whose $\Delta W_m > 0$, will migrate, the individual (female), whose $\Delta W_f < 0$, will not. Yet if married *and* $\Delta W_m \leq \left|\Delta W_f\right|$, no migration will take place. The perception here is that a married couple must either stay behind together or leave together, which of course is too strong a restriction. The diversification example suggests, however, that if $\Delta W_m = \left|\Delta W_f\right|$, the married couple will engage in migration: if, with probabilities $(\frac{1}{2}, \frac{1}{2})$, the husband's earnings in the city were, say, (60, 160) rather than (50, 150), and the wife's earnings in the village were (140, 40) rather than (150, 50), that is, $\Delta W_m = 10$ and $\Delta W_f = -10$, the risk reduction benefit is conferred and migration aimed at reaping this benefit is pursued.

2.1. Interaction with return

The diversification cum risk-lowering example connects nicely with the example of return migration. We have argued that a member of a family may migrate in order to diversify the familial income-earnings portfolio. If income away from home and income at home do not covary fully, and there is a post-migration pooling and sharing of income, the family's risk is lowered. Just as bearing one risk makes individuals less willing to bear another risk, *not* bearing that one risk makes individuals more willing to bear another risk. This allows for experimentation at

home with a relatively high-risk, high-return option, say, introducing a high-yield seed variety. When such an experiment is successful, the need for migration-provided insurance lessens and possibly ceases. Interestingly, the reason for return migration is not that the migrant was able to accumulate capital with an expected high return at home, but rather that migration facilitated a high-return investment at home by others.

3. The community context

Suppose that an individual in a village compares his earnings not only with the earnings awaiting him in the city but also with the earnings of others in the village. Given the set of village individuals with whom he compares his earnings, an unfavourable comparison could induce migration without changing the set of individuals with whom these comparisons are made. Or it could induce migration as a means of severing ties with the offensive set. Let us expand on this latter possibility. Once again we will consider migration that takes place in spite of there being no gain in earnings. Holding earnings constant (as if the individual is born with an income) enables us to study migration that is purely due to what we will refer to as relative deprivation. Let the individual's earnings be y. $RD(y)$, the individual's relative deprivation, is given by $RD(y) = \int_{y}^{\infty} [1 - F(x)]dx$ where $F(x)$ is the cumulative distribution of earnings in y's reference group. Using some algebra it can be shown that $RD(y) = [1 - F(y)] \cdot E(x - y \mid x > y)$: the relative deprivation of an individual whose earnings are y is equal to the proportion of those in y's reference group who are richer than y times their mean excess earnings.

Let there be two locations: village A and another location, B. Suppose that an individual's relative deprivation arises only from comparisons with other individuals in his location; nothing else matters. We abstract from the intrinsic value of x. However, this is of no consequence whatsoever since x is retained (the individual's earnings are held constant) across locations. We are thus able to study migration behavior that is purely due to relative deprivation. The individual prefers to be in the location where his relative deprivation is lower. The individual does not

care about the locations themselves. When equally relatively deprived (a tie), the individual does not migrate. The individual cannot take into account the fact that other individuals behave in a similar fashion. However, the individual's payoff, or utility, depends on the actions of all the individuals regardless of whether their incomes are higher or lower. (In particular, the departure of a low-income individual raises the relative deprivation of higher-income individuals. This occurs because the weight these individuals attach to the difference between the incomes of individuals richer than themselves and their own income must rise.) A key feature of this situation is that tomorrow's migration behavior of every individual is his best reply to today's migratory actions of other individuals. What will the migration path and the associated behavior look like? Will there be a steady-state distribution of individuals across the two locations?

Suppose there are n individuals and that individual i receives earnings i. Thus the configuration of earnings is $(1, \ldots, n-1, n)$. Suppose that initially all the individuals $1, \ldots, n-1, n$ are in village A. Location B opens up. (For example, migration restrictions are eliminated, or B comes into existence.) We measure time discretely. If migration were in response to absolute earnings, no individual would have migrated. This follows from the assumption that for every individual, earnings at B are the same as they are at A. However, if migration is in response to relative deprivation all but one will migrate: a steady state allocation of individuals will obtain after just one period such that the individual with earnings n will remain in A while the rest of the population will move to and stay at B. To see how this result comes about, note that it is trivial that in period 1 the individual with earnings n stays in region A while the rest of the population migrates to B. Now consider the action of the individual with earnings i, where $i = 1, \ldots, n-1$. If the individual remains in B, the individual's relative deprivation will be $[(n-i)(n-1-i)]/2(n-1)$; if the individual returns to A, the individual's relative deprivation will be $(n-i)/2$. Note that since $\frac{(n-i)(n-1-i)}{2(n-1)} < \frac{n-i}{2}$ for $i = 1, \ldots, n-1$, the result as claimed (of n in A and of $n-1, \ldots, 1$ in B) obtains.

Note that the steady state is independent of whether individuals migrate simultaneously (as assumed) or in the order of their relative dep-

rivation (with the most relatively deprived migrating first, the second most relatively deprived migrating second, and so on). In the latter case the steady state is reached after $n-1$ periods rather than in just one period.

Each of the two groups that form in the steady state is smaller than the original single group. It might therefore be suspected that migration is caused partly or wholly by an aversion to crowding. It is easy to see, however, that this is not so. When 1,000 individuals, each with earnings *y*, are in *A* there is crowding but no migration; when ten individuals, five with earnings $y>1$ each and five with earnings $y-1$ each are in *A* there is little crowding but much migration.

4. Predictions

These examples show that in spite of the absence of an expected net earnings differential, migration occurs in an individual context (a taste for migration, return migration), in a familial context (diversification of earnings), and in a communal context (aversion to relative deprivation). The examples give rise to concrete and testable predictions: a society with a culture of migration will likely produce more migration than a society without such a culture; a higher purchasing power of earnings at home derived from work away from home, will shorten the duration of migration; marriage will be conducive to rather than hindering migration; a community with low but uniform incomes will produce less migration than a community with somewhat higher yet heterogeneous incomes.

I leave it to the reader to fill in the corresponding policy repercussions.

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