

Innovative Dynamism Improved Jobs in the Twentieth Century

Even in recent times, those on the farm often dream of leaving the farm for a better life in a steel works. Grandmother and steel worker Earleen Kurtz had raised corn, soybeans, and hogs on 80 acres but had trouble making a go of it on such a small farm. So she sold the farm and took a job at an innovative Nucor steel mill. Her goal was to become a ladle crane operator who moved molten steel from furnace to caster, an important job that required experience and skill: "I'll probably end up on a scrap crane. But to carry a ladle to the caster, that's the dream. That's the dream."²⁵

If we broadly and historically compare older jobs to newer jobs under innovative dynamism, a case can be made that in many ways the characteristics of the newer jobs of today are better than the characteristics of the older jobs from roughly one hundred years ago. One way to see this is to peruse Table 7.1, which has been reproduced from an article by economist W. Michael Cox and coauthor Richard Alm on labor-market churn.²⁶

Other important evidence can be found in a well-known paper by Stanford economic historian Paul David on how the introduction of the dynamo electric generator into American industry in the first couple of decades of the twentieth century enabled great process innovations, including, most notably, the horizontal production process of the assembly line.²⁷ In part of his discussion, David compares the vertical structure of the predynamo factory with the horizontal structure of the postdynamo factory. He notes that the leapfrog process innovations enabled by the dynamo resulted in jobs that were better because they were located in workshops that were cleaner and safer.²⁸ The new factories also had more light from the new skylights that were now possible because the dynamos had no use for the overhead belts that were previously needed to vertically transmit power. As the twentieth century continued, entrepreneurs achieved other process innovations that continued to improve the workplace: the average work environment in 2006 had less dust and less pollution than the average work environment a couple of generations earlier.²⁹

Innovative Dynamism Improved Jobs in Recent Decades

High-skilled jobs have increased, and low-skilled jobs decreased, in recent decades mainly because of our growing use of computers and the Internet.³⁰ Economist W. Michael Cox, with coauthor Richard Alm, focusing on ten years near the end of the twentieth century, arrayed thirty jobs into the six categories of a rough hierarchy of

Table 7.1 A century of innovative dynamism creating better jobs

	<i>People Employed</i>		
	1992		Past =
<i>Jobs Decreasing</i>			
Railroad employees	231,000	2,076,000	1920
Carriage and harness makers	*	109,000	1900
Telegraph operators	8,000	75,000	1920
Boilermakers	*	74,000	1920
Milliners	*	100,000	1910
Cobblers	25,000	102,000	1900
Blacksmiths	*	238,000	1910
Watchmakers	*	101,000	1920
Switchboard operators	213,000	421,000	1970
Farm workers	851,000	11,533,000	1910
<i>Jobs Increasing</i>			
Airline pilots and mechanics	232,000	0	1900
Medical technicians	1,379,000	0	1910
Engineers	1,846,000	38,000	1900
Computer programmers/operators	1,287,000	*	1960
Fax machine workers	699,000	0	1980
Auto mechanics	864,000	0	1900
Truck, bus, and taxi drivers	3,328,000	0	1900
Professional athletes	77,000	*	1920
Television and radio announcers	60,000	*	1930
Electricians/electronic repairers	711,000	51,000	1900
Optometrists	62,000	*	1910

* Less than 5,000

Source: table adapted from Cox and Alm (1992, p. 7), who used data from US Bureau of the Census. (Reprinted by permission of the Federal Reserve Bank of Dallas.)

needs, based on the most dominant kind of skill used in each job, with jobs using mainly people skills and emotional intelligence at the top and with jobs using mainly muscle power at the bottom. The evidence summarized in Table 7.2 suggests that the cognitive characteristics of the jobs that are increasing in number are almost always of a higher and more satisfying order than those of the jobs that are decreasing in number. The key conclusion is that the jobs created through innovative dynamism are generally better jobs than the jobs destroyed through innovative dynamism.

Table 7.2 New jobs tend to be better jobs

	<i>Jobs Gained or Lost (1992–2002)</i>	<i>Percent Change</i>
<i>People Skills/Emotional Intelligence</i>		
Registered nurse	+512,000	+28
Financial services sales	+248,000	+78
Lawyers	+182,000	+24
Education and vocational counselors	+48,000	+21
Recreation workers	+35,000	+37
<i>Imagination/Creativity</i>		
Designers	+230,000	+43
Hairstylists and cosmetologists	+146,000	+19
Architects	+60,000	+44
Actors and directors	+59,000	+61
Photographers	+49,000	+38
<i>Analytic Reasoning</i>		
Legal assistants	+159,000	+66
Electronic engineers	+147,000	+28
Medical scientists	+22,000	+33
Metallurgical engineers	-2,000	-8
Computer operators	-367,000	-55
<i>Formulaic Intelligence</i>		
Cost and rate clerks	-16,000	-24
Health records technicians	-36,000	-63
Telephone operators	-98,000	-45
Bookkeepers	-247,000	-13
Secretaries and typists	-1,305,000	-30
<i>Manual Dexterity</i>		
Tool and die makers	-30,000	-23
Lathe operators	-30,000	-49
Typesetters	-34,000	-62
Butchers	-67,000	-23
Sewing machine operators	-347,000	-50
<i>Muscle Power</i>		
Garbage collectors	-2,000	-4
Stevedores	-3,000	-17
Fishing workers	-14,000	-27
Timber cutters	-25,000	-32
Farm workers	-182,000	-20

Source: Cox and Alm 2003, p. 20 (see also Cox, Alm, and Holmes 2004, p. A27). Reprinted by permission of the Federal Reserve Bank of Dallas.