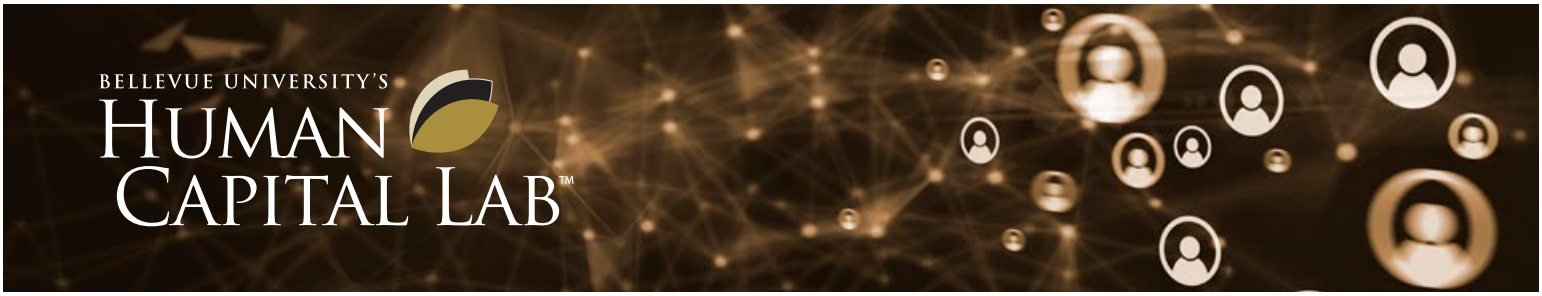

How far is the attempt to achieve a "High Skills" society in the older industrial societies a realistic policy objective?

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Introduction

"Although the current Labour government is committed to developing the UK as a high skills society, there is much confusion as what such a society might look like…." (Lloyd & Payne, 2005, 165). In fact, any demarcation between what constitutes a low-skill vs. high-skill society is inevitably arbitrary (Brown, Green, & Lauder, 2001). Still, if one accepts that there are differences that may be identified, then useful discussion can be had regarding the value and importance of forming a high-skill society and, most relevant to this paper, how reasonable a policy objective it is to attempt to raise an older industrial society from low-skill to high.

"Human Resource Development (HRD) is a process of developing and unleashing expertise for the purpose of improving performance" (Swanson & Holton III, 2009, 1352). Studying HRD from an economic point of view is a valid one. Economic, systems, and psychological theories all contribute to HRD theory (Swanson & Holton III, 2009). HRD, in turn, is the basis for raising a society's skills from low to high. As we will see, however, raising skills is only part of the equation.

To explore the research question, the paper will briefly examine two types of education and training systems, three types of economic systems (described by the control governments exercise over their respective economies), challenges to raising a society from a low-skill level to a high one and, finally, several potential routes to a high-skills society. The paper will conclude that it is possible to raise a society from a low-skill level to high, provided that political, economic, and societal factors are considered, and attention is paid to both skills development and jobs generation. But first, it is important to understand the nature of a high-skill society and the value in achieving one.

High Skill Societies

Prior to World War II, the United States, along with European and other Anglo countries, dominated world trade (Ashton, 2004). This enabled them to export their low- and high-skill products to each other and the developing world. But after the war's end, they lost those markets and the low-cost labor they provided (CLMS, 2003). According to Ashton (2004), countries with significant low skills industries—like the United States and the UK—were more vulnerable to these changes. Others, like Switzerland and Germany, had already switched their focus to high-skills industries, while countries like the "Asian Tigers" (Hong Kong, Singapore, Taiwan, and South Korea) switched their emphasis from low-skill labor to high-skill (Wade, 2003). The "Asian Tigers" were part of the "Asian Miracle," where several small countries migrated from low-skill economies to high-skill ones (Ashton, Green, Sung, & James, 2002, 3). Also, the success of many high-tech industries in the 1980s and 1990s led to the high-skills argument (Ashton, 2004). Thus, it might be helpful at this point to establish a working definition of a high skills economy.

According to Green and Sakamoto (from Ashton, 2004): "A high skills economy is defined as an economy with a wide distribution of workforce skills where these are fully utilized to achieve high productivity across a wide range of sectors, at the same time producing high wage rates and relative income equality. A high level of workforce co-operation supported by civic trust and social capital is seen as an important part of the model" (p. 100). The fact that high skill formation depends on building societal capacity indicates the importance of studying the social foundations on which high skills formation is achieved. The emphasis is on a broader society rather than a narrower economy. These views support Finegold's (1999) contention that political and social structures must reinforce employers' long-term thinking and investing in HRD.

Higher skills are frequently associated with higher wages and greater benefits to society. "The concept of formal education is universally acknowledged as a major resource for maintaining and improving the social, economic, physical, and spiritual health of our world" (Jacobs, 2008, 145). However, workers, even countries, can fall into a "low-skill, bad job" trap when workers are not developed and high-skill jobs are not created (Booth & Snower, 1996).

How societies train their workforce is examined next, using to polar opposite examples—from Germany and the United States—to illustrate this concept.

Two Education and Training Systems

How a society develops its workforce informs the question of how to raise it to a high-skills economy. There are many approaches seen in countries around the world. The International Labour Office (1998) describes three: cooperative, where neither private enterprise nor the state controls education and training (both exercise control), enterprise-based (as in Japan and the United States), and state-driven, as is often found in the "Asian Tiger" countries. Ashton and Green (1996) describe three: in Germany, where apprenticeships are a cooperative effort between private enterprise and the state, the Japanese "schooling" model, where schools provide the vocational education until age 18 (also found in the United States), and a "mixed" approach (found in the UK), where vocational education is obtained informally outside of school. This paper will briefly discuss two: one much more loosely organized and controlled (United States) and one with very high involvement by the various societal stakeholders (Germany).

The "Flexible" System in the United States

A human capital market can be described as "flexible," when workers are freer to move from employer to employer and they (the workers) take much more responsibility for their professional development (Brown et al., 2001). In the United States workers' (or future

workers') make decisions about what to learn and how to prepare for employment, as opposed to the government or employers. In order to pursue higher learning—either vocational or academic—it often falls upon the individual to borrow against future earnings (in the form of student loans) in order to enter into—or advance in—a chosen occupation or profession. On the employment side, because workers sustain the costs of their workplace development, they are not beholden to their employers for future service, making them more able to accept opportunities offered by other employers.

Brown et al. (2001) describe several consequences for such a system. First, tacit knowledge (knowledge that is real and in use, but is not documented and easily transferred) is at risk. Second, the individual is relied upon heavily to acquire new skills, and he or she may or may not undertake the expense and risk associated with this. Third, a labor market where individuals carry the burden of advancing skills is less likely to engender commitment and loyalty from employees. Fourth, the primary mechanism to create skills diffusion is job-hopping; employees are faced with changing employers frequently in order to obtain a wide range of skills to enhance their advancement. Finally, in such a system, a significant proportion of workers will receive little training. If a wide dispersion of training and competencies is indeed valued, this consequence can be debilitating to an economy. Also, this condition can contribute to a "have and have-not" situation, where there is a growing gap between low- and high-skill workers and growing segregation by skill, trapping some workers in a cycle of low-skill employment (Kremer & Maskin, 1996). In the United States, workers are faced with two potential developmental sources: their own efforts and limited opportunities provided by employers. Employers tend to restrict their expenditures for employee development to skills specific to their own organizational requirements—skills that are not necessarily transferrable to other employment situations (Booth

& Snower, 1996). They are reluctant to invest in "general" training that employees might take elsewhere, known as skills "poaching" (Lynch, 1993). In sum, the United States' flexible system is driven by employees and their perceptions regarding their future prospects and whether or not they are willing to borrow against their future (potential) earnings in order to improve their skills—and their future employability (Harhoff & Kane, 1997).

The German "Dual Apprenticeship System"

In Germany, there is available to workers entering the workforce a robust apprenticeship system, where workers leave school and enter a combined system of classroom-based and on-the-job training designed to qualify them as journeyman-level workers in a variety of occupations (Ashton & Green, 1996). Harhoff and Kane (1997) cite three favorable conditions supporting the apprenticeship system in Germany. First, union collusion (with government and employers) and restricted employee mobility, which makes it more likely employers will recover their training investments. Second, the presence of inflexible wages and high firing costs, making it more difficult for employees to leave and employers to compel them to leave. Third, workers seeking to leave their employers face high mobility costs, because training is often firm-specific, making the workers less valuable to other firms, thus resulting in lower wage offers to transferring workers.

In Germany's Dual System, many workers leave secondary school and enter into an apprenticeship with a firm, experiencing classroom- and job-based learning experiences to prepare them to work in that particular company (Deissinger & Hellwig, 2005). This apprenticeship is designed to last for several years. This results in a large proportion of the workforce having intermediate or higher skills, as well as wider income distribution (Deissinger & Hellwig).

The differences between these two systems also point out the range of options regarding "upskilling" an industrial workforce. Does the government take a strong and active hand (as in the German Dual System)? Or does it let market forces—and individual choice—determine the supply of highly skilled labor, as is the case in the United States? Three approaches are described below.

Governmental Control of Economic Systems

How governments control their economic systems is really a matter of degree; all governments exercise some control. It is this control that also informs the reader regarding a governments' approach to controlling its education and training system. Swanson and Holton III (2009) state that the continuum of political control of economic development ranges from Adam Smith (free markets) to Karl Marx (statism).

Neoclassical Economic System

In the neoclassical economic system, government plays largely a "hands-off" role, permitting the markets to adjust as required, and only intervening when markets fail (Wade, 2003). As it applies to the human capital market, wages, available jobs, training obtained, etc., would be driven by the market. That is, employees would undertake training that they perceived valuable in their career growth. Employers, on the other hand, would train employees only to the extent they could consider it a useful return on their investment, resulting in immediate and tangible results in the current workplace.

Statist System

In the "statist" system (Wade, 2003), government controls all aspects of the economic system, including employment and learning and development. Government may take a very controlling approach to who gets trained in what and when.

Governed Markets

Wade (2003) suggests a third way: some governments select segments of the economy upon which to exert greater control. Governments decide where and when education and training would take place in order to create desired results. The markets are free to make these determinations as well. Government is in a position to target training (and employment) efforts in particular segments and/or geographic localities. It picks winners and losers, which will be addressed in the Policy section.

Challenges in "Upskilling" an Industrialized Economy

The notion of moving a society and its economy from low to high skills appears to be valuable, yet there are potential barriers to such an effort. Several of these are discussed below.

Political/Societal

Efforts to move an economy—and, thus, a society—from low- to high-skill involve not only increasing workers' skills; political and societal forces must also align in the effort. In the German Dual system, there is a great deal of support from the government, unions, and employers. Workers are confident they will receive relevant and valuable training (and employment), while employers can be confident investing in their employees' development, knowing they will retain most employees for several years.

In the United States, little of this exists. For example, the Federal Government spends less than 3% of its budget on higher education, more than half of which is spent at the discretion of the individual student, not at the direction of the government or employers (Office of Management and Budget, 2009). Students are free to choose their pathways through tertiary education and training, and face with the risk in selecting an effective method to prepare for future employment. Selecting an ineffective school or preparing for a career/occupation that does

not have robust employment opportunities could result in a waste of years of study and thousands of dollars spent on tuition and related expenses. Employers often provide company-specific training, and many provide assistance with further education. Still, workers are largely left to their own devices when faced with improving their skills and/or staying current in their careers/occupations.

Finally, society in the United States (and its politics) is based largely on market-driven forces, with politicians reluctant to use the power of government to intervene, except where there is "market failure" where the market fails to create the desired conditions (Wade, 2003). An effort to intervene on a large scale in order to raise society from low to high skills would be met with resistance from both politicians and the people who elect them. Business interests are dominant in United States politics; supply and demand are left very much to the marketplace (Brown et al., 2001). "A serious recession in America, triggered possibly by a collapse of share prices on Wall Street, is perhaps the only prospect for a fundamental rethink of how to reunite efficiency and justice in the interests of social cohesion" (Brown et al., 3472). As of this writing, the United States has very recently gone through such a financial crisis, with collapsing stock prices, falling home prices, flat job generation, high unemployment, etc, yet no change in how it prepares its workforce for employment, and no effort to move the workforce into new, highly productive, high-skill industries and sectors. "The message…is that while the high skills route to industrial development is feasible, achieving it requires care in building appropriate institutional conditions and in ensuring that employers demand such skills" (Ashton & Green, 1997, 16). This does not yet exist in the United States.

Creeping Credentialism

Managing their own professional development, workers often use tertiary institutions to obtain diplomas and degrees that employers will recognize, thus improving their job prospects. In turn, employers try to sort through applicants for open positions most of whom, due to the flexibility in the human capital market described earlier, are unknown to the employer. Thus, employers become more reliant on tangible artifacts in a job applicant's portfolio—diplomas and degrees. But when the supply of jobs is static, as is currently the case in the United States and has been over the past decade (Schmid, 2009), more credentials are put up against the same number of job openings. Hapgood (1971) termed this "diplomaism," where employers require higher levels of credentialing to perform the same jobs. "We are well on our way to repealing the American Dream of individual accomplishment and replacing it with a system in which the diploma is the measure of the man" (Hapgood, 1971, from the cover).

Low-Skill Equilibrium

The low-skill equilibrium, also known as the "low skill, bad job trap" (Booth & Snower, 1996), is a condition described by Finegold as "….a self-reinforcing network of societal and state institutions which interact to stifle the demand for improvement in skill levels…[resulting in] the majority of enterprises staffed by poorly trained managers and workers produc[ing] low quality goods and services" (Finegold, 1999, 60). In this trap, employers are geared towards their short-term needs, not willing to invest in long-term training and development because they are unsure of the return on that investment. This equilibrium is supported by political, economic, and social structures (CLMS, 2003, 4-6). This equilibrium becomes a force against the challenge of raising a society from low to high skills.

The United States has a greater gap between low- and high-skill job wages than other countries in the Organisation for Economic Co-operation and Development (Topel, 1997), and

attempts to close this gap by raising skills confront the low-skill equilibrium phenomenon. This gap between low- and high-skill workers is growing, as is segregation by skill and separation between low- and high-skill firms (Kremer & Maskin, 1996). Freeman (1995) cites several surveys and studies that point to the sharp increase in wage inequality in the United States between low- and high-skill workers. Real (adjusted for inflation) wages for low-skill workers declined by 20 percent between 1979 and 1993 (Freeman).

Countries with a continuing vested interest in low-skill capital (like the United States and United Kingdom) may find it difficult to break out of the low skills equilibrium overall (Ashton and Green, 1997). Countries challenged with their very survival—like post-war Germany and Japan—found both the need and the will. Their previous industrial bases were destroyed by war and they did not need to overcome political and societal influences on their economies.

What are required are targeted support and a long-term view (Wilson & Hogarth, 2003). But for the reasons stated above, it is difficult for employers on their own to take a long-term view. According to Lynch (1996):

> "…it is difficult for a single firm in the United States to move from one training equilibrium into another. If a firm provides more general training but there is no accepted national system to recognize and certify general skills, then workers will not be willing to accept lower wages during training. As a result, a country becomes locked into a lower training equilibrium even when individual firms are willing to invest in more general training."

According to Redding, "In a low growth equilibrium, the entrepreneur does not find it profitable to invest in research and development and the sole source of growth is human capital accumulation" (1996, 464). If employers do not invest in employee development and government does not intervene, employees are left to their devices to advance their growth, which may not contribute to eliminating the low-skill equilibrium.

On the employee level, those who already have a solid educational base are the ones who acquire more skills, further contributing to the low/high skills equilibrium (Betcherman, McMullen, & Davidman, 1998). Some are in a "virtuous circle," others in a "vicious circle" (p. 15). This is an example of market failure, where the government should consider stepping in and using its vast resources to remove these barriers to break the equilibrium.

Ashton, Green, et al. (2002) describe the "Asian Miracle" where the small countries migrated from low-skill to high-skill economies. But these were examples of relatively non-industrialized nations going from low-tech to high-tech approaches, which is not the same as moving an industrialized country from low- to high-skill. They were small countries, with economic systems subjected to significant governmental control, and had governments willing to exercise great control on many aspects of society. The challenges in moving a large, industrialized nation with a *laissez-faire* economic system are huge. But there are policy solutions available to do just that.

Supply and Demand

Known as the fundamental concept behind a free market approach to economics, supply and demand must also be accounted for in raising a society's skill level. In this case, "supply" is the creation of higher-skilled workers and "demand" is the desire and ability of firms to employ them using those higher skills. Training alone will not automatically result in higher wages and productivity (Lynch, 1993). In the United Kingdom, for example, the government's training policy ignores that the country's education and training problem is not a lack of training supply, but instead of employer demand (Booth and Snower, 2004).

Can an increase in skills result in increased wages, or will the increased supply of skills drive down wages? This depends on how elastic the supply is—how effective it is for employers

to substitute lower skilled workers in place of higher-skilled ones (Topel, 1997). If jobs for higher-skilled workers are not available, it will tend to suppress their wages and dissuade people from pursing higher skills, further cementing the low-skills equilibrium. Finegold (1993) notes that the emphasis cannot be on raising skills alone; there must also be a demand for them, and if the government persists in a low-skill economic strategy, increasing workers' skills will be wasteful and frustrating.(Finegold). For example, in Japan an increase in government support for education and training did bring about new training programs, but it did not have an impact on employment. Instead, companies were more focused on cost reduction instead of higher-performing workers (Zhu, 2004).

In New Zealand, Crothers asked how much education and training is linked to occupations in the workforce, and to what extent could the supply of education and training be driven by manpower planning. He concluded that it is difficult to determine (Crothers, 2003). Predicting the demand for high-skill labor in the United States is difficult, too, with the Bureau of Labor Statistics routinely under- or over-predicting it (Bishop & Carter, 1990). Rather than relying upon predictions, a government might instead take a pro-active approach to the "demand" (jobs) side of the high-skill equation by intervening in the marketplace and creating high-skill jobs.

It should be noted during the discussion of elevating a society to a high-skill level that there will always be a need for low-skill workers. While some jobs (like manufacturing) can be outsourced to low-skill countries, others (like with services where the customer and provider must be physically present) cannot. Merely shifting from a manufacturing economy to a services-based one is not sufficient to increase the demand for higher-skilled workers (Brown et al.,

2001). The economy might shift from creating goods to delivering services, yet remain trapped in a low-skill equilibrium, trading one low-skill output for another.

Policy Options for a Low-Skill Society Aiming to Become High-Skill

There are several possible policy options available to governments wishing to raise the skills of their societies. While each should be considered in the context of the society's political, economic, and societal structures, there is one tenet underlying them: emphasize not only raising skills, but also creating employment opportunities for these higher skills.

The policy options offered next have different focuses: fostering the human capital market, establishing training systems, providing incentives to employers (and support to individuals), and focusing on smaller segments of the economy.

Human Capital Markets and the Neo-classical Approach

Education and training may be left to the (human capital) markets based upon investments linked to the goal of future payoffs (Ashton, Green, et al, 2002). Employers will invest in their employees' development to the extent they see a potential for a return on that investment. In turn, employees will invest towards—or borrow against future earnings to support—their future development (and earning power). Assuming both employers and employees see the value of such investments—and they have the means to undertake them—the skills society will rise from low to high.

The free market approach is subject to lags and failures. Employers are reluctant to fund education and training if they are worried their employees will leave, taking employers' investments with them. Employees might be reluctant to invest in their own development if they do not perceive how such an investment will improve their future employability and bring higher wages (Ashton, Green, et al, 2002). The authors: "….the decision process is infused with an

assumption of instrumental rationality which to many writers would seem hardly credible" (p. 18).

Human Capital Theory aligns with neoclassical macroeconomic theory in that both are based on the notion that such things are best left to free markets (CLMS, 2003). Still, we are reminded that even with relatively free markets, governments may intervene in times of market failure (Wade, 2003). According to the CLMS, "….even within the confines of human capital theory, there is a case for state intervention to regulate, stimulate, and subsidise, as necessary, vocational education and training" (2003, 4-5). Back to Wade for a moment, what if government decides to intervene *prior* to market failure, intervening to create positive results instead of merely awaiting market failure?

Train People

The governments can develop systems to support the upskilling of employees throughout the economy. For example, they can establish apprenticeship systems along the lines of the German Dual system. But that tack would require employers to commit to training entering employees for years and accept the risks associated with poaching by other firms (Harhoff and Kane, 1997).

Creating a such a program in the United States would require conditions similar to Germany's: collusion between unions, employers and the government; inflexible wages and high firing costs; and high mobility costs for workers who leave (by facing lower wages at the gaining firm stemming from their lack of general, rather than firm-specific, skills) (Harhoff and Kane, 1997). But it could be done, provided the stakeholders could be aligned. For example, the United States Air Force has an extensive apprenticeship system, where new recruits are subjected to technical (classroom-based) training, followed by an apprenticeship consisting of further self-

study, on-the-job-training, and job performance (with pay). But there is only one free stakeholder (the military) and one semi-free stakeholder (the recruit). Thus, it is not difficult to align everyone behind the program.

Another tactic the government might undertake to facilitate the upskilling of its populace is to develop a qualifications framework, where specific job areas would be described, associated competencies would be identified, and training to meet those competencies would be recognized. Qualifications frameworks give employers and workers a common ground on which they can come together to agree to upskill workers. Employers recognize the value of the content (learning) represented by possessing a qualification and workers recognize the value of the qualification in terms of their future employability (Finegold, 1993).

However, this process could exacerbate the low-skill equilibrium by making employees more mobile, thus, making employers reluctant to invest in their training. But individual employees might be more interested in pursuing their development, knowing that their learning would be codified and routinely recognized by other employers. This approach would address the supply side of the upskilling question (by facilitating greater learning), but would do nothing for the demand side (creating job opportunities). It is half a solution. Between the two (German Dual and Qualification System), the Qualification System approach is more compatible with existing institutions and systems in the United States (Deissinger and Hellwig, 2005).

Provide Incentives to Employers and Support to Employees

In the United States, the government is not normally a large-scale provider of training to its citizenry. Rather, its role is more about brokering the stakeholders, fostering collaboration, providing creative financial support, and encouraging more robust systems (Betcherman, McMullen, and Davidman, 1998). In its effort to raise society's skill level, government is in a position to pick winners and losers by providing support to either employers, employees, or both. In doing so, it must pay attention to both the supply side and the demand side. For example, it can provide support to employers by not only directly supporting their employee development efforts, but by also providing incentives for employers to create jobs. For employees, government can provide more financial assistance to assist them in their professional development.

Instead of continuing this trend, governments are retreating from it. "In the Anglo-Saxon countries, the trend has been to reduce reliance on public provision for education and training and increase the responsibility and contributions of individuals and employers" (CLMS, 2003, 2-9). Reversing this trend and extending even further support to employers and employees is predicated on a clear understanding of what is expected of the employer (Harhoff and Kane, 1997. It will also require substantial incentives to the employers to get them to participate (Harhoff and Kane).

There is an argument to be made that such broad-sweeping approaches attempting to lift an entire society might be misplaced, leading to the final policy option discussed next.

High Skill Ecosystems

Considering a nation's entire economy as either low- or high-skill is a blunt instrument. It is more precise to consider sectors of it, especially in large economies like the one in the United

States (Finegold, 1999). The high skill ecosystem approach is focused on raising skill levels in specific sectors. It can also be a way of tackling the low-skill equilibrium at the regional level (Kremer and Makin, 1996) by setting up clusters of industries/firms in high-tech areas (Finegold).

Finegold (1999) describes three elements making up these ecosystems: a basic infrastructure (industries, educational institutions, etc.) must be in place, the work climate must be consistent with attracting high-skill workers, and the government must be willing to support risk-taking by the ecosystem's participants. (Remembering from earlier that employers tend to take a short view regarding investing in employees' higher skills.) The key according to Finegold is that these factors must be interdependent, not just co-located.

California is a good example of creating Finegold's ecosystems. Taken alone, California would be the world's 7th largest economy (Finegold, 1999). It is now the 8th largest (State of California, n.d.). It has a viable and progressive higher education system (Finegold), with two state systems consisting of 10 (University of California, n.d.) and 23 universities (California State University System, n.d.), respectively. Silicon Valley, Sorrento Valley, and other clusters of high-tech industries dot the landscape, and there is significant state and local government spending of more than half-a-trillion dollars annually—managing a gross domestic product of nearly $2 billion (US Government Spending, n.d.). And for decades, defense spending, although declining (Pae, 2008), has been a key to California's growth

Even in a high-skill ecosystem, there will still be a significant low-skill labor sector integrated into the overall economy, providing low skill goods and services, and supported by the production capabilities of the high-skill portion of the economy (Finegold, 1999). In California, the decidedly low-skill agriculture industry is the largest in the United States, producing more

than $31 billion per year, some 13% of the entire nation's agricultural production (Stuff About States, n.d.).

Carefully considered, establishing high-skill ecosystems can raise key portions of a country's economy, create high-skill jobs, encourage workers to become high-skill (and/or attract high-skill workers emigrate from elsewhere), and improve the quality of life for everyone.

Conclusion

To some extent, a low-skill, industrialized society can be raised to be more high-skill. This is particularly true if:

- Government takes a pro-active approach to managing the economy and its human capital market,
- Attention is paid to both supply (highly trained workers) and demand (high-skill jobs),
- The various stakeholders are interdependent and engaged, and
- These efforts target specific segments (industries, firms, geographic areas).

Upskilling an industrialized society can be easier since it likely already has many of the above conditions in place. It then becomes a matter of vision and will.

> "The message from the new economies is that while the high skills route to industrial development is feasible, achieving it requires care in building appropriate institutional conditions and in ensuring that employers demand such skills" (Ashton and Green, 1997, 16).

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