

**Foundations for Sustainable Local
Economic Development Planning**

Dislocated Workers

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Local Economic Development Planning for Dislocated Workers

The Problem of Worker Dislocation

In 2005, General Motors announced a massive restructuring plan to save the failing car company (Atlanta Business Chronicle, 2005). The plan involved the closure of the Doraville facility near Atlanta, Georgia. For the 3,100 autoworkers to be displaced, this was quite a shock. But, while there was an immediate shock to these autoworkers, the economic impacts to the region's economy occurred over a longer timeframe. The initial disinvestment left the community with a derelict facility and 3,100 under-utilized workers; 3,100 workers who could no longer afford the same level of groceries, entertainment and housing that they once did. And this reduction in spending spread throughout the local economy, affecting many beyond those who were displaced.

The obvious economic disinvestment in the community should be an alarm to local officials. Unfortunately, there is evidence that local officials also go through the same type of immediate shock, which results in a governmental policy of inaction (Mayer & Greenberg, 2001). Officials feel hopeful that another firm will come along to rescue them and their ailing locality. Inaction is ineffective because there are underlying forces within economic dislocation that seek to erode the very foundation of the local economy and the social structure on which it is built. The erosive force begins with the individual. Displacement causes lower lifetime earnings for the workers and their children, it causes an increased demand for local social services, and it causes increased rates of foreclosures which reduce the locality's tax base. However, this should not cause dismay among local officials responsible for solving our current dislocation dilemma, that which has erupted as a result of the recent economic crisis and subsequent recession. If there is one universal message to which the literature points, it is the benefit of a proactive response.

Problem Statement

Worker Dislocation is a persistent negative force that erodes the local economy over a long period of time. The initial disinvestment of the firm certainly has negative psychological and monetary impacts. However, dislocation also causes a decrease in workers' lifetime earnings; increases incidents of domestic violence, depression and other psychological responses to stress;

and can cause an increase in the foreclosure rate which depresses property values within the locality. Together these forces put the locality in a challenging situation, with rising demand for public services and falling municipal revenue to provide those services.

Table 1. Effects of Dislocation

Level of Impact	Effects of Dislocation
Individual Worker	<ul style="list-style-type: none"> • Income loss <ul style="list-style-type: none"> ○ Short-term during unemployment ○ Longer-term in new, lower-paying jobs ○ Intergenerational effects on earnings • Mental well-being <ul style="list-style-type: none"> ○ Depression ○ Domestic violence ○ Stress • Negative health effects
Community	<ul style="list-style-type: none"> • Housing market impacts <ul style="list-style-type: none"> ○ Increased foreclosures ○ Decrease in property values (also affects tax base) • Increased demand for social services • Decline in tax base • Decline in overall economic conditions

Displacement and Earnings

Of course abstract psychological symptoms manifested because of lost wages are only a small part of the impact on dislocated workers. There is significant evidence demonstrating that economic displacement causes earnings loss among those workers who are displaced (Armstrong, Bailey, Ruyter, Mahdon, & Thomas, 2008; Beneria & Santiago, 2001; L. Jacobson, 1987; L. S. Jacobson, LaLonde, & Sullivan, 1993). Initial earnings loss caused by plant closure is a typical occurrence as the displaced will most likely be unemployed for, at minimum, a few months. However, the fiscal impact of dislocation occurs over the life of the worker in the form of reduced annual earnings potential. Worker displacement can cause annual salaries to decrease by \$8,147 to \$16,244¹ over the first three years of displacement (Armstrong, et al., 2008; Beneria & Santiago, 2001). Even after six years, Jacobson, LaLonde and Sullivan find that displaced workers earn \$1,600 dollars less per year than employees who were not displaced (L. S.

¹ The figure is uses a conversion of 1 pound to 1.60 dollars.

Jacobson, et al., 1993). The earnings loss is generally associated with the loss of tenure and the lack of necessary skills to participate in other sectors of the economy (L. S. Jacobson, 1993). This holds especially true for workers with high tenure in the manufacturing sector, as they tend to be trained in a single, repetitive skill which is firm specific. After they are displaced, their skill set may no longer be valued in the economy, and thus their labor is undervalued. Moreover, America's structural economic change gives cause to the displaced to seek employment outside of their original sector. Thus, skills earned over a lifetime of work are erased.

One key difference between the study of dislocation during the 1980s and today's dislocation crisis is that the earnings loss is now distributed across a larger geographical area (Chapain & Murie, 2008). Chapain and Murie's study of the MG plant closure in the United Kingdom demonstrates that the effects of a single plant closure now have more regional implications. The study points to increased availability of long-distance commuting options and the change in the UK's housing market as the culprits. The decline of the one industry town following plant closure has evolved to the decline of the one industry region.

Finally, there is a growing literature which demonstrates that the earnings loss experienced by displaced workers transcends their generation. Children whose parents were displaced have a 9% lower yearly salary when compared to children whose parents were not displaced (Oreopoulos, Page, & Stevens, 2008). This trend is associated with the finding that 40.5% of displaced workers reduce or eliminate their spending on their child's education, while 67.9% reduce their spending on children's other expenses (Perrucci, Perrucci, Targ, & Targ, p. 79). A recent Norwegian study, however, found evidence that disputes intergenerational earnings loss (Bratberg, Nilsen, & Vaage, 2008). The Norwegian system offers significant subsidized education at all levels which likely replaces the family's inability to invest. Improved access to education may ameliorate the effects of intergenerational earnings loss.

Housing Market Implications of Displacement

One need only look as far as Detroit to observe the consequences of displacement on a locality's housing market. Once a paragon of industrialized America, Detroit has undergone depopulation and large foreclosure rates due to the decline of America's automotive industry. By January 2007, the foreclosure rate in Wayne County, in which Detroit resides, was seven times the national average. This amounted to one out of every 124 households falling for foreclosure, in total Wayne County saw 6,653 new foreclosures (Aguilar, 2007). Needless to say, these

foreclosures have a devastating impact on taxable property within a given locality. Indeed, Immergluck and Smith's study of the external costs of foreclosures demonstrated that 3,750 foreclosures in Chicago during the one year period between 1997 and 1998 caused a decrease in municipal property value anywhere from \$598 million to \$1.39 billion (2006). Foreclosures further exacerbate depressed housing prices because home prices in neighborhoods where foreclosures are likely to occur are already depressed (Schuetz, Been, & Ellen, 2008). These forces amalgamate to create an environment in which Detroit's 2009 median home price was only \$10,000 dollars for a non-foreclosed property and \$5,500 for foreclosed² (NPR, April 18, 2009).

The foreclosed property is not only an eyesore, it is also a haven for crime. A foreclosed property is associated with a six percent increase in violent crime (Immergluck & Smith, 2006). This mixed with the displaced workers' greater tendency towards aggressive behavior requires the locality to provide increased police services in order to adequately protect the community.

Evidence of Increased Need for Social Services

Dislocation causes an immediate increase in psychological stress. Mallinckrodt and Bennett (1992) found that stress caused by job loss increased rates of depression, "global" anxiety, low self-esteem, and beliefs that the workers are not in control of their lives (1992). Their study of dislocated timber workers in the Pacific Northwest found that nearly half (48%) suffered from severe depression. While Mallinckrodt and Bennett discuss the psychological impacts for low-skilled workers, other research suggests the psychological impacts transcend occupation, skill level and employment sector (Leana & Feldman, 1992). However, the Mallinckrodt and Bennett study does report that the dislocated timber workers worried more about their finances than unemployed professionals. Psychological impacts of displacement may have important ramifications for job training programs that are aimed at alleviating or retraining the displaced workers.

Individuals' psychological wellbeing can have significant influence on the social fabric of a community. Family cohesion can be put under significant strain because the spouse also experiences the same type of psychological stress due to displacement (Leana & Feldman, 1992).

² These home prices are indeed shocking. NPR obtained the figures through an interview with a Detroit real estate agent. The NPR figures were not exactly verified; however, a Chicago Tribune article states that the median price of a home in Detroit was \$7,500 in December 2008 (Jones, January 29, 2009).

Further, displacement increases the likelihood of increased hostility within the family structure, in some cases leading to child abuse (Leana & Feldman, 1992). A study by Catalano, Novaco and McConnell demonstrates that the displaced are more prone to commit acts of violence, “an increase of 100 layoffs was associated with an increase of 2.36 commitments of men for danger to others and of 1.05 women” (2002, p. 243).

Local Government Implications

The decrease in earnings potential from worker displacement is a tangible result that can negatively impact the locality’s economy and budget. Displaced workers suffer an initial earnings shock that immediately alters their spending habits. Displaced workers lower their spending on clothing, food, entertainment and home maintenance (Perrucci, et al., 1988). Even after reemployment, displaced workers are unable to contribute to economic activity at the same level they did prior to displacement due to reduced spending power. The decreased economic activity opens the potential for more job loss in the supplier and service industries that once supported the firm and its workers. Essentially, the economic base multiplier, a measure of the number of local (non-basic) jobs created by one job in the basic, or export-oriented, portion of the economy, acts as a double-edged sword. When displacement occurs, the multiplier effect works in reverse. As one of those basic jobs is lost, so are the related non-basic jobs, thereby shrinking the local economy.

The sluggish economic activity is not limited to decrease demand for consumer goods and services. It also has negative impacts on the housing market. As was noted above, the annual earnings loss associated with dislocation can be substantial enough to put workers in a position in which they can no longer afford their home. As workers leave the area due affordability or lack of jobs, the houses left behind add to the plight of the community. Foreclosures can directly cost a locality anywhere from \$27,000 to \$30,000 (Immergluck & Smith, 2006; Schuetz, et al., 2008). Finally, there is also a direct impact on the tax revenue from a plant’s closure. Ford’s closure of their Southwold facility in Ontario is projected to cause a three million dollar decline in the township’s tax revenue (Owram, November 3, 2009). Both the direct and indirect effects of dislocation provide a challenging environment for local government officials.

Establishing a Typology of Dislocation

In considering the issue of worker dislocation, it is important to consider the characteristics of the people, places, and industries affected. The following is an attempt to formulate a typology of dislocation based on these characteristics. We look at individual and employment characteristics of dislocated workers, the regulatory regime, industrial mix, and institutional infrastructure of the jurisdictions affected, and the characteristics of the industries from which workers are being displaced.

Table 2. A Typology of Dislocation

Demographic Profile	Jurisdictional Profile	Industry Profile
Individual Characteristics	Regulatory Regime	Stable or Expanding
Employment Characteristics	Industrial Mix	Declining
(see detail in Table 3.)	Institutional Infrastructure	Geographically Shifting

Demographic Profile

Individual characteristics

We begin by examining the characteristics of those affected by dislocation, both individual and employment-related. Individual characteristics include age and job tenure, gender, race and ethnicity, nativity, education, and location. Employment-related characteristics are income, industrial experience, and occupation and skills. In addition to the academic literature, two recent reports from the Bureau of Labor Statistics on based on the biennial Displaced Worker Survey, part of the Current Population Survey (CPS), were very useful in ascertaining the characteristics of dislocated workers (Bureau of Labor Statistics, 2004, 2008).

Age and Job Tenure

The biggest issue in the dislocated worker literature related to age as it relates to dislocated workers is the effects on older workers. Workers over 54, when dislocated, tend to stay unemployed longer, and are more likely to leave the labor force (retire) than their younger counterparts (Coile & Levine, 2009; Munnell, Sass, Soto, & Zhivan, 2006; O’Leary & Eberts, 2007; Schweke, 2004).

Tenure is closely associated with age in the literature, but Munnell, et al., found that “controlling for tenure, the probability of displacement increases with age,” (2006, p. 2) suggesting that tenure has more moderating effects on dislocation than age by itself.

Table 3. Breakdown of Demographic Profile

Individual Characteristics	Employment Characteristics
Age & Job Tenure	Income
Gender	Industrial Experience
Race, Ethnicity & Nativity	Occupation & Skills
Education	
Regional & Metropolitan Location	

Gender

Like older workers, women tend to be unemployed longer than men, and are more likely to leave the labor force after a layoff. Men, however, are more likely to be laid off (Koeber & Wright, 2006; Schweke, 2004; S. Smith & Price, 1992).

Race, Ethnicity and Nativity

Racial minorities and recent immigrants are most vulnerable to dislocations, but the gap is narrowing somewhat (Kletzer, 2008; Schweke, 2004). Hispanics have shown progress, but the housing crisis may have affected them disproportionately.³

Education

Educated workers are less likely to be dislocated, and are more quickly re-employed (Farber, 2005). However at least one study found that “college education is no longer a source of significant protection in the world of displacement, and its importance has declined sharply for reemployment.” (Munnell, et al., 2006, p. 11) Rates of dislocation in recent surveys are similar across educational levels (Bureau of Labor Statistics, 2008).

³ The last BLS Displaced Worker Survey was done in January 2008, and covered displacements that took place in the three years prior to the survey. This means that we have not seen the impact of the events 2008 and 2009 on the construction industry, which has high concentrations of Hispanic workers. It is not known now, nor is it likely to be for some years to come, whether this is a cyclical or one-time event, but one would expect to see an increased level of displaced Hispanics in the building trades when the next survey is taken in January 2010.

Regional and Metropolitan Location

Rural and small town residents are more at risk, because they have fewer employment alternatives (Hamrick, 1999; Hossfeld, Charleston, & Schulman, 2008).

The Northeast and Midwest regions were hurt worse than South or West, but the regions are evening out over time. Twenty-five percent of all workers displaced between 2005-2007 were in Illinois, Indiana, Michigan, Ohio, or Wisconsin. But as Schweke put it, “no longer is displacement a ‘rustbelt/frostbelt’ phenomenon.” All regions and parts of the metropolitan areas are increasingly affected (2004).

Employment Characteristics

Income

Not surprisingly, low-income workers are both more at risk of dislocation, and require more effort to reenter the workforce (Ganzglass & Strawn, 2009). Education was a major factor in earnings loss, with bigger losses for those with less education (Munnell, et al., 2006).

Industrial Experience

According to the BLS report for 2007-2008, almost a quarter of long-tenured displaced workers were in the manufacturing sector. This has consistently been the largest sector for dislocations over the last two decades, but the gap has been narrowing between manufacturing and other industrial sectors (Gardner, 1995; Schweke, 2004).

Occupation and Skills

Occupations are usually highly correlated with industrial sectors, but there are exceptions. For example, some moderately skilled manufacturing work can be fairly easily transferable to another manufacturing industry, but this is less true when moving away from the manufacturing sectors to services or other types of skilled labor. Since the early 1980s, the gap in displacement rates between blue-collar and white-collar workers has decreased (Bureau of Labor Statistics, 2004). Poletaev and Robinson found that occupation was less important than specific skills, and that these skills did impact both reemployment and wage loss after reemployment (2008).

Jurisdictional Profile

Regulatory Regime

In attracting and retaining business, having a “good business climate” is helpful. This means having a simple regulatory framework, and guidance for businesses when they need it (Blakely

& Leigh, 2009). Going forward, policies such as Community Benefits Agreements (CBAs) can be used to prevent future dislocations, or at least to make them easier on the community (Good Jobs First, 2009).

Industrial Mix

The most successful communities have a healthy mix of industries and a deep labor market in those industries. By focusing on industry cluster development, skills can be more easily transferred if there is a dislocation in once company or industry (R. V. Smith, 2003).

Institutional Infrastructure

Health, welfare, and educational institutions are important to both reacting to dislocation and to recovering from it. Community colleges are an important part of that institutional framework, and can play an important part in workforce redevelopment (Katsinas, 1994).

Industry Profile

The BLS reports that there is a consistently disproportionate share of displacement in manufacturing (Bureau of Labor Statistics, 2008), the difference is not as great as it was in the prior few decades (Bureau of Labor Statistics, 2004, 2008; Schweke, 2004). Different strategies should be employed depending on whether the dislocation is in a stable or expanding industry, a declining industry, or one which is experiencing a geographic shift due to globalization.

Strategies

During the past 50 years, methods of combating the negative implications of worker dislocation have remained almost entirely stagnant. Ever since the passage of the first three important workforce development bills by Congress—the Area Redevelopment Act of 1961, the Manpower Development and Training Act of 1962, and the Trade Adjustment Assistance Act of 1962—there has been little change in how policymakers address the problems associated with dislocation. Typically, these strategies include “various forms of schooling, classroom vocational training, and subsidized on-the-job training”—all aimed at smoothing the bump in the road that is the dramatic loss of earnings experienced by dislocated workers, both immediately and in the long run (LaLonde, 2007). Fighting wage-losses with education and worker retraining has been proven to be the most effective way to help dislocated workers; however, such workforce

redevelopment programs are not appropriate for all segments of the dislocated worker population.

Potential Income Loss and Wage Insurance Programs

To understand why education and job-training services are sometimes an ineffective way to combat the repercussions of some dislocated workers, it is first important to understand the fundamental differences between dislocated workers and other job losers. The immediate and sudden earnings losses suffered by dislocated workers represent only a small portion of the total income that they lose. Dislocated workers lose far more in the form of potential income as a result of the decreased earnings that they are often forced to take upon reentry in the workforce (LS Jacobson, LaLonde, & Sullivan, 2005). The longer tenured dislocated workers often suffer the worst fates in terms of diminished earning potentials once displaced—because their prolonged experience in their previous industries provided them with years of accrued benefits and scheduled raises, while their advanced ages may make them difficult to retrain (LS Jacobson, et al., 2005). Displaced workers that spent between 4-10 consecutive years with their previous employers face roughly a six percent decline in wages upon finding a new job; whereas those displaced workers with 11-20 and 20 or more consecutive years with a previous employer face roughly seventeen and thirty-two percent declines, respectively (LaLonde, 2007).

The U.S. Department of Labor has taken a keen interest in the fates of long-tenured displaced workers, as it recognizes their place as an important part of the workforce. As a result of this interest, the Department of Labor has tracked trends involved with long-tenured worker dislocation for over twenty years. For its purposes, the Department classifies “long-tenured workers” as those with three or more years of experience—roughly a third of all displaced workers (LaLonde, 2007). The Department’s detailed displaced worker data shows that the percentage of long-tenured workers who faced wage declines greater than twenty percent upon finding new sources of employment, has never dropped below twenty-four percent (LaLonde, 2007). This decrease in wages represents a devastating decline in economic potential for a sizable portion of the economy—and calls for wage insurance policies.

Wage insurance programs aid long-tenured displaced workers who suffer dramatic decreases in earnings upon finding new employment. A majority of such program proposals call for providing such displaced workers a percentage of the difference between their previous wages and those they have now, usually around fifty percent (LaLonde, 2007). There are also typically

caps on payments and time limits (e.g., \$10,000 a year for two years). The payment cap insures that the program's main target is low and middle-income workers whose wages will eventually rise again after a certain period of time—no longer necessitating the program's funds (LaLonde, 2007). Policies such as wage insurance are needed to “cover the gap”, so to speak, between those portions of the dislocated worker population that are typically too old or too long-tenured to retrain and/or re-specialize—a proportion equivalent to around one-third of the total.

The Importance of Flexible Workforce Development

The need for wage insurance programs in addition to education and worker-retraining programs does not invalidate the latter. On the contrary, education and retraining opportunities are long-proven methods of ameliorating the negative effects of worker dislocation. The trick is to get such programs right—both in terms of availability and embracing of new technological opportunities and resources. Such a combination of equality and technology calls for new era “flexible workforce development”. Programs that can be described as “flexible” allow for increased participation by taking into account the inherent availability barriers that come with being unemployed/underemployed in the first place (lack of child care, transportation inequalities, etc.) (Gatta & McCabe, 2005).

In order to be flexible, a program itself must first be well-organized—typically through organizational overhaul or stream-lining techniques. Historically, this was often a real problem for those organizations or departments that administered workforce development programs; while typically 80-90 percent of all workforce development funding comes from the federal government, it was not always funneled into single bodies at the state or local levels, but rather to numerous different organizations or programs that lacked quality communication with one another (Gatta & McCabe, 2005). The Workforce Investment Act of 1998 took a positive step in remedying that situation by calling for the creation of “one-stop” service centers that would combine many federally funded workforce related programs. Many state and local governments continue to reintegrate their workforce development programs into the “one-stop” system, as it has proven a most effective way of delivering development programs. The flexibility that comes along with organizational streamlining allows for concentrated funding which allows for more innovative programs that include advances in technology—such as online learning.

Online learning represents a tremendous opportunity for increased participation in workforce development programs by displaced workers. Many displaced workers—and unemployed

workers in general—face both spatial and time constraints. Such constraints come in many forms, but some of the most common are lack of adequate child-care, transportation inaccessibility, and odd hours working part-time jobs (Gatta & McCabe, 2005). These constraints often make it difficult for dislocated workers to be able to consistently make time in their weeks for set class schedules. Online training/learning programs allow constrained workers to obtain and retain the same information they would in a classroom environment, but while also providing them with the freedom to be able to do it on their time. Online learning offers education, which has traditionally been the most effective means for dislocated workers to effectively reenter the workforce, while removing the financial pressure of handling family obligations in an effective and healthy manner.

When combined, wage insurance policies and flexible workforce development programs can help to cushion both the dramatic fall in wages many displaced workers experience, as well as shorten the amount of time displaced workers remain out of employment. Displaced workers represent a significantly large enough portion of the population to draw attention to their plight—as well as to the echoing effects their prolonged unemployment or diminished wages upon employment reentry have upon the economy as a whole. However, wage insurance and flexible workforce development programs help to mediate the economic impacts of dislocated workers, allowing for the existence of a more stable local, regional, and even national economy.

Resiliency Planning for the Local Economy

In the United States, a spate of plant closings in the 1970s and 1980s led to federal intervention. The 1988 Worker Adjustment and Retraining Notification Act (WARN) was implemented to guarantee 60 days of notification of plant closures and layoffs to companies with 100 or more employees (U.S. Dept. of Labor, 2009). The underlying concept of this law is to give individual workers and their families time to adjust to new places of employment, so that a plant closure will not cause as much financial damage to the surrounding communities. Key clauses in the Act denote that plant closures for temporary working facilities can be closed at a moment's notice so long as prior warning was given in contracts signed by temporary employees (U.S. Dept. of Labor, 2009). Although the ethos of the WARN Act symbolizes the need for a grace period between an announcement of a plant closure and the actual layoff, the Act has come under heavy scrutiny due to lack of enforcement and numerous loopholes.

“In crafting the WARN Act, Congress did not assign enforcement of the law to any government agency, forcing workers to sue former employers that do not provide the required notice”, highlights Drew and Eder from the Pittsburgh Post-Gazette (Drew & Eder, 2007). Much of the speculation arose when over 1.75 million workers lost jobs through mass layoffs in 2001, many of which were subject to prior WARN notification but whom did not receive notification. Insight from the U.S. Government Accountability Office strongly encourages that the both Congress and the Executive branch to clarify and educate employers respectively on the responsibilities defined in the WARN Act (U.S. Government Accountability Office, 2003). This Act has serious implications in terms of worker displacement. Prior warning of displacement makes a community more resilient to change, and the enforcement of such notification systems thereof gives individuals, families, and their respective neighborhoods time to react to potential job loss.

A key strategy to mitigate workforce displacement is to have a workforce that is increasingly adaptive. By increasing the mobility of a workforce, individual workers augment preexisting abilities with their skills that are transferable to different industries. Research suggests that most dislocated workers have a single skill set that is valuable only to a specific industry. Strategies directed towards increasing the ability of workers to adapt to economic changes increases the resiliency of the workers. Resilience is defined as, “The amount of change a system can undergo (its capacity to absorb disturbance) and remain within the same regime—essentially retaining the same function, structure, and feedbacks” (Walker & Salt, 2006). As a unit of an economic system, an individual’s increase in skill sets will make the entire workforce in a locality more capable to rebound amidst economic hardship.

C.S. Holling, an early scholar in the field of resiliency, conceptualized resiliency as having three main components: 1) a boundary component, which are the mechanisms that allow for system recovery, 2) a restorative component that denotes the undisturbed areas of a system that can assist other components in system recovery, and 3) a contingency component that denotes “the degree of dependence of a system’s resilient properties on aspects of the environment beyond its immediate influence” (Clark, Holling, & Jones, 1975, pp. 5-6). This model opens up interesting implications for the role of the community in developing an economically resilient workforce. Both businesses and local governments, formal and informal social institutions, can

assist in strengthening vulnerable parts of a workforce. Moreover, a social safety net is formed when these sectors of the community provide their input for a resilient workforce.

An American Planning Association article on post-disaster urbanism in New Orleans indicates that the city's slow ability to rebound from Hurricane Katrina was due in part to lack of disaster mitigation, poor leadership, and a weakened infrastructure. The human element is mentioned as a mechanism for restoration. The social cohesiveness and interconnectedness of various parishes in New Orleans provided the network-to-network assistance necessary to survive after the natural disaster, whereas other communities were not as fortunate (Campanella, 2006, p. 143). Inherently, holes open up which allow the outside viewer to observe the successes and failures of the sources of resilience. The text noted success in Vietnamese-American communities to rebound in New Orleans due to their common ethnic heritage (Campanella, 2006, p. 143). On the flipside, "Many of the hardest-hit communities were also among the poorest, and subject to social problems including a broken public school system, drugs, and gang violence. Those already struggling to survive will find it difficult to bound back from such a devastating blow" (Campanella, 2006, p. 144). Many of the previously mentioned residents of the poorer communities are spatially dispersed across the United States, making a return of the old New Orleans increasingly difficult. Both skilled and unskilled workers moved out of New Orleans after Hurricane Katrina, tearing apart a defined social network that had been built over generations. This natural disaster embodied much of the same characteristics as a plant closure: dispersion of a populace, unexpected consequences, and the immediacy of its impact on the community.

From a post-disaster approach, strong leadership is needed to reinforce a sense of community between institutions and networks in New Orleans. A strengthened physical infrastructure should adapt to the environmental elements the city is prone to, including reinforced levy systems. A school system that actively integrates parents, social entrepreneurship, and the local community creates a social network for adolescents in New Orleans. "Having identified the relevant set of multiple hazards, a resilient community seeks to assess their exposure (magnitude, frequency) and their sensitivity (expected consequences) to them, then to create integrated systems of monitoring, forecasting, and warning and to make these assessments widely and public available [...] (utilizing) public education and information, and continuing long-term planning for recovery and vulnerability reduction" (Colten, Kates, & Laska, p. 3).

A study of the resiliency of New Zealand's workforce was conducted amidst the recent global economic recession (New Zealand Department of Labour, 2009). The study examined workforce vulnerabilities by industry, and focused on skills education as a means to increase human capital. In addition, the New Zealand Department of Labour identified the minimum qualifications for a given industry, age, ethnicity, and specificity of skills as potential risk factors for economic resiliency.

Although a lack of a skilled labor force is noted as a mechanism of vulnerability in an economy, the inverse can prove problematic as well. Much of the literature reviewed discusses that when labor is too highly specialized, the workforce also has built in immobility. Some highly skilled and qualified workers who can move easily in the normal phase of the economic cycle, but when a widespread fall in hiring occurs, even skilled and highly productive workers may find themselves unable to move out of depressed sectors and into new work (New Zealand Department of Labour, 2009). As a procedural policy process, a multi-faceted approach to affect both the economy and individual actors must be taken. Attention must be given to industries that already pose a risk/vulnerability and institute programs that can educate workers in a new application of their current skills. Additional measures can be taken to teach this workforce a new set of skills. An underlying concept of policies that promote adaptability must permeate local societal mechanism, be it legislation, corporate strategies, higher education, and vocational schools.

Learning from the analysis and dislocation in New Orleans and New Zealand strongly suggests strategies for making a workforce more resilient to economic and environmental change should be taken. Individuals, institutions, and infrastructure should be identified and analyzed to determine their vulnerability to economic change. Strategies should be developed that provide "training and assistance [...] to help with job preparation and specific skills training activities with the aim of improving employability" (New Zealand Department of Labour, 2009, p. 36). Vulnerable elements should be targeted and different players in the community (i.e., industry, non-profit, educational institutions, etc.) should be leveraged to provide for and mitigate a workforce system recovery.

Case Studies

Case Study 1: Grameen Danone Foods and social business

Job creation is a vital part of any dislocation strategy. Without access to employment the retrained dislocated workers' situation is only partially improved. A social business is a corporate strategy reduces the costs of doing business while improving public welfare. A social business is defined as a non-loss, non-dividend company (Yunus, 2007). Yunus divides social businesses into two categories: for-profit companies owned solely by the poor and non-loss, non-dividend companies that are dedicated to providing a social benefit. It is important to differentiate a social business from both non-profit and a for-profit companies. Unlike a non-profit company, a social business relies on philanthropic investments (not donations) in which the investor is allowed to recoup their initial investment only after the business has reached financial sustainability. Similar to a for-profit company social businesses seek some financial return to pay for operating costs and expansion; however, the shareholders of the businesses are not entitled to any equity growth⁴. The key bond between all three business models is their ability to create jobs and their positive impact on the local economy.

Social business is a logical extension of Yunus's experience in running the Grameen Bank. The bank is a micro-lending institution that was founded in 1983. The initial funding source of the bank was philanthropic investment. But, in 1995 the Grameen Bank declared that it would only rely on its deposits to fund loans. By 2007, the bank had disbursed 6 billion dollars of small loans to the impoverished people of Bangladesh, 97 %of who are women (Yunus, 2007). These loans provide entrepreneurial borrowers with sufficient financing to create and sustain their own businesses. In October 2009 the repayment rate of these loans was 97.66% (Grameen Bank, 2009).Employment through lending is not the bank's only means of creating jobs. As of October 2008 the bank had 24,240 employees and during the last five years has experienced an 86% growth in employment (Grameen Bank, 2008). Once again, the bank's ability to create jobs extends far beyond its number of employees. By giving access to credit, the bank allows its entrepreneurial borrowers to participate in and contribute to economy activity. The bank empowers its borrowers to create their own jobs. To this extent, the bank has created 7 million jobs.

⁴ Unless the social business is solely owned by the poor, then the shareholders are entitled to dividends from equity growth.

Grameen Danone Foods

In October 2005, Muhammad Yunus had lunch with Frank Riboud, CEO of Group Danone (the French parent company of Dannon Food Groups). During the meeting, Yunus revealed his desire to create a business that would measure its success by the social benefit it created rather, than by profit. By the meeting's end, the group had created an idea for a joint venture between Group Danone and the Grameen Bank. The idea was to create a business that would provide vitamin-fortified yogurt to rural Bangladeshis. Emmanuel Faber, the executive vice president for Asia Pacific operations, visited Yunus in Bangladesh within a few weeks. Faber had a team of experts scour the Bangladeshi countryside doing research and market analysis. The team visited shops and grocery stores to obtain an idea for local taste preferences. After the initial analysis, the team held numerous focus groups using Grameen women as taste-testers for the new potential yogurt. By February 2006, the team had developed a sweet yogurt that appealed to local tastes. A memorandum of understanding was then drafted to officially launch Grameen Danone Foods. "To reduce poverty by a unique proximity business model which brings daily healthy nutrition to the poor" (Yunus, p. 144) is the mission statement of the joint venture.

The development of a local plant design occurred at the same time as the market analysis. The preliminary plan was to ship in the product from one of Danone's massive yogurt factories in Indonesia. However, due to the lack of ubiquitous refrigeration in rural Bangladesh the plan had to be altered. The new plan was to create a small factory in the town of Bogra, which is 140 miles northwest of Bangladesh's national capital. Bogra was chosen for two reasons. The land for the factory had already been assembled by the Small and Cottage Industries Agency of Bangladesh. Also, Bogra's transportation infrastructure was in good condition, which would aid in production and distribution of the yogurt. After the land was purchased for \$200,000 dollars, the company built a 7,500 square-foot plant utilizing solar power and on-site wastewater treatment (Yunus, 2007). Yunus also notes that the plant has a daily production capacity of 6,600 pounds of yogurt. Production is planned to increase to 22,000 pounds by 2010. The joint venture required 1.1 million dollars of investment⁵ (Yunus, 2007). This investment has had a positive impact on the local labor market. The plant employs local residents who run the production facility and local Grameen women who distribute the yogurt. Also, the plant uses locally sourced

⁵It should be noted that the 1.1 million dollars does not include the cost of the market analysis which Group Danone provided voluntarily.

milk from impoverished Bangladeshi farmers to make the yogurt. The plant is estimated to have created 1,600 local jobs in a 30 kilometer radius (The Grameen Creative Lab, 2009).

Conclusions

Our current economic predicament is indeed troubling. Massive labor market upheavals and the droves of worker dislocation requires a viable solution if we are to maintain our standard of living. However, as the global economy recovers there is evidence and some concerns that the recovery will be jobless (Mulligan, 2009). An introduction of the social business model into the United States' economic system may help to alleviate a jobless recovery. Social businesses can create jobs. This ability is largely attributed to the fact that social businesses don't have to provide its shareholders with any financial return. Since social business is almost unrestricted by profit motive it can pursue new markets which would have otherwise been closed to profit maximizing firms. Social business is not a replacement for profit-maximizing firms, but rather a supplement to them.

Policy Recommendations

Nationally, social business will require a change in tax code to make sure that the investors are not responsible for any tax on their investment. Ideally, the social business would resemble the non-profit tax code which allows for the investment to be written off. However, the philanthropic investors are able to recoup their initial investment so the tax write-off may be unfair. Also, there needs to be national regulation and financial reporting standards that resemble the current practices of profit-maximizing businesses. Locally, local governments can re-write zoning codes help spawn micro-industries. Land zoned strictly for industrial use or for micro-industrial use will go a long way to aid the development of social business. Also, local economic developers can undertake market analysis to see if there are any underserved markets which would make sense for a social business. After a through market analysis the economic developed could find synergies between displaced workers and the new market potential. Finally, it will be important to link the social entrepreneur to investment capital. A possible way to establish this link is to create business angel organizations. An angel investor is "an individual meeting certain minimum net worth or income criteria who invests in a startup company in which he or she has no previous involvement" (Bock, p. 296). Typically, the angel investor is seeking a significant financial return because of the risk involved in funding a startup company. But, angel investors

also “have strong preferences for investments that support the local economy” (Bock, p. 300). Social business does much to support the local economy and if the angel investor is looking for the ability to increase the social wealth then it seems likely that the investor would forgo a return on investment.

Case Study 2: The role of community colleges in workforce development and resiliency

One important way to ameliorate the effects of worker dislocation is by means of a capable workforce development infrastructure. Such an infrastructure can include many things, but tends to focus on continuing education and worker retraining. An important aspect of any effective workforce development infrastructure is the community college. Within a given jurisdiction, community colleges tend to serve five basic functions:

to provide general education for transfer to upper division institutions; (b) to provide vocational, occupational, and technical education; (c) to provide developmental/college preparatory education opportunities (central to providing a second chance); (d) to provide community services; and (e) to provide continuing education. (Katsinas, 1994)

In terms of workforce development needs, items a, b, c, and e are of particular import—each plays a role in workforce development programs operated at a community college level. In addition, while community colleges do seek to serve the wider community as a whole, they are critical resources for displaced workers as well (Katsinas, 1994).

The Virginia Community College System

One state that has learned to effectively integrate community colleges into its workforce development infrastructure is Virginia. The Virginia Community College System (VCCS) is one of the leading such institutions in the country, and is a critical workforce development tool. As the VCCS’s 2009 Annual Report states, “the time when a high school diploma was all it took to build an independent life, an enviable workforce and a strong community has passed” (Virginia Community College System, 2009e, p. 6). The VCCS provides Virginia with the necessary tools to transition from the workforce of yesteryear to the dynamic and globally competitive workforce of tomorrow.

Since 2007, when the most current economic debacle first put a stranglehold on U.S. employment growth, enrollment at VCCS institutions has grown significantly. Enrollment

increased by 8,953 between the 2006-07 and 2007-08 school years; in addition, enrollment increased by another 13,149 between the 2007-08 and 2008-09 school years. When compared to the 2,265 average enrollment growth of the three years leading up to the 2006-07 school year, it becomes quite obvious that the economic downturn created a higher demand for workforce development resources provided by community colleges (Virginia Community College System, 2009d). This new wave of displaced workers was greeted by some of the most innovative and capable workforce development techniques currently available.

VCCS workforce development programs

There are several workforce development programs offered within the VCCS. One such program is the Apprenticeship Related Instruction Program. The Apprenticeship program involves a collaborative effort between the VCCS and sponsoring employers. By means of working directly with employers, participants “receive specialized classroom instruction as well as supervised on-the-job training” (Virginia Community College System, 2009b, p. 2). Another workforce development program offered by the VCCS is its Career Readiness Certificate (CRC) program. The CRC is “an assessment-based credential that gives employers and career seekers a uniform measure of key workplace skills” (Virginia Community College System, 2009c). The CRC is given in three levels—Gold, Silver, and Bronze—in the areas of applied mathematics, locating information, and reading for information. What makes this program effective is that it is actually endorsed by many leading business organizations in Virginia, including the Virginia Chamber of Commerce and the Virginia Manufacturers Association (Virginia Community College System, 2009c). An employer who hires someone with a CRC knows that that employee will be reasonably capable of most office tasks. In addition to these specialized programs, the VCCS also offers basic occupational instruction for prospective and incumbent employees who need to develop new skills.

The community college system of Virginia demonstrates the state’s commitment to the challenges of workforce development. The system provides a model for workforce development strategies that effectively incorporate local needs with industry. By successfully courting the regional business needs, the networks of community colleges in Virginia provide a stable career pathway to individuals. Through an effective utilization of credit and noncredit-granting instruction available at these institutions of higher learning, local communities are observing a turnaround on results. “A recent economic impact study conducted by Mangum Consulting

indicated that these noncredit workforce courses contribute to a nearly 9 to 1 ratio of benefit to cost” (Virginia Community College System, 2009a). Such measures as the aforementioned strategies help develop better career environments for future employees.

Case Study 3: Serious Materials Inc., ARRA and green jobs

Serious Materials Inc. may be based on Silicon Valley, but with the help of the American Recovery and Reinvestment Act (ARRA), it is creating green jobs for hundreds of dislocated workers in Chicago and Pennsylvania. This is the story of one innovative private company, 450 dislocated workers in two communities, a non-profit community group, and the federal program that put them all together.

Plant closings in Pennsylvania and Chicago

In October 2008, Kensington Windows in Vandergrift, PA, closed its doors after 30 years, leaving 150 workers displaced. The average tenure at Kensington was 18 years, with almost ten percent of the workers employed for over thirty years ("American Recovery & Reinvestment Act (ARRA)," 2009).

At around the same time to the west, Republic Windows and Doors was preparing to lay off its over 300 workers by the end of 2008, prompting the first sit-down strike since the 1930s. But fortunately for these 450 workers, plans were quickly put in place to get them back to work as soon as possible ("American Recovery & Reinvestment Act (ARRA)," 2009).

Serious Materials Inc. of Sunnyvale, CA, the heart of Silicon Valley, was founded in 2002 with the same energy as the information technology companies which had sprung up the area only a few years earlier. But the company planned applying that state-of-the-art technology not in bits and bytes, but on making products. And not just any products, but products which would save energy, thereby reducing the demand for energy and the carbon emissions associated with its production. The company quickly became a darling of venture capitalists, and was able to expand rapidly over the next several years (Copeland, 2009).

From blue to green

One of the products Serious Materials has developed is a new type of super-insulating window glass. The company just needed factories in which to produce it. In Vandergrift and Chicago, they saw the benefit of utilizing existing facilities and skilled workers while achieving their goal of rapid growth. Within months of the closure of Kensington and Republic, Serious

had upgraded the plants and begun hiring workers back. And while not everyone is back yet, plans are to hire above and beyond those who lost their jobs do to the closures.

An additional benefit was that of local use. By manufacturing in the northern Midwest, Serious could take advantage of a local market for their products. Weatherization programs have been around for a while, but in recent years they have been expanding. One of the biggest reasons for that expansion has been the ARRA, which included several provisions to encourage so-called “green jobs.” Weatherization subsidies were among those provisions, which helped to create a market for Serious’ energy-saving windows (U.S. Dept. of Energy Office of Energy Efficiency and Renewable Energy, 2009).

One of the reasons that Serious has been able to be successful at taking advantage of the existing plant and labor force is that they made a point to establish agreements even before beginning production. By signing with the labor unions, they were able to lock-in a ready-made workforce for their products. And the agreement they made with the Community and Economic Development Association of Cook County, Inc. (CEDA), a non-profit community development association, they were able to contract to provide the products for a federally funded weatherization program administered by the group (Lydersen, 2009).

Policy implications and conclusion

There are several lessons that can be learned from this case. First, the cooperation of all levels of government with both private and non-profit entities is useful and impressive. Second, this project was able to bring high-paid, high-skilled union manufacturing jobs to the areas affected. Third, it was a unique merger of high-tech & traditional products & processes. Fourth, it promotes sustainability through the energy and CO₂ reduction from weatherization. And Finally, it promotes equity by creating jobs and lowering energy costs for low-income and working families. The one big negative is the issue of continued funding, which is questionable because it is based in a short-term program.

It is a bit too early to tell yet whether this program will achieve what it purports to do—create new, green jobs and reduce energy used. But it is clear that both objectives can be combined into a single program, even if it is as simple as providing help for people to weatherize their homes.

Conclusion

Worker displacement has serious and persistent economic implications for local governments and their citizens faced with a large dislocation. Earnings loss, increased foreclosure rates, and a decrease in the community's social cohesion may continue to occur long after the business has shut its doors or reduced its workforce. Those who are affected most by dislocation tend to be those with low incomes, high tenure and low educational attainment. However, America's recent labor market upheavals may indicate that educational attainment alone may not provide adequate protection from a dislocation event.

The importance of a proactive response to a dislocation event cannot be stressed enough. A proactive response would entail the creation of a job training program that links skill training to labor market demand, provides training credentials and trains the worker for jobs with a career path. If the locality lacks a community college system or higher learning infrastructure, then it may behoove the locality to pursue online career training strategies. But, training will not be enough if the labor market within the locality is in significant decline. Job creation will also be important in improving the economic outcome after a dislocation event. A jobs creation strategy focusing on the green economy can effectively use displaced workers' skill sets, and possibly even have a positive impact on the locality's environment. Another jobs strategy focuses on creating jobs through the creation of social businesses. Social business can decrease the cost of doing business, which allows the business to pursue underserved markets. Moreover, local economic developers can provide find linkages between the local labor market and the demand in under-served markets. A creative re-use of already skilled labor can obviate job training or, at least, supplement it.

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