Chapter 10
Worker Mobility: Migration, Immigration, and Turnover

Summary

Chapter 9 introduced the human capital investment framework and applied it to a wide variety of issues related to education and training. In this chapter the framework is used as a starting point for a more complete analysis of worker mobility, an issue closely intertwined with just about every major topic encountered so far in the text.

The ability of the labor market to bring about Pareto efficient outcomes (Chapter 1) and quickly resolve labor shortages and surpluses (Chapter 2) depends on there being a reasonable degree of labor mobility. Conclusions regarding the applicability of the monopsony model (Chapter 3), the effects of the minimum wage law (Chapters 3 and 4), and the effects of technological change and international trade (Chapter 4) also depend on the degree of worker mobility. The amount of firm-specific training offered to workers (Chapter 5) depends in part on the willingness of workers not to leave the firm. In turn, the amount of firm-specific training a worker receives will affect the likelihood of the worker quitting.

Assumptions regarding worker mobility also played a central role in the discussions pertaining to compensating differentials and the hedonic wage models presented in Chapter 8 and Appendix 9B. While the issue of worker mobility did not directly influence the conclusions drawn in Chapters 6, 7, or 9, the issue of mobility is closely connected to the labor supply discussions undertaken in those chapters. After all, the issue of where labor is supplied is a natural extension of the issues concerning the quantity and quality of labor supplied taken up in those chapters.

Worker mobility occurs when an individual makes a decision to voluntarily change either jobs and/or geographic locations. Such decisions are costly, but are made in the hopes of receiving greater benefits in the future. In that sense, these decisions are every bit as much investments in human capital as are the education and training decisions discussed in Chapter 9. Such investments will add to an individual’s wealth provided the present value of the benefits exceeds the present value of the costs.

In the case of mobility decisions, the costs of the investment include direct expenses for moving if a change of residence is involved, and psychic losses due to the difficulty, stress, and anxiety of leaving friends, family, and familiar surroundings. The benefits of the investment include higher future earnings, access to more interesting, challenging, or pleasant jobs, and the psychic benefits that come from leaving problems behind and starting over in a new environment.

Letting \( r \) be the rate at which the yearly net benefits of mobility (\( B \)) are discounted, and assuming the direct costs of mobility (\( C \)) all occur in the initial year (year 0), the present value method suggests that employer and/or geographic changes should be undertaken provided

\[
\frac{B_1}{1+r} + \frac{B_2}{(1+r)^2} + \cdots + \frac{B_T}{(1+r)^T} \geq C.
\]
The subscripts refer to different years along an interval 1 to $T$ with 1 being the first year after the initial year and $T$ the last. Each value of $B$ represents, for a particular year, the difference between the total compensation associated with the new position and the total compensation associated with the old position (where total compensation refers to both pecuniary and nonpecuniary compensation). It is also possible to evaluate mobility investments using the internal rate of return method discussed in Chapter 9. The annuity formula, also presented in Chapter 9, can be helpful in calculating the present value of the benefit stream when the yearly benefits are constant.

The present value method predicts that mobility investments are more likely (holding all else constant) the lower the values of $r$ and $C$, and the higher the values of $B$ and $T$. Evidence on geographic mobility within the United States has been consistent with the human capital investment framework since most studies have indicated that people are attracted to areas where the real earnings of full-time workers are highest (and are “pulled” toward higher earnings rather than “pushed” out of low-earnings areas). Areas with higher real earnings translate into higher levels of $B$ for prospective migrants. Most moves also involve a relatively short distance, a finding consistent with prediction that higher levels of $C$ discourage migration. But workers who live in the lowest-earning areas, who might be expected to have the greatest incentives to move, tend to also be the least willing or able to move, often because they have lower levels of wealth, education, and skills.

Evidence on the personal characteristics of migrants also supports the model, with the most important predictor of migration being age. The tendency for migrants to be young is consistent with the model, since higher values of $T$ increase the present value of the stream of benefits. Also, since younger people are less likely to have strong community ties, the costs of migration for them should be lower.

Another important factor in the migration decision, particularly migration involving long distances, is the level of education. Occupations involving higher levels of education are more likely to have national, rather than localized, labor markets. In national labor markets information about employment opportunities is much easier to obtain. Therefore, this finding is also consistent with the prediction that lower levels of $C$ make migration more likely.

In addition to the above predictions, the human capital model also suggests that when analyzing international migration, the distribution of earnings in the sending country, relative to that in the receiving country, will play an important role. In countries where the distribution of earnings is more equal than in the United States, skilled workers will gain the most by migrating since human capital investments have little payoff in their home countries. Immigrants from these countries are likely to be more skilled than the average worker remaining in that country. In countries with a less equal distribution of earnings, immigrants may be unable to make human capital investments in their own countries, and thus migration becomes a form of human capital investment. Immigrants from such countries will tend to be largely unskilled.

What is the rate of return on domestic migration? Studies of migration within the United States have generally confirmed that there is a substantial increase in family income that comes with migration, although the increase may take time. Workers who migrate for economic reasons tend to earn more, but some workers migrate for family reasons. The increase in family income may also occur despite a decrease in one of the spouse’s income if the migration decision was based primarily on earnings prospects of the other spouse. Evidence of such gains, however, does not guarantee that migration will be beneficial. The fact that 20% of all moves occur to areas where people had previously lived suggests that comparisons of benefits and costs are often overly optimistic. Such return migration serves as an important reminder that mobility decisions are made based on individual expectations of benefits and costs formed in environments of uncertainty and incomplete information.
What is the rate of return on international migration decisions? Because it is often very difficult to assemble data on what migrants would have earned in the sending country, most studies have focused on how immigrant earnings compare to the earnings of U.S. natives. Such studies typically show that the age-earnings profiles of immigrants are initially lower, but then rise more steeply than those of comparable native-born workers. That is, earnings of immigrants are typically lower than natives initially, even controlling for age and education. However, earnings rise quickly (even faster than native workers) as immigrants learn English and invest in human capital. This is less true where immigrants live in “enclaves” in which business is conducted in their native tongue (or when immigrants expect to return to their native land) and thus there is less investment in learning English. Additionally, over time, each cohort of immigrants has tended to do less well upon entry than previous immigrants.

How much faster international immigrant earnings rise is a difficult question to answer since inferences drawn from cross-section data can be misleading if changes occur in the skills, work habits, and learning abilities of immigrants over time. Even with the faster earnings growth, however, the present value of lifetime earnings for immigrants is typically less than that of native-born workers. Still, the differences are relatively modest, so that given the low living standards many immigrants leave behind, the migration decision seems to have a large payoff for most immigrants. It is, however, a risky choice, and about 20% of all immigrants (presumably those who receive lower-than-expected payoffs) return to their place of origin.

While the human capital model suggests that mobility decisions can be analyzed and explained within the context of a very analytical and dispassionate framework, one mobility issue guaranteed to stir up passions is immigration policy. What fears do people have about immigration? Are these fears well founded? What are the consequences of immigration? These are the kinds of questions taken up in the latter part of Chapter 10.

Immigration into the United States was largely unrestricted until the 1920s when the first laws limiting the number of immigrants were passed. Since 1965, there has been an annual ceiling on the total number of immigrants and on the number that can come from any one country. Preference is given to those with family already residing in the United States, and to those who have particular skills that may be valuable in filling labor shortages. Immigrants who are spouses, children, or parents of U.S. citizens are exempt from the ceilings. Many who are shut out by this system, however, find ways to enter illegally. To discourage the flow of illegal immigrants, in 1986 Congress made it illegal for firms to hire illegal immigrants, and set up a system of fines for those that do. Due to proximity and differences in standards of living, illegal immigration from Mexico to the United States is particularly large. Although Mexican workers are, on average, less educated than American workers, most recent illegal immigrants are more likely to be from the middle of Mexico’s educational distribution, as the costs of attempting to cross the border are likely to be prohibitive for the least-educated workers.

Restrictions on immigration often arise out of the fear that immigrants will harm the labor market prospects of American citizens and cost the government more than the economic benefits that they may generate. Careful analysis of the issue, however, reveals that while some workers may be hurt initially, the overall gains to society are likely to outweigh the losses.

**Example**

Consider a labor market where the demand curve for unskilled workers is given by the equation

\[ L_D = 18 - W. \]

Suppose that the supply curve of unskilled workers who are also native-born citizens is given by

\[ L_N = W - 2, \]

while the supply curve of unskilled immigrants (including unskilled illegal immigrants) is given by

\[ L_I = 2W - 4, \]
where \( L \) represents the number of workers, \( W \) is the wage expressed in real terms, and the subscripts \( D \), \( N \), and \( I \) are used to distinguish between the quantity of unskilled labor demanded and the quantity of unskilled labor supplied by native-born and immigrant workers. These curves appear as lines \( D \), \( S_N \), and \( S_I \) in Figure 10-1. (The focus on unskilled labor in this problem is not meant to imply that all immigrant labor is unskilled.)

![Figure 10-1](image)

If immigration were totally prohibited, the market-clearing wage and employment level would occur where

\[
L_D = L_N \\
\Rightarrow 18 - W = W - 2 \\
\Rightarrow W = 10 \Rightarrow L^* = 8.
\]

The market-clearing wage \( (W^*) \) and employment level \( (L^*) \) associated with the native supply curve are indicated by point \( b \) in Figure 10-1. The total income flowing to native workers is 80 and can be represented by the area of rectangle \( dbj0 \).

Allowing immigrants to enter this labor market would create a **total supply curve** given by the equation

\[
L_T = L_N + L_I \\
\Rightarrow L_T = W - 2 + 2W - 4 \\
\Rightarrow L_T = 3W - 6,
\]

where the subscript \( T \) stands for the total quantity of workers supplied. This curve appears as line \( S_T \) in Figure 10-1. Given the two groups of workers, the market-clearing wage occurs where

\[
L_D = L_T \\
\Rightarrow 18 - W = 3W - 6 \\
\Rightarrow W^* = 6 \Rightarrow L^* = 12.
\]

These values are denoted by point \( c \).

Note that at the new market-clearing wage of 6, the total employment of native-born workers will be

\[
L_N = 6 - 2 = 4,
\]

(indicated by point \( f \)) while the employment of immigrants will be

\[
L_I = 2(6) - 4 = 8,
\]
(indicated by point \( g \) or the difference between points \( c \) and \( f \)). Immigration leads to lower wages and employment levels for unskilled native workers, with the total income flowing to this group decreasing from 80 to 24 (the area of rectangle \( efi0 \)). Note, however, that the decrease in native employment does not consist of the 8 jobs now held by immigrants; rather, the decrease is only 4. Immigration does not reduce jobs for native-born workers on a one-to-one basis (unless there was a binding minimum wage set above point \( b \) in Figure 10-1).

If the above example is a reasonable depiction of the consequences of immigration for a particular category of labor, where do the gains from immigration come from? Would it not be better for native workers to restrict immigration? The reason the native population can gain from immigration is that \textit{total output} also increases as a result of the immigration.

When labor demand is presented as a function of the real wage, the demand curve represents the horizontal summation of the individual firm’s marginal product of labor curves, and so the area under the demand curve yields the total output associated with any particular employment level. In the above example, immigration increases output from 112 (the area of trapezoid \( abj0 \)) to 144 (the area of trapezoid \( ack0 \)). This increase in output makes sense because the United States now has more labor resources.

How is the distribution of output (real income) changed because of immigration? Before immigration, 80 of the 112 units flowed to native workers as real income, while the remaining 32 units accrued to the owners of the firms (area of triangle \( abd \)). This area, if one ignores the fixed costs of capital, equals the total profits of the firms. After immigration, 72 of the 144 units flow to workers (area of trapezoid \( eck0 \)) with 24 flowing to native workers and 48 flowing to immigrants (area of rectangle \( egj0 \) or rectangle \( fcki \)). After immigration, the remaining 72 of the 144 units flow to the owners of the firms.

While the distribution of output has been altered substantially, note that the increase in output is large enough to create a window of opportunity to keep native workers as well off as before without hurting anyone else. For example, since the supply curve represents the minimum workers are willing to accept for supplying an additional unit of labor, immigrants should be willing to give up the area represented by the difference between the wage they receive and their supply curve. This area, represented by triangle \( egh \), was defined as \textit{economic rent} in Chapter 2. It has an area of 16. If this amount, along with the 40 in increased profits of the firms (recall that the area accruing to the firms went from 32 to 72) were transferred to native workers, it would give native workers the same income they had before immigration (24 + 16 + 40 = 80). Firms would also have the same profits as before, and immigrants would gain the balance, just enough to make their migration investment worthwhile. When a potential exists for some workers to gain and no one else is hurt, the original situation \textit{cannot} be considered to be Pareto efficient (see Chapter 1), and so the change to the new equilibrium may make sense from a normative perspective.

The above analysis also ignores potential shifts in the demand for products (and ultimately in the demand for labor) that the new income of immigrants is sure to bring about. Such shifts would bring about increases in the employment and wages of any workers who were \textit{gross complements} with unskilled labor. The lower wages received by unskilled workers would also help to put downward pressure on the prices paid by consumers.

One important complication in the above analysis, of course, is the extent to which the transfers needed to keep native workers from being hurt actually take place, and whether these transfer programs also subsidize immigrants. There is little debate over the question of whether low-income native workers receive income transfers, since programs such as food stamps, welfare, unemployment insurance, public housing, and job retraining are fairly accessible and automatic. The key question remains the extent to which immigrants also receive \textit{net subsidies} (subsidies greater than the amount they contribute in taxes) through these programs. Attempts to deny such subsidies to immigrants, particularly illegal immigrants, make sense in the context of this model, although such exclusions raise certain ethical dilemmas that cannot be resolved through economic analysis. Additionally, empirical analysis of the wage effects on natives have led to unclear results, although they do suggest that effects on native wages have been small.
Another type of employee mobility, turnover or separations, can take place without geographic mobility, but evidence related to voluntary turnover (quits) also supports the predictions of the human capital investment framework. The evidence clearly shows that workers in low-wage industries have higher quit rates than those in high-wage industries. This is consistent with the prediction of the human capital model since, holding all else constant, the lower the wage paid by the current employer, the greater the benefit associated with changing jobs.

Quit rates also tend to decline as firm size increases. Larger firms tend to pay higher wages and may offer more opportunities for transfers and promotions. It may also be more beneficial for large firms to attempt to reduce quit rates because they may have mechanized production processes that rely on team efforts, and thus quits may be more costly.

Other support for the human capital model comes from the observation that quit rates vary inversely over time with the unemployment rate and the layoff rate. This suggests that workers are more likely to quit when employment opportunities are better, suggesting that the decision to change jobs is directly related to the expected benefits.

Costs of job changing may also vary internationally. American workers tend to be more mobile than workers in Japan and Europe. This may be due to difference in housing policies that make costs of moving higher in those areas or to cultural differences.

Finally, is job mobility socially desirable? It may promote economic efficiency by leading to better job matches. In Chapter 8, it was shown that the possibility of job mobility was necessary to create compensating wage differentials.

## Review Questions

Choose the letter that represents the **BEST** response.

### The Determinants of Worker Mobility

1. Voluntary mobility is predicted when
   a. the monetary benefits of mobility exceed the monetary costs.
   b. a new job is available that pays more than the old one.
   c. the present value of the benefits from mobility is at least as large as the present value of the costs.
   d. all of the above.

2. Suppose that a baseball player eligible for free agent status signs a contract with a new team that promises to pay him $100,000 more than his current team for each of the next three years. Assuming the discount rate is 6%, what is the maximum the current costs of moving could be and still have this investment be worthwhile?
   a. $251,886
   b. $267,301
   c. $283,019
   d. $283,339