

# **CHEAP LABOR REPLACES EXPENSIVE LABOR LIKE PHENOMENA: GRESHAM'S LAW vs. COST REDUCTION**

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## **Abstract**

*Gresham's Law asserts, "Bad money drives away good money." For some obvious, and some not so obvious reasons, there are a few prerequisites that must exist for this law to hold. Essentially, Gresham's law is construed as being the concept of cheaper substitute replacing an expensive option, provided of course, that there is no erosion in the objective to be accomplished and effectiveness of the overall enterprise is not compromised in any manner. Illustrations from workforce domain seem to suggest, "Cheap labor replaces expensive labor." Similarly, illustrations from the field of education, food, music, art and a few other divergent domains seem to mirror, broadly speaking, Gresham's law dynamics. However, a closer examination of these illustrations reveals that more often than not, the phenomenon is driven by cost reduction initiatives rather than Gresham's Law dynamics.*

*Keywords: Gresham's Law, Cost Reduction, Disruptive Technology, Cheap Labor, Offshore Outsourcing*

## **INTRODUCTION**

### **What is Gresham's Law?**

Gresham's law is fairly popular amongst economists. Most students of Economics come across it in their studies sooner or later. Many researchers and authors have explained Gresham's law in their own words variously at various points in time. So avoiding the addition of yet another version of explanation, it is better to recall a version that sums it up fairly precisely and yet comprehensively as follows: "Bad Money Drives out good" This is what has been called Gresham's Law. It was formulated by Sir Thomas Gresham to explain to Queen Elizabeth I what

was happening to the English shilling. Her father, Henry VIII, had been adulterating the English shilling, the basic coin of the realm, by replacing 40 percent of the silver in the coin with base metals — a clever way, so he thought, to increase the government’s income without raising taxes. It was, in short, a sneaky devaluation device; hopefully the people wouldn’t notice. Of course it was discovered and this “bad money” drove out the pure silver shillings then in circulation. Astute English merchants and even ordinary subjects would save the good shillings and circulate the bad ones; hence, as Gresham observed, the bad money (Henry’s adulterated coinage) would be used whenever possible, and the good coinage would be saved and disappear from circulation” (Adams, 2003).

For obvious reasons, we have to remember the fact that Gresham’s Law explicitly refers to the “circulation” function of money- for settling debt/exchange obligations but not the “storage” function of money (as in savings and storing wealth). So primarily bad money drives out good money from circulation and as a matter of fact, as some thoughtful researchers would observe, good money drives out bad money so far as storage of wealth is concerned because users would retain the good money for that purpose. As a matter of fact, Nielson (2013) provides a detailed commentary on correcting Gresham’s Law based on this distinction of “circulation” versus “storage” functions of money.

The remainder of the paper is organized as follows: Section 2 describes the various anecdotal trends that seem to demonstrate the Gresham’s law effect in a variety of contexts/paradigms. Section 3 attempts to explain the underlying drivers for the phenomena described in previous section. Section 4 provides discussion of the observed phenomena in the light of the drivers described in section 4. Finally, section 5 lists the conclusions and limitations of this study and directions for future studies.

## **ILLUSTRATIONS FROM DIVERGENT CONTEXTS THAT ARE OFTEN CONSTRUED AS GRESHAM’S LAW REFLECTIONS**

### **Workforce**

At the onset of aggressive offshoring of knowledge worker jobs from USA that resulted in lay-off of hoards of employees in US workforce, popular press carried many reports suggesting that offshoring may lead to more and more layoffs or increases in unemployment.

Consider for example the following news reports:

“Workers asked to train foreign replacements,” (USA Today, 2004) a report dated April 6, 2004 contained several different accounts of, laid off U.S. workers whose last job was to train their replacements from overseas.

“McKinsey Global Institute estimates that, the volume of offshore outsourcing will increase by 30 to 40 percent a year for the next five years,” (Drezner, 2004; McKinsey Global Institute, 2003). Forrester Research estimates that 3.3 million white-collar jobs will move overseas by 2015 (Drezner, 2004).

Gartner Research firm estimated that by the end of this year, 1 out of every 10 IT jobs will be outsourced overseas (Drezner, 2004).

Outsourcing jobs saves money for the firms (Mann, 2003, pp 3, 6; Pint E.M. and Baldwin, L.H., 1997, summary- pp vii)

For obvious reasons, one could easily reach the conclusion that the availability of cheap labor coupled with the enabling technology that was facilitating hiring the services of cheap labor by offshore outsourcing and was causing lay-offs and increases in the unemployment rate of American workforce.

Further, there were several predictions and research reports that suggested that the American workforce needs to train for the much higher skilled jobs and make them indispensable and so on. The poignant surmise in all these reports was that “cheap labor was displacing the expensive labor.”

On a different level, it's reported that conventional wisdom would persuade one to believe that the millions of illegal workers pouring in from Latin America, seeking work would compete with the expensive American counterparts and would displace them by undercutting their wages (Porter, 20012).

Honestly, it makes a lot of economic sense to use a cheaper input than and expensive input (when they are both available simultaneously and one is cheaper than other) if in fact both inputs are equal in their effectiveness (*a la* legal tender of monies).

So, one may conclude that in labor market conditions, the rule that “cheap labor replaces expensive labor” will hold good subject to above stated conditions, viz., that both types of labor are simultaneously available and both types of labor are equal in their efficacy for the job to be performed. Offshore outsourcing from the US was triggered by this very same logic in first decade of 21<sup>st</sup> century.

### **Consumer products- food, music, and art**

Many consumer products from simple safety pint to complicated electronic iPhones are manufactured and supplied from the countries where labor and other production costs are lower and consequently the final product prices are lower than those of items produced in the counterpart developed countries.

A quick survey of country of origin for a variety of products sold in Wal-Mart shows that a good many consumer products are imported from China, Mexico and other countries where the cost of production is much lower than it is in USA for those products. In other words, the cheaper products are displacing the expensive counter parts. Not a very surprising phenomena really.

Take any simple product like toys, art material, clothing, electrical, electronic, stationery items etc. “Made in China” versions seems to be flooding the markets and displacing their more expensive counter parts from other countries.

A less controversial and easily acceptable example would be that of Japanese and Korean automobiles cutting into the market share of popular American automobiles from the big three: GM, Ford, and Chevrolet.

Another example would be that of Chinese and Japanese electronic watches replacing American products.

### **Information and Communication Technology**

Just as the knowledge workers from developing countries are available for lower wages, several IT related products and services appear to be cheaper when produced in certain countries with abundant labor and technical skills. Computer components, chips, ICs, storage media products, accessories and spares for a variety of IT devices manufactured in China, Taiwan, Japan and other Asian countries are much cheaper than the ones produced in Europe or North America. As such they seem to very easily displace the expensive counterparts as there is no perceived difference in the product quality or performance capability.

### **Online Information resources**

Finnell (2009) declares that, “Obviously, Gresham’s law is still alive and well today in our information economy.” Finnell backs up his assertion by quoting, Robert Mundell, winner of the 1999 Nobel Prize in Economics, who stated, “The motivating force underlying Gresham’s Law is economy: we settle a debt or transaction with the cheapest means of payment” (Mundell, 1998, p. 61). Therefore Finnell argues that when it comes to Information resources, the cheapest means is obviously the information that is readily and freely accessible regardless of its authenticity and veracity. It logically follows that students, typically, use this approach to submit their assignments viz., accomplish the task with the cheapest means.

For obvious reasons this is an honest way to work on assignments assuming that the student do cite the resources properly albeit unmindful of the authenticity and accuracy of the information. Finnell wonders why people seem to accord equal credence to information from World Health Organization (WHO) and some never been heard of before website on the internet

when looking up for information to analyze their personal health. Finnell further states that users tend to access freely available information in forming their personal opinions about even the most profound issues like their political opinions. He remarks, “With an informed citizenry as the *bedrock of democracy*, the profusion of bad information in our information economy is a serious issue to consider” (Finnell, 2009).

It’s a fact that before the internet and information explosion, public libraries served the purpose of providing access to information for users of all ages and interests. However, Finnell (2009) citing (Estabrook, Witt, & Rainie, 2007, p. 5) and reporting from a recent study by PEW Internet and American Life Study reveals, “more people turn to internet than any other source of information.” Given that there are all sorts of information on the web and that typically, good information is secure and pricy, while mediocre and cheap, unauthenticated information is freely available one can only wonder which type of information is accessed more frequently and by masses of users. It may not be far from true to summarize that “cheap and free information is driving out good and pricy information” from circulation on internet.

Finnell (2009) also provided some very interesting illustrations of the so called Gresham’s law effect in the domains of “Education,” “Health Services,” and “Politics.” Suffice it to say that all these illustrations very strongly endorse the typical human tendency to use free and easily available alternatives over the expensive and not so easy to access authentic counterparts, regardless of the fact that their own health, welfare and wellbeing may be at stake.

### **Culture and Social values**

Williams laments that Gresham’s law appears to apply to the culture and social values in American society over the past 50 years. He contends, “Bad values drive out good values” by explaining it with, “What many of us have witnessed in conjunction with the growth of progressive politics is the erosion of traditional American values and culture. Without a doubt, there continues to be a disturbing increase in dysfunctional families, illegitimate births, crime rates, unemployment, etc.” (Williams, 2011)

## **THE UNDERLYING DRIVERS OF GRESHAM’S LAW AND COST REDUCTION**

### **Gresham’s Law**

As explained under section I, Gresham’s law states, “Bad money drives out good money.” Most Economics textbooks will have fairly detailed section explaining the origin and application of Gresham’s law and for those who are not studying Economics can gain a reasonably good idea of Gresham’s law Wikipedia (2014). A simple and straight forward analysis will reveal the following implicit requirements for Gresham’s law to hold.

- a) Existence of so called “good money” and “bad money” simultaneously
- b) User awareness of the difference in intrinsic values of these “good” and “bad” monies.
- c) Equality in legal tender of both versions of money.

It's not hard to see why the first precondition is necessary. And if certain section of users is unaware of the difference between the versions then they may treat both versions of money alike. Finally, if there is no equality in legal tender of both versions despite the differences in the intrinsic values, then there is nothing good or bad about them versions.

### **Cost Reduction**

The process of looking for, finding and removing unwarranted expenses from a business to increase profits without having a negative impact on product quality. Many business managers will engage in periodic cost reduction drives in order to make their company's operation more efficient and to boost profits (Business Dictionary, 2014).

Cost Reduction; ‘Real’ and ‘permanent’ reduction in the cost of inputs or the process of manufacture of a product or service without impairing the usefulness of the product or service for the purpose intended (ICAI, 1984).

Typically, all manufacturers are constantly reviewing for options to reduce their costs of production by sourcing input at the lowest possible cost. Further, some manufacturers are continually conducting Research and Development (R & D) to find cheaper and less expensive alternatives / substitutes for all possible inputs of their products. A short term fix can't be classified as cost reduction nor one time substitution of an expensive input by a cheap input in a situation of exigency be identified as cost reduction.

### **DISCUSSION**

Juxtaposing Gresham's law with cost reduction reveals that perhaps, the human nature and tendency to lean towards cost reduction practices and processes is the root cause of Gresham's law itself. One may argue that the concept of cost reduction as we know it now is a relatively recent notion while Gresham's law has been stated and witnessed several centuries ago. But the fact remains that regardless of formal postulation of the concept, the human quest for getting the most out of least possible effort/input has always been witnessed from practically the dawn of human life on earth. So we can counter argue that, cost reduction has been practiced from times before the Gresham's law was stated.

It's then no wonder that when cost reduction efforts lead to many different situations and quite a few of appear to duplicate the phenomena observed under Gresham's law. This will be more telling in contexts where there is no change in the composition of inputs or the technology used but just the prices are lower from certain sources of supply as opposed to others.

In other words, in all cases where cost reduction efforts lead to "real and permanent reduction in the cost of inputs' due to smart sourcing of those inputs while retaining the final output characteristics and capabilities pretty much as before, those instances clearly mirror Gresham's law phenomena.

However, when the cost reduction efforts lead to innovative and new products due to adoption of newer technologies or processes, then it doesn't look like Gresham's law but instead may be recognized and termed as disruptive technology or simply innovative products. These products could also be resulting in the displacement of the more expensive inputs used hitherto. But such displacement will not lead to any confusion with Gresham's law phenomena as cheap alternatives replacing expensive one is but only one of the necessary but not sufficient conditions of Gresham's law phenomena.

Consider the following illustrations in Figure 1 (Wikipedia, 2014) of disruptive technologies. For obvious reasons, in case of disruptive technologies, we can very easily observe that while purpose may be same in the new product and the one it's replacing, the new product is definitely far superior in technological features and performance capabilities. These replacements can never be mistaken as Gresham's law for the simple reason that these are clear cases of disruptive technologies.

Who can deny that we use email for a majority of personal communication (letters, greeting cards, brief notes and much more) needs where we used to use snail mail in the past. Likewise, we are also able to use email with scanned files in the place of fax. Likewise, we use many internet web resources in the place of hard copies for newspapers, journals, books, business reports, medical reports etc. etc.



Figure 1: Disruptive Technologies

Innovation	Disrupted market	Notes
8 inch floppy disk drive	14 inch floppy disk drive	The floppy disk drive market has had unusually large changes in market share over the past fifty years. According to Clayton M. Christensen's research, the cause of this instability was a repeating pattern of disruptive innovations. <sup>[12]</sup> For example, in 1981, the old 8 inch drives (used in <i>mini computers</i> ) were "vastly superior" to the new 5.25 inch drives (used in <i>desktop computers</i> ). <sup>[3]</sup> However, 8 inch drives were not affordable for the new desktop machines. The simple 5.25 inch drive, assembled from technologically inferior "off-the-shelf" components, <sup>[9]</sup> was an "innovation" only in the sense that it was new. However, as this market grew and the drives improved, the companies that manufactured them eventually triumphed while many of the existing manufacturers of eight inch drives fell behind. <sup>[12]</sup>
5.25 inch floppy disk drive	8 inch floppy disk drive	
3.5 inch floppy disk drive	5.25 inch floppy disk drive	
Bernoulli drive and Zip drive	3.5 inch floppy disk drive	
CDs and USB flash drives	Bernoulli drive and Zip drive	
Downloadable Digital media	CDs, DVDs	In the 1990s, the <i>music industry</i> phased out the <i>single</i> , leaving consumers with no means to purchase individual songs. This market was initially filled by illegal <i>peer-to-peer file sharing</i> technologies, and then by online retailers such as the <i>iTunes Store</i> and <i>Amazon.com</i> . This low end disruption eventually undermined the sales of physical, high-cost CDs. <sup>[13]</sup>
Hydraulic excavators	Cable-operated excavators	Hydraulic excavators were clearly innovative at the time of introduction but they gain widespread use only decades after. However, cable-operated excavators are still used in some cases, mainly for large excavations. <sup>[14]</sup>
Mini steel mills	Vertically integrated steel mills	By using mostly locally available scrap and power sources these mills can be cost effective even though not large. <sup>[15]</sup>
Minicomputers	Mainframes	Minicomputers were originally presented as an inexpensive alternative to mainframes and mainframe manufacturers did not consider them a serious threat in their market. Eventually, the market for minicomputers became much larger than the market for mainframes. Similarly, the market for main frames and mini-computers was seriously disrupted by <i>personal computers</i> . Although they were not at all competitive at the time of their introduction in the 1970s, by the mid 1980s they had improved exponentially and could compete directly with the more expensive machines. <sup>[citation needed]</sup>
Personal computers	Minicomputers, Workstations, Word processors, Lisp machines	
Desktop publishing	Traditional publishing	Early desktop-publishing systems could not match high-end professional systems in either features or quality. Nevertheless, they lowered the cost of entry to the publishing business, and <i>economies of scale</i> eventually enabled them to match, and then surpass, the functionality of the older dedicated publishing systems. <sup>[citation needed]</sup>
Computer printers	Offset printing	Offset printing has a high <i>overhead cost</i> , but very low <i>unit cost</i> compared to computer printers, and superior quality. But as printers, especially <i>laser printers</i> , have improved in speed and quality, they have become increasingly useful for creating documents in limited issues. <sup>[citation needed]</sup>
Digital photography	Chemical photography	Early digital cameras suffered from low picture quality and resolution and long <i>shutter lag</i> . Quality and resolution are no longer major issues and shutter lag is much less than it used to be. The convenience of small memory cards and portable hard drives that hold hundreds or thousands of pictures, as well as the lack of the need to develop these pictures, also helped. Digital cameras have a high power consumption (but several lightweight battery packs can provide enough power for thousands of pictures). Cameras for classic photography are stand-alone devices. In the same manner, high-resolution <i>digital video</i> recording has replaced <i>film stock</i> , except for high-budget motion pictures. <sup>[citation needed]</sup>

Source: Wikipedia, accessed on 4/19/2014



All of the above listed cases are clear-cut and distinct cases of disruptive technologies. For obvious reasons, we can't credit Gresham's law or the Cost reduction as being the drivers of above listed disruptive technologies because, besides the element of efficiency, all these new approaches also involve and incorporate a rather higher level of effectiveness in serving the intended purposed.

## CONCLUSIONS

As a matter of fact, the Gresham's law emerged as result of cost reduction ploy that Henry VIII attempted. Constant costs reduction is a major success mantra for most businesses and economic enterprises. As we have noted above, these cost reduction efforts lead to a variety of situations that are obtained. Of these contexts, the ones where the only change or the predominant change is the replacement of expensive inputs with cheaper inputs without impairing (or enhancing) the intended use of the final product or service, seem to mirror Gresham's law phenomena in general despite the fact that they are illustrations of cost reduction practices. Whereas in other contexts, where there is either a substantive change in technology or the process being used in production of product or service, it will have to be recognized as the result of 'innovation,' 'disruptive technology,' or 'radical redesign'.

## WAY FORWARD

As a follow up to this study, a detailed survey of all Gresham's law like phenomena over the past fifty years be categorized carefully into results of cost-reduction initiatives, innovation, disruptive technology or radical redesign. Business organizations are complex systems made up of many interacting parts (or sub systems). So any efforts to optimize the efficacy of a sub-system, unmindful of the feedback or feed forward effect of such efforts may have on the overall enterprise may result in sub optimization. As a second follow up, it would be interesting to study the effect of cost reduction attempts resulting in increased costs due to unforeseen side effects for business enterprises.

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