EconEdLink : Where Did All the Money Go? – Clue Sheet #3a

Henry Ford Begins Production of the Model T in Highland Park

By Steve Cochrane

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In 1913, Henry Ford introduced the first successful large-scale industrial use of the moving assembly line at Ford Motor Company's Model T assembly plant in Highland Park, Michigan. This was a seminal event for American industrialization that allowed manufacturing productivity to soar and prices to plummet for commercial and industrial goods. While the assembly line is the primary event that one associates with Ford and the Model T, it is just one of a number of ideas successfully implemented by Ford that changed the way manufacturers operate and changed the way consumer markets are perceived. Because Henry Ford was concerned not only with what he produced, but how he produced it and for whom he produced it, he may have had more influence on 20th century life than any other individual.

Ford's engineering skills first allowed him to produce a car that was more sturdy and powerful than other cars, yet simple to operate. It sold initially for $825 in 1908, making it a luxury good at the time. Yet it sold over 10,000 units, more than any other model, and allowed Ford Motor Company to earn a sizeable profit. But Ford wanted to sell cars to the masses. To do this, he steadily reduced the price, and demonstrated that while profit margins on individual cars were smaller, the added volume increased profits. From farmers in the Midwest to city dwellers in the East, price elasticity proved to be uniform and consumers snapped up the cars when they became affordable, transforming them from luxury goods to necessities.

Then Ford had to change the way he produced the Model T in order to ramp up production to meet the increasing demand. This led to the assembly-line system that was introduced when Ford Motor Company's new Highland Park plant was built in 1910. While 1913 is customarily regarded as the year when the assembly line was introduced, it was experimented with and improved upon between 1910 and 1913. Without the assembly line, volume could not be increased, prices could not be decreased further, and Ford Motor Company profits would have remained only respectable, at best.

The assembly line, however, had unforeseen impacts on the workforce, which drove Ford toward innovations in workforce management. The drudgery and low pay of the assembly line caused monthly labor turnover to amount to 40% to 60% of the firm's 13,000+ workforce. Training costs became unbearable. Ford solved this in 1914 by raising workers' pay from $2.38 for a nine-hour day to $5 for an eight-hour day, and he instituted a profit sharing plan. Productivity rose, turnover fell and profits doubled in two years. Ford was a visionary in his day by seeing the need to pay a wage that would lift a family from poverty, and even allow the worker to buy the product that he or she is making. He is quoted as responding to critics of the salary hike by saying, "Well, you know when you pay men well you can talk to them."

Finally, Ford's willingness to take risks and to finance expansion internally allowed Ford Motor Company to pursue innovative ideas without the intrusive oversight of outside financiers. In 1903 Ford refused to pay royalties to bankers who owned a patent on an 1879 design of an auto and who also insisted on dictating prices for Ford's automobiles. Following an eight-year legal battle, the courts decided that the patent applied only to

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cars copied substantially from that 1879 design. Thus, Ford's risky decision paid off, freeing Ford and all other automakers from royalty payments and from the intrusion of the bankers far away in New York. Ford gained further financial independence by maintaining enormous cash reserves at Ford Motor Company and using them to finance expansions of the company, including the Highland Park plant. This freedom allowed Ford to pursue innovative, but untested, techniques.

Henry Ford transformed the economic, social and physical fabric of the 20th century. Manufacturing productivity soared as all industries adopted the assembly line system. Wages increased, allowing workers to buy goods formerly thought of as luxuries. Volume selling at low prices was proved to be profitable. Marketing to the masses became a successful strategy.

Henry Ford's innovations have worked their way through the economy over the past century and they provide us a clue as to the vast changes that may be in store for us in the 21st century. The wave of technology change with the introduction of inexpensive computers and high-tech electronics is similar to the technology change brought on by Ford. The proliferation of stock options as a method of paying workers to put in the long hours of drudgery on computer programming has allowed the workers of the industry to share in some its wealth, just as was the case with Ford. Even the idea of maintaining large cash reserves to finance expansion and maintain independence in decision making is one adopted by Microsoft and other large high-tech companies. We can only guess at where today's technological transformations will take us, and how the newfound wealth that they have created will impact society. But if the impacts will be anything like what resulted from Henry Ford's innovations, the next century will be unbelievably different from anything that a late-20th century imagination can foresee.

Answer the following questions:

1. What were the advantages of assembly line production?

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2. What were some problems associated with assembly line production?

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3. How did Ford solve the problem of high worker turnover?

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4. How did Ford finance his innovations?

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5. What impact have Ford's techniques and management practices had on businesses today?

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