

INSTRUCTIONS

Economic History Term Paper Hints and Suggestions

Choosing Your Topic

- Choosing an easier topic that more people are writing on is a low risk, but low reward strategy.
- Let your interests guide you – the better papers are always on topics that have motivated the author to learn more and dig a little deeper.
- Papers on debates may be more mechanical, and easier to write, but like easier topics, they have lower risks and lower rewards.

ECON 232 Winter Term 2019 Term Paper Topic Ideas:

- (1) Discuss the impact of the electrification of US homes on American economic development during the early twentieth century.
- (2) Do countries with common law legal institutions have better long run growth performance than countries with civil law legal institutions? Discuss.
- (3) Discuss the historical origins of the persistent differences in economic outcomes across Indigenous communities in North America.
- (4) Did inefficient portfolio diversification among British investors contribute to the slowdown in economic growth in Victorian Britain?
- (5) Discuss the relationship between the share of income earned by capital owners and economic inequality across countries, average income levels, and time.
- (6) Why did the success of the Marshall Plan's efforts to foster post-World War II economic recovery vary so widely across European countries?
- (7) Late 19th and early 20th century earthquakes and urban fires provide us with evidence of the long run economic consequences of natural disasters. Discuss.
- (8) Describe how the introduction of new information technologies (telegraph, telephone or stock tickers, for example) during the late nineteenth century had an impact on the operation and efficiency of global financial markets.
- (9) During the first era of globalization, repeated financial crises had a negative impact on long run economic growth for a number of South American nations. Use the historical experience of a particular nation to illustrate the negative consequences of financial instability.
- (10) Any other topic related to the course themes that does not appear on the course syllabus (with the approval of the instructor).

The Impacts of New Technologies on Global Financial Markets

Student Name

Institution Affiliation

Date

The Impacts of New Technologies on Global Financial Markets

Global financial markets are the forums existing on the international level to facilitate the exchange of financial securities and allow capital flow amongst the financial markets of different countries and parts of the world. Mainly, these markets comprise of equity and debt markets consisting of both global money markets and capital markets which are short term in nature. Main examples of global financial markets are international mortgage markets, foreign exchange markets, international bond markets, and international equity markets, all facilitating the transfer of funds from surplus end to deficit ends¹. Main players in the global financial markets are an international monetary fund, central banks, bank for international settlements and other private organizations. Among other roles of global financial markets, they regulate wealth, savings and liquidity. Compared to some decades ago, global financial markets witnessed a lot of changes in the nineteenth century facilitated by the emergence of new technology.

In the history of financial markets from the nineteenth century to World War II, there are just a few technological advancements which had an impact on the markets. The few that were witnessed, however, they had huge impacts, which saw the single biggest factors of financial market growth and an increase in interest rates. Surprisingly, most of the new technologies had been witnessed in the nineteenth century. The first invention had been witnessed in 1832, which was the invention of the telegraph by Samuel Morse². It was a major invention which culminated in the appearance of first financial newsletters. The foundation of Western Union in 1856 saw

¹ Marvin, Carolyn. *When old technologies were new: Thinking about electric communication in the late nineteenth century*. Oxford University Press, USA, 1990.

² Tarr, Joel A., Thomas Finholt, and David Goodman. "The city and the telegraph: urban telecommunications in the pre-telephone era." *Journal of Urban History* 14, no. 1 (1987): 40.

people from towns and cities outside the Wall Street start placing orders, buying and selling securities. People away from the city would know what they wanted to buy or sell before making any payments as well as the costs of securities through the telegraph which made it more convenient to transact close to home. This was a problem which was later realized by western union and other telegraph companies and began to work on continuous telegraph apparatus which later enabled people to print stock prices³.

The new technology in the nineteenth century not only shaped the global financial markets but also had considerable impacts on different sectors of the world economy. For instance, it speeded up manufacturing and improved the quality of life to make it more effective and efficient. However, of much importance is how the advancement in technology revolutionized the global financial markets and the stock markets⁴. There were several ways in which technology changed and shaped the global markets of the eighteenth century, and also their future direction which has continued to advance up to date. Firstly, trading on global markets was made easy to use through the new technology which had emerged in the nineteenth century and secondly, the speed of transactions in the global financial markets was made faster than ever and finally the depth of information.

Generally, it is in the nineteenth century that new technology like the use of telegraph, telephones, and stock tickers were slowly entering the financial markets. Within no time, they became familiar and that made it easier than ever when it came to accessing and evaluating the

³ Michie, Ranald. *The London and New York Stock Exchanges 1850-1914 (Routledge Revivals)*. Routledge, 2012.

⁴ Kavesh, Robert A., Kenneth D. Garbade, and William L. Silber. "Technology, communication and the performance of financial markets: 1840–1975." *The Journal of Finance* 33, no. 3 (1978): 820.

performance of stock markets. Consequently, as a technology-driven brokerage, they were operating with sustainability and fewer overheads which saw the transaction fee significantly reduce more than it was expected. High fees had often turned off the casual traders in the stock markets because the low amounts they could afford to invest in the markets was not worthwhile after payment of fees to various companies. However, with the reduced fee as a result of the new technology casual traders were able to effectively utilize the markets⁵.

Briefly, new technology especially the telegraph led to the growth and efficiency of global financial markets through the reduction of communication costs and time. Moving forward, that promoted vertical integration of local firms by easily connecting them with the emerging national markets and absorbed regional as well as local markets. The end results of these forces especially in the case of telegraphic communication can be simplified in two characteristics: product description complexity and asset specificity of a product. Local markets which had specific products and standardized product descriptions, telegraph acted as a mechanism to efficiently coordinate them with national markets. Conversely, the markets which had highly specific products or complex products, telegraph acted as a catalyst to integrate them with other markets.

The new technology especially the telegraph's role in encouraging development and growth of efficient financial markets is both easy to understand and see. First of all, when it radically enlarged the local market areas, this led to the emergence of efficient markets at the national level. Additionally, through its reduced communication costs over distances, it favored

⁵ Obstfeld, Maurice, and Alan M. Taylor. *Global capital markets: integration, crisis, and growth*. Cambridge University Press, 2004.

the integration of financial markets globally. Before the introduction of the telegraph in 1844, information communication was only limited to the distance people could travel. Although some improvements had been done between 1800 and 1840 which reduced the travel time, the low traveling speed beyond the northeast section in the US remained to be a huge setback as far as growth of financial markets worldwide was concerned⁶. For instance, the time taken to travel from New York to Boston had been reduced from four days to half a day.

The new technology in the form of telegraph emerged to reduce the communication time to almost nothing across great distances. For instance, by the year 1851, barely seven years after Baltimore-to-Washington line was inaugurated, the entire half of the US had been connected by telegraph network making instantaneous communication possible. Another one decade, the telegraph reached the west coast as well. This saw the financial markets continue expanding to facilitate the growth of financial markets both locally and internationally.

Another new technology which emerged during this time was the stock ticker. A stock ticker is simply a report of security prices which were updated continually throughout the trading sessions by different stock exchange firms. A tick was basically a change in prices which could either be going up or down. Stock tickers displayed ticks automatically along with other basic information like the volume of stock which was useful for both traders and investors regarding the current market conditions. Limited number of stock could appear on stock tickers during any particular time because of the large number of stocks which could be trading simultaneously. In

⁶ Du Boff, Richard B. "The telegraph in nineteenth-century America: Technology and monopoly." *Comparative Studies in Society and History* 26, no. 4 (1984): 580.

most cases, the stocks which had greatest price fluctuations as per the statistics of the previous day or those trading in high volumes were given the highest priority in the stock ticker.

The first stock ticker had been invented by Edward Calahan in the year 1867 as an employee of American Telegraph Company. Four years later, it was improved by Edison and patented. Mechanical tickers would be printed on papers by a machine to make the flow of information regarding stock market exchanges to flow efficiently. As the technology continued to evolve, dissemination of information through stock tickers became faster and real-time as it is today.

Considering that global financial markets kept fluctuating, stock tickers played an important role in keeping investors as well as traders informed. Mainly, the information they got from stock tickers enabled them to have control and sufficient planning before investing their resources. The analysis which was provided by stock tickers was very crucial in spotting stocks that could be profitable and those which were risky. Stock tickers were their only resources to enable them to carry out market research⁷.

The research they carried out from tickers could enable them to have an analysis over financial histories of various companies before they could take a step of investing on them, and that gave both the investors and traders a sense of future. Although it was not possible to tell with certainty that a stock value would increase or decrease, evaluation of company growth provided in the stock tickers gave insights into the possible outcome of a company shares.

⁷ Coffee Jr, John C. "Racing towards the top: The impact of cross-listing and stock market competition on international corporate governance." *Colum. L. Rev.* 102 (2002): 1757.

When putting money into different stocks, both the investors and traders needed some information about the institutions or companies where to do it but that information was not available in the eighteenth century. As a result, frustrations and incidences where people could lose all their investment out of lack of information were common. This was because some companies invested blindly had laden with huge debts, were not generating sufficiently, did not satisfy customers and had no cash.

Stock tickers had stock financial reports both locally and internationally to allow investors and traders to review them. By reviewing them, investors and traders could make informed decisions on company stability and assess the risks before committing to invest in those companies. There were too many investors and traders who were investing in weak companies at the time before the stock tickers hoping for turnarounds only to get frustrated by losing all their investments⁸. This was in consideration of the fact that companies which were doing well stood a better chance of giving returns compared to those which were performing badly.

With an eye on the stock tickers in the nineteenth century, Investors began to understand and worry about the performance of companies before investing in them. For instance, companies which recorded negative cash flow, declining revenues, huge and increasing debts,

⁸ Stoll, Hans R. "The supply of dealer services in securities markets." *The Journal of Finance* 33, no. 4 (1978): 1133-1151.

and management turn-overs slowly started to witness a decline in potential investors while those which were performing well realized an increasing number of potential investors.

In addition to the two technologies discussed above, computer technology which was still evolving played a fundamental role in changing the global financial marketplace landscape. This was achieved through low transaction costs and reducing asymmetric information to level the playing field of investors and traders. Also, computer technology increased created economies of scale which eventually saw the cost of financial market trade reduce and competitiveness increase. As computer technology continued to advance, the pace of consolidation of foreign exchange also fastened and increased round-the-clock borderless trading networks. Through that, investment products which were accessible to international investors increased, transaction costs were further reduced and market efficiency improved.

As a portal in the global trading network, computer technology became a critical factor for the success of global financial markets. However, shifting from a positive point of view to negative, the impacts of computer technology of the growth and development of the market later became a subject of hot debate. According to Obstfeld, Maurice, and Alan (2004), they argued that capital markets turned to be excessively volatile following the integration of computer technology as it increased short term volatility of prices and risks. The research went ahead to argue that few investors would access online trading systems because internet technology had not fully evolved. This was in consideration of the fact that very few investors owned computers at the time and hence accessing the central securities clearing system was limited. Those who did not have computers were, therefore, unable to get orders from the clearing system for automated execution.

They also explained that computer technology driven capital market operations were facing fraud, fraud and manipulations which affected individual investors. A good example pointed to the sale of shares without stockholders authorization that was given an impetus by dishonest and greed market participants. It was also clear that surveillance issues and lack of proper regulations made the computer technology-based financial markets dangerous to investors. On the other hand, Coffee (1984) argued that computer technology had made capital markets more efficient because attendant stock prices would reflect investors' perceptions of prices and other important information swiftly. In their research contention, computer technology had made capital markets more efficient through the provision of fast, reliable and more effective ways of information exchange.

The research further indicated that new instruments and products had been made readily available following the emergence of computer technology. Evidently, capital markets became more resilient and their depth, as well as breadth, expanded after the intervention of computer technology⁹. Mainly, the impacts of computer technology were based on the fact that they could avail volumes of market-based information, exchange rates, market risks, creditworthiness and exchange rates. Such information was very crucial because it enabled traders and investors to make decisions on where to invest, how to charge borrowers, the interest rates on depositors, the risk of various financial assets like bonds, government securities, and corporate bonds.

⁹ Preda, Alex. "The investor as a cultural figure of global capitalism." *The sociology of financial markets* (2005): 141-162.

The invention of the telephone was also among the nineteenth-century inventions which played an important role in the stock market, although its full impacts were felt later, almost half a century after being invented. Telephone system had made its appearance in 1878 and in the same way a ticker could be used to relay information on price and fluctuations in different parts of the world, telephone as well was used to buy and sell securities. Securities were the tradable financial assets. Telephone invention was very important because it contributed to the increase in stock market interest.

The innovation of telephone simplified communication in the financial markets. This clearly draws from the importance of good communication in a business environment. Through telephone invention, investors and traders could get in touch easily regardless of their locations globally¹⁰. Also, because financial markets were slowly expanding globally telephone system made it easier for traders and investors to communicate with fellow traders and investors globally. This opened the door for financial markets to continue expanding and reach some of the places they had not reached. Initially, most of the investors and traders were limited to operate locally or in specific countries because of lack of communication mediums to get information from different parts of the world.

Telephone communication was highly utilized by the investors and traders in the financial markets to get information about countries, companies and other institutions before making final decisions to invest in them. For instance, companies operating in different countries

¹⁰ Du Boff, Richard B. "The telegraph in nineteenth-century America: Technology and monopoly." *Comparative Studies in Society and History* 26, no. 4 (1984): 590.

and whose information was not readily available would be analyzed through telephone inquiries before investors and traders could make their final decisions to invest. This mitigated the risks to trade in foreign markets which were rampant before.

Before the telephone was invented, instant communications between investors, traders, and companies operating in the global financial market were impossible. This was the reason behind inefficiency in the sector. People would spend a lot of time writing letters or traveling to different places and countries to investigate and learn about financial markets whenever they wanted to invest in different parts of the world. Alternatively, they would be forced to invest blindly without any information, which was highly risky¹¹. This was much less efficient compared to the case after the invention of the telephone system where a person could only pick up the telephone and instantly communicate with another person in any part of the world.

Through telephone communication, global financial markets successfully expanded and grew to where they are today. This is in consideration to the fact that investors and traders had gotten a platform where they could interact with other traders and investors in different parts of the world, share ideas and explore opportunities in different parts of the world. The interaction platform which had been established through telephone communication also opened the sector to innovations which were later evident in the early 20th century.

¹¹ Kavesh, Robert A., Kenneth D. Garbade, and William L. Silber. "Technology, communication and the performance of financial markets: 1840–1975." *The Journal of Finance* 33, no. 3 (1978): 830.

Apart from the four inventions above, there is no much contribution of new technology in the financial markets to be debated about. However, most of the pilot inventions of the nineteenth century were fully implemented in the early twentieth century. For instance, in 1920 there were two advancements which had been tabled down in nineteenth-century which increased the efficiency of global financial markets. The first invention was the central quotation system which could report bids and ask prices¹². This system was then inaugurated in all trading posts of NYSE leading to initiation of new high-speed ticker services. The two improvements were clearly important and their impact was clearly felt in the global financial market sector. However, both of them served to increase the volume of transactions which could be carried in the global market systems and did not widen or change the scope of stock markets.

As far as important technological improvements in the stock markets were concerned, they were few and far between the nineteenth century. However, the impacts of the few inventions which had taken place and the minor adjustments of the earlier technology shaped and molded the stock markets. Also, the groundwork which was laid during the early nineteenth century allowed the global financial markets to both grow and gain serious recognition in the early twentieth century. Were it not for the inventions which had been realized in the nineteenth century like stock ticker, computer, telephone and telegraph, the financial markets would have operated on face-to-face basis forever, little growth would have realized as there will be no innovations and lastly, there would have been no modernization of any kind as a result of inferior advancements.

¹² Tarr, Joel A., Thomas Finholt, and David Goodman. "The city and the telegraph: urban telecommunications in the pre-telephone era." *Journal of Urban History* 14, no. 1 (1987): 50.

In summary, this paper has scrutinized the impacts of the technology changes of the nineteenth century in the global financial markets. The three main technology changes scrutinized in the paper were the invention of the telegraph, computer technology, the invention of telephones and finally the stock tickers. In consideration of computer technology, it has been revealed that its evolution played a fundamental role in changing the global financial marketplace landscape. According to several studies, that had been achieved through low transaction costs and reducing asymmetric information to level the playing field of investors and traders. Also, computer technology has been linked with the economies of scale which eventually saw the cost of financial market trade reduce and competitiveness increase. The pace of foreign exchange consolidation also fastened and increased round-the-clock borderless trading networks.

In regard to the telephone, it has been associated with simplified communication in the financial markets which enabled investors and traders to get in touch easily regardless of their locations globally. Stock tickers on the other hand, which were simply reports of security prices updated continually throughout the trading sessions by different stock exchange firms; they played important roles in keeping investors and traders informed¹³. Mainly, the information they got from stock tickers enabled them to have control and sufficient planning before investing their resources. Finally, telegraph led to growth and efficiency of global financial markets through the

¹³ Marvin, Carolyn. *When old technologies were new: Thinking about electric communication in the late nineteenth century*. Oxford University Press, USA, 1990.

reduction of communication costs and time, which was achieved by promoting vertical integration of local firms to easily connect with the emerging national markets.

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