Man-Hours Simulation and Its Present Day Implications

by Mark Ciotola

Profits are typically viewed as a positive economic phenomenon. However, the article *Man-Hours--A Declining Quantity* provided a startling vision of the negative impacts of profitability on economic activity. This article discusses the utilization of modern desktop computing technology to simulate the results presented in *Man-Hours*.

Man-Hours demonstrates how profits remove money from an economic system. Unless profits are spent or redistributed, they will reduce economic activity by removing money from the economy in the form of savings (Hubbert 1932, 1940). Using the discussion of in *Man-Hours*, a database application was created. This application is called *ProfitTaker* (see Figure 1) to simulate how profits remove money from the economy.

Figure 1 Portion of title screen of *ProfitTaker* database application

ProfitTaker allows the user to set a wide range of parameters as desired (see Figure 2). Profitability, taxation, and re-investment and other parameters may be adjusted.

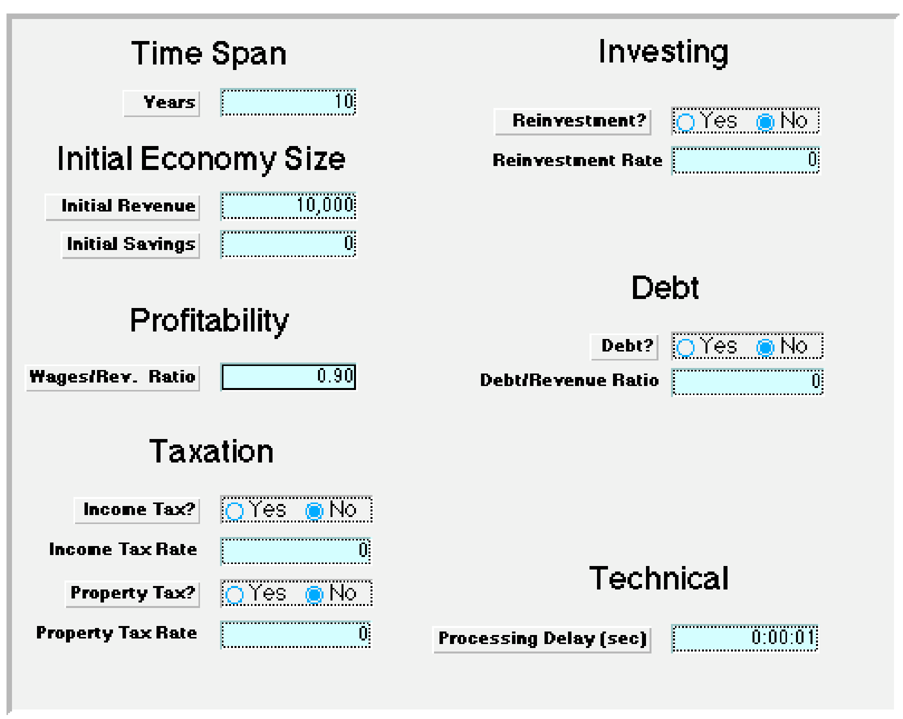

Figure 2 User interface used to set parameters

The results reflect those presented in *Man-Hours*. Even in simulation with moderate profitability (10% of revenues), economic activity decreases 61% within 10 years (see Table 1). This is for simplified economy where all profits are saved.

Table 1 Decrease in Revenues Due to Profits (in billions of dollars)

Year	Revenue	Wages	Profit	Accumulated Savings
1	10,000	9,000	1,000	1,000
2	9,000	8,100	900	1,900
3	8,100	7,290	810	2,710
4	7,290	6,561	729	3,439
5	6,561	5,905	656	4,095
6	5,905	5,314	590	4,686
7	5,314	4,783	531	5,217
8	4,783	4,305	478	5,695
9	4,305	3,874	430	6,126
10	3,874	3,487	387	6,513

Although this was reminiscent of the situation during the late 1920s that lead to the Great Depression, economic stimulation has been used mitigate the effects of profits and savings since the 1930s. Government and war spending shook the United States out of the Great Depression. (Hubbert, 1940). Today, the greatest economic stimulant is the creation of debt. With ample debt, an economy cannot only sustain its economic activity, but increase it. (See Table 2).

Table 2 Increase in Revenues Due to Debt Financing (in billions of dollars)

Year	Revenue	Wages	Profit	Debt
1	10,000	9,000	1,000	5,000
2	14,000	12,600	1,400	7,000
3	19,600	17,640	1,960	9,800
4	27,440	24,696	2,744	13,720
5	38,416	34,574	3,842	19,208
6	53,782	48,404	5,378	26,891
7	75,295	67,766	7,530	37,648
8	105,414	94,872	10,541	52,707
9	147,579	132,821	14,758	73,789
10	206,610	185,949	20,661	103,305

Alternatives to debt financing include redistribution and reinvestment. Income tax is an example of redistribution, while research funding is an example of reinvestment. Conversely, a decrease of income tax for profit earners concentrates money and increases the need for debt. This is the scenario our economy is facing: decreasing taxes on the wealthy and skyrocketing debt by lower and middle-class workers. Although tax cuts for the wealthy might not be the only factor for the unprecedented increase of debt since the 1980s, this simulation suggests that it is a significant factor.

There are limits to the growth of debt financing. Profit holders will only extend debt if they believe that they will be repaid. Yet already several major holders of U.S. debts such as China are already balking at increasing debt to the U.S. due to the falling value of the U.S. dollar. (Economist, 2006). That the U.S. dollar is falling should come as no surprise, due to large-scale, irreversible transfers of wealth from the U.S. to abroad due to the tremendous trade deficit. (Author, 2006). Falling U.S. home prices are reducing the amount of debt financing available from domestic sources. (Economist, 2006).

Therefore, given the immediate limitations of debt financing and the unwillingness of national leadership to substantially increase reinvestment and redistribution, the U.S. economy will show a strong tendency for reduced economic growth (and perhaps even contraction) over the next few years, as predicted by *Man-Hours* and confirmed by the *ProfitTaker* simulator.

References:

Ciotola, M., "Thermodynamic Perspective on Profits", *North American Technocrat*, Vol. 5, Issue 18, 2006.

Ecoomist, "The Falling Dollar", December 2nd, 2006.

Hubbert, M.K., "Man-Hours--A Declining Quantity", *Technocracy*. Series A, No. 8, 1936. See also Hubbert, M.K., *Man-Hours and Distribution*, Technocracy, Inc.