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Internet Entrepreneurship and Economic Growth

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ABSTRACT

This paper looks at national attempts to promote economic growth through the Internet. Growth can be driven through service exports or internally through increased service transactions and fostering entrepreneurship. India is often held as an example of service exports, but economic statistics show that India might not be a good example for other nations because net service trade is negative and wages have been economically distorted. Ultimately, developing nations need to find internal growth models. Internal growth could be driven through increased consumption due to improved information, or increased investment expenditures from infrastructure investments.

INTRODUCTION

Much has been written about the growth of the IT service sector in India, and how it was facilitated by the Internet. Some have suggested that this model might be applied to other developing nations—using expanded Internet access to foster economic growth. Several writers, usually without research or theory, have focused on the potential impacts on programming jobs in the United States. Few have examined the underlying premises of (1) whether this approach truly generates growth, and (2) whether this technique could be expanded to other nations. This paper presents an introduction to these issues, and examines the framework for how the Internet might be used to foster economic growth in a developing nation.

This paper and its logic are organized into four main sections. (1) Economic growth can be driven through net exports or internal growth (consumption, investment, or government spending). (2) Several writers have suggested that India's service exports represent a good way to use the Internet for economic growth. An examination of the economic statistics shows that the gains have been relatively low, and they have been driven largely by government subsidies that have distorted the internal economy and might have better uses in other nations. (3) Internal growth is largely driven by new, entrepreneurial firms—even in large nations like the United States. (4) Internet expansion can be supported by smaller firms today using wireless technologies. Even if academics and government planners lack the ability to forecast which specific new firms might succeed, governments can encourage wireless Internet growth at relatively low cost, and encourage the development of new firms.

By standard economic theory, growth can come through four areas: internal consumption, investment, government spending, and net exports. The case of offshoring as demonstrated by India represents growth through net service exports. Although this approach might lead to growth, a more detailed examination shows that it is expensive and may be limited to specific nations. Looking at basic economic data for India indicates that the approach has probably not led to economic growth and any gains are likely to have come from government subsidies.

Considerable research has been written about economic growth in the past 50 years. Yet, economic growth and development remain difficult subjects, with many conflicting theories and opinions. Implementing theoretical models in developing nations has been even more difficult. In particular, researchers have recognized that fundamental differences exist between nations. Techniques that work for one nation might not work for another. One key feature in many cases is the capital/labor ratio (Meier, 1984, section III). Many developing nations have substantially more labor available than capital. The consequences have been important. For example, economists eventually realized that agricultural growth in these countries needed to utilize labor-intensive instead of capital-intensive methods developed for the United States (Meier, 1984, section VII).

Many nations have utilized their excess labor to become manufacturing centers for larger nations. Export-led growth has been a relatively common approach to development (Meier, 1984, section VIII). Ultimately, the capital/labor

balances change over time, and production moves to other nations. For example, automobile production that moved to Japan slowly moved into other Asian nations as the relative price of labor increased in Japan.

Also, over the past 30 years or so, economies have been changing. Most importantly, many have changed from manufacturing to service economies. In some cases, manufacturing technology has improved productivity so that fewer workers are needed in production—even in developing nations. Although this technology makes industries more efficient, it is capital intensive and ultimately requires fewer low-skilled workers, but more specialists. In the well-known case, Japanese automobile manufacturers experienced this situation as they replaced low-skilled/low-pay workers with high-skilled/high-pay workers to maintain robotic production facilities. Although a nation can still gain some growth through these types of investments, the complex issues are not the focus of this paper. As a strategy for growth, it is particularly suspect given the reported existing over-investment in certain sectors such as the automobile industry (*The Economist*, 2003).

Instead, the goal is to encourage wider-spread growth by expanding opportunities in the service sector. The size and diversity of the service sector makes it difficult to explore using general models. However, some work has been done in economics, such as Garcia-Mila and McGuire (1998) and Coe and Townsend (1998). Jones and Ruane (1990) as well as several other writers, looked at trade in services, partly in association with the World Trade Organization's Uruguay negotiations to reduce barriers. Some specific country-by-country work has been done, such as (Gilliard, 2004).

One interesting aspect of service in developing nations is that service tasks are often not included as part of the official economic statistics. For example, in a wealthier nation, families might hire housekeepers or yard workers—tasks that would be performed by individual owners without pay in smaller nations. Ultimately, one of the drivers of a service economy is the fundamental principle of economics: specialization as expounded initially by Adam Smith (Smith, 1776). Yes, one person can perform a variety of service tasks. However, all workers (and consumers) can gain through specializing in a particular field and then hiring other specialists to perform different tasks. This specialization then creates new jobs, and since the tasks become measurable, it creates growth.

Several questions arise from these concepts. First, how can a service economy be created and expanded to create this growth. In particular, is it possible to foster growth in “desirable” services? Second, how can growth be encouraged in the sectors that are important? That is, governments are notoriously inefficient at choosing sectors or regions for growth. It would be better to avoid requiring an agency or person to choose directions for growth. Instead, people should make the choices economically.

ECONOMIC GROWTH AND THE INTERNET

Can the Internet lead to economic growth? If so, how? Most researchers, including the United Nations, have decided that the Internet will become a critical factor in economic growth. Most have been primarily concerned with how nations will trade and interact with other countries. For example, (Khan, 2004), Executive Coordinator of the UN Information & Communications Technologies Task Force, notes that the UN is looking to improve access to information and to create a stronger middle class within developing nations. In part, the UN is encouraging the connection of the Internet to all secondary schools around the world. Khan also points out the ability of the Internet to shape change and work as a multiplier by providing accurate information to more people. For example, Costa Rica “leapfrogged” other nations within 10 years through extensive use of the Internet. In the apparent UN model, the strength of the Internet is the diffusion of information. Khan notes that the cell phone has demonstrated many of the same effects and it is cheaper than a PC: “The cell phone is of fundamental importance—it’s more important than radio and television as a communications tool for economic life.” As illustrated by (Lu et al., 2005), the cell phone is increasingly tied to Internet access. Many writers, including (Nath, Vasudeva & Murthy, 2003) have mentioned the “digital divide.” The high fixed costs of wired infrastructure have required government support.

To understand how the Internet might influence growth, it is important to look at basic factors in growth. Economic growth is generally measured by some overall measure such as GDP. Several well-known problems exist with measuring growth and with comparing economic statistics across nations. Nonetheless, the standard growth models examine the traditional macroeconomic formula: $Y = C + I + G + (X - M)$. That is, economic income is equal to consumption plus investment plus government spending plus net exports. To grow, a nation needs to drive increases

in at least one of the four components—without significantly offsetting the primary action through decreases in other components.

The Internet could lead to growth through any of the four components. Increases in consumption (largely B2C) might be improved through better access to information and markets. Spending on Internet and communication architectures constitute increases in investment. Simply building an Internet infrastructure increases economic growth. Whether it is funded through government spending or private investments, the effects are similar. However, in developing nations, some of this effect is mitigated because the equipment and cables are imported from overseas vendors. As noted by (Venkatraman, 2004), Web services, including provision of Internet access, are a growing component of e-business.

Interestingly, the net exports component has risen to public prominence in the past few years. The basic theory is straightforward: a nation with excess labor should be able to produce service-based items and export them to nations with labor shortages (higher wages). Increases in net exports results in more money flowing into the nation, which increases income directly, and leads to additional growth as the money is spent on additional consumption. Because of its prominence, this component will be examined in more detail first.

SERVICE EXPORT-LED GROWTH, THE INDIAN EXAMPLE

Freund and Weinhold (2002) have statistically examined the role of the Internet and trade in services. Although they did not formulate a specific model, their underlying argument is that the Internet can significantly reduce the cost of trading services. In fact, it can create trading opportunities where it was difficult or expensive before. For instance, the Internet facilitates the well-known use of programmers in India for US and European projects. Their research empirically shows that, for the 31 nations studied, bilateral business service exports to the U.S. increased from 1995 to 1999 in those nations with more Internet hosts. Export-led growth is particularly useful for developing nations because it generates foreign exchange which can be used to purchase needed products and supplies from other nations.

Service Exports in India

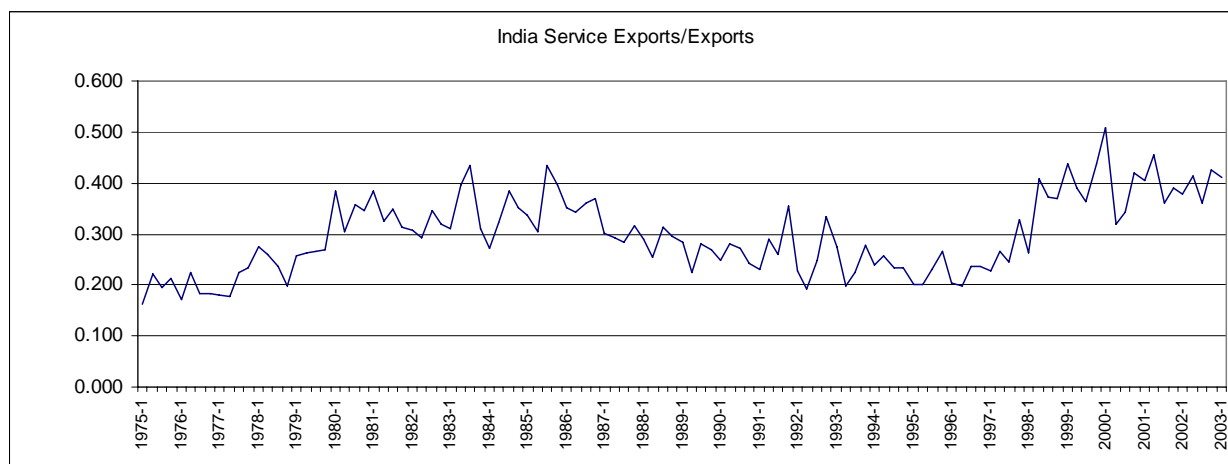


Figure 1: Service exports divided by total exports for India. Source: IMF.

Figure 1 illustrates the case for India. Using IMF data, the chart shows the relative value of service exports compared to total exports for the nation. Notice the growing importance of exported services—reaching 50 percent of total exports at the end of 2002. Also, notice the increase in the late 1990s and early 2000s—largely due to increased IT services provided to the United States. Total service exports were around \$20 billion (USD) for the year, while outsourcing revenue was probably around \$10 billion (Data Quest India, 2004). So, Internet driven service revenue was around 25 percent of the total exports for India in 2002 and 2003. That \$10 billion in revenue was a substantial piece of India’s total GDP of \$600 billion in 2003. The impact is even greater because of the multiplier effect.

Limitations of Service Exports

Most existing commentaries on India stop at this point. However, it is important to look at more details. In particular, Figure 2 shows the importance of looking at the net value (exports – imports). Notice that the net exports were substantially negative during most of the 1990s and were positive in only a few quarters. If a nation is trying to emphasize service export growth using the Internet, these numbers are even more important. Most of the international telecommunications facilities are run by large multinationals (many headquartered in the U.S.). Telecommunications costs can be a big part of service imports. Remember that every exporting firm has to pay a telecommunications bill. With economies of scale, this cost ultimately becomes a small portion of the total expenses. However, the startup costs can be quite high in many countries—between buying Internet equipment and paying relatively high costs for small usage levels. In other words, even India, the most advanced provider of international outsourcing, has a negative net flow of funds in services. So the economic gains to the nation are substantially lower than expected.

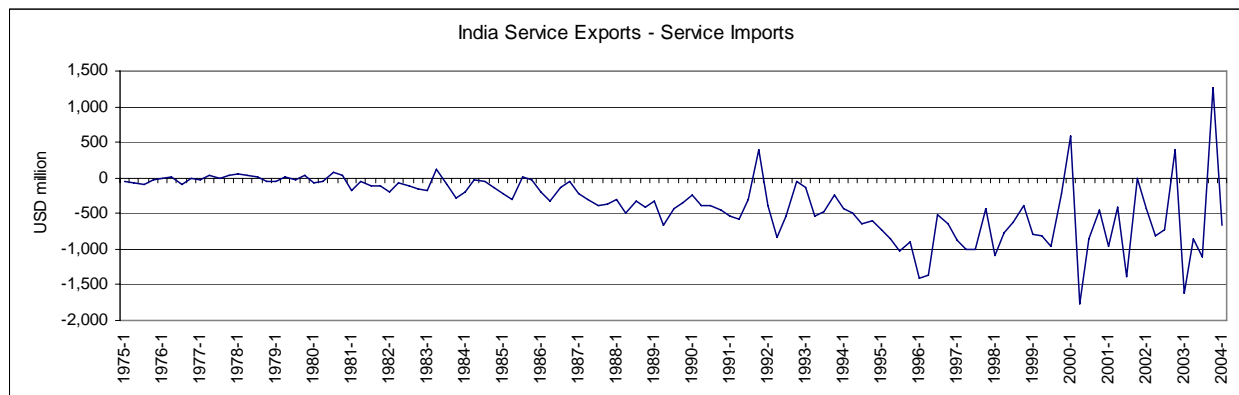


Figure 2: Quarterly net service exports for India in USD. Source: IMF.

In addition, there are serious unanswered questions about the ability of traded services to drive worldwide economic growth. In particular, standard trade theory reveals that it is not possible for all nations to provide the same services. Nations that have a comparative advantage in a particular service will excel or even specialize in that service. It is no accident that India has been a leader in offshore outsourcing since the nation has abundant highly-trained workers with the needed skills. The catch is that few other nations will be able to copy that model. Perhaps other nations can specialize in other areas of business services and consulting, but there seem to be few truly global service categories.

The question of service export-led growth comes down to whether a nation has a comparative advantage in a particular field, and whether firms have the ability to invest in the international infrastructure to obtain clients and carry the startup costs.

The classical Heckscher-Ohlin theorem in international trade (Takayama, 1972) states that under basic assumptions, a nation will export the good (equivalently, service) that is intensive in the factor of production that is most abundant. Since India has an abundance of labor with good mathematics education and specific training, it is now a primary exporter of technology services that intensively use those skills. One of the interesting aspects of the story is that at one time technology services were also capital intensive. At that point, few nations outside of the United States and a few other highly-developed countries had the capital to provide these technology services. As prices dropped and capabilities improved, the computer and telecommunications technology became affordable, and the entire process became labor intensive instead of capital intensive. Consequently, the shift to offshore production of the service was predictable. For anyone interested, international trade theory predicts several other changes as a result of this trade pattern, but these issues are outside the scope of this paper. The point of the comment is that some nations can use information technology to create exports, hence improve growth. But, each nation will find itself with different comparative advantages, so technologies that work for one are not likely to work for others.

An important way to look at trade is to examine the wage rates between nations. However, international trade theory shows that the key to wages (and trade) is relative values as opposed to absolute numbers. Ultimately, trade

and growth are driven by comparative advantage. For example, India has low absolute wages in both textile/apparel production and for programmers. Yet, you need to compare the relative wages (ratio) to other nations (e.g. the U.S.). If programmers in the U.S. cost twice as much as textile workers, but the ratio is five times in India; programmers would be relatively cheaper in the United States.

Table 1: Relative wage rates over time.

	1994			2006		
	Programmer	Apparel	Ratio	Programmer	Apparel	Ratio
U.S	\$36,022	\$23,220	1.55	\$55,570	\$21,260	2.61
India	Rs 56,128	Rs 14600	3.84	Rs 282,115	Rs 15,150	18.62

Values do not include benefits. Including benefits in 1994 yields a ratio of about 2.7 for both the U.S. and India but does not reduce the distortion in 2006. Sources: U.S. Bureau of Labor Statistics, Indian Labour Bureau, plus job ads and published company statements in India.

Table 1 shows the relative cost of programmers versus apparel workers in the United States and India for two points in time (1994 and 2006). Textile/apparel workers are a useful base comparison because that sector produces the primary export goods in India. Wage numbers are difficult to compare because of the issue of non-monetary compensation, benefits, and taxes. Nonetheless, the numbers presented in this table are relatively consistent. *The Economist* published data in 1994 that includes estimates of benefits that lead to similar ratios. The key point shown in the table is that the relative costs of programmers in the U.S. and India were almost identical in 1994. By 2006, programmer wages in India were driven by increased demand from the outsourcing firms, leading to a substantial increase in the relative price of programmers in India. Some data from leading firms in Bangalore show even higher salaries (approximately \$10,000 and a ratio of 30), with predictions of annual increases and shortages of programmers. Table 1 highlights that programmers in India are economically considerably more expensive than programmers in the United States.

The bottom line is that even in India, the most-cited nation for outsourcing, the expansion of computer services has not been the panacea some writers have claimed (or feared), and the trend is not economically sustainable. The shortage of workers and relatively high wage rates can only be supported through external (governmental) subsidies—particularly in the form of low-cost education and network connections. Any nation that looks to India as a mentor needs to understand these costs and make a determination of whether that money could be better used in other sectors.

INTERNAL GROWTH OPPORTUNITIES

If a nation is unable to find service exports to drive Internet economic growth, what other options exist? Ultimately, the answer lies in using the Internet to change the structure of an economy. If the Internet can provide new ways of performing old businesses, or even entirely new businesses, then entrepreneurs could evaluate the options and take advantage of them to create new businesses. Many of these businesses might fail, but if a few can find profitable opportunities and succeed, they can be the engine for growth. Even firms that ultimately fail can provide economic value while they are alive and information for other firms when they fail.

The basic goal at this point is to show that improved communications provided by greater Internet access can lead to internal economic growth (or at least the opportunity for growth). Growth can be through B2C or B2B sales. The underlying economic logic is the same in both situations. Ultimately, entrepreneurs need to choose a business category based on individual national and regional factors. On the other hand, B2B also includes investment opportunities, which are explored in the next section. The basic growth argument is that:

- (1) The Internet provides access to economic information, such as prices and quality.
- (2) Economic information and reduced search costs provide new opportunities for specialization and exchange.
- (3) Specialization and exchange lead to opportunities for growth and economic welfare gains.

The first plank of the argument is straightforward and uncontroversial. One of the most important strengths of the Internet in business is the reduction of search costs. Now, (a) whether enough people have access to the Internet, (b) know how to search for the data they way, and (c) whether businesses will provide the detailed information; are all important questions in a development environment. However, they are secondary. If the rest of the statements are true, then it would make sense to encourage the formation of the Internet facilities through government policies. The third argument is a common result of traditional economic theory. It can be verified in examining the proof of the second statement. For, the second statement is more challenging to prove. Viewed from a traditional economic perspective, it appears to be valid on face value, so it is not a radical proposition. However, because of its importance to the argument, and because of its role in economic development, this plank deserves more attention than the other two.

To understand the overall argument, examine a developing economy from the perspective of the workers. A related issue was emphasized by (Khan, 2004), when he pointed out that many economists and the UN are interested in driving the growth of a middle class in developing economies. The key goal is to move from a low-skilled manufacturing economy to a modern service-oriented system. In a poor nation, services are not often “traded.” That is, people (or families) will often perform many tasks for themselves—cooking, cleaning, sewing, plumbing, auto repair and so on. This situation is similar to the classic position of nations that do not trade. Without trying to develop the entire mathematical model, consider the labor service issue similar to international trade. See any international trade textbook (Takayama, 1972) for details on the models. Any person can gain by trading his or skill for other services.

Now, what role do information and the Internet play in this illustration of specialization and exchange? The answer consists of two related elements: (1) finding someone to trade services, and (2) establishing markets to formalize the trading. If you are an automobile repair specialist in a developing nation, it might not be easy to trade your services with a plumber. If a broad market does not exist for your skills (employers, marketing, and so on), then most people would be reluctant to trade. The issue of pricing and information has already been examined by several economists, such as (Stigler, 1961) and (Varian, 1980). The analysis is typically expressed in terms of products, but purchases of services should also meet the key assumptions of the works. The basic conclusion is that with variable pricing, purchasers can obtain lower prices through searching. As search costs decrease, the consumer obtains more information and finds lower prices. However, this type of analysis is essentially a bargaining mechanism between buyer and seller.

Interjecting the Internet into the search process should result in lower search costs. This action would tend to tip the scales in favor of the buyer, which largely represents a transfer of value from the seller; but it should provide some minor benefits to society by reducing overall costs. The more important point is that the Internet can provide a firmer definition of the market as well as information on quality. For example, many developing nations have skipped the installation costs of wired telephones by installing cellular systems. Consequently, many businesses and services will not be listed in directories, so customers do not have good ways to find information on the size and participants in the market.

Some form of communication is needed to establish market prices and quality evaluations. Local markets might rely on personal contacts, but growth will require broader-based information. It might be possible to establish a repository for this type of information without the Internet, but it would be more expensive, less accessible, and probably less detailed.

INVESTMENT GROWTH AND INFRASTRUCTURE

Creating an Internet infrastructure is expensive. For instance, looking at the details of the infrastructure in India, the Internet connections are not spread throughout the nation, but concentrated in specific areas. The impact has been specifically to provide support for a few companies, as opposed to internal growth. The reason is because of the cost of the infrastructure. The cost presents several economic conflicts. On the one hand, investment spending itself leads to growth; however, the capital needs to be available, and not taken from other activities. Additionally, almost all of the hardware is purchased from other nations—transferring much of the economic effect outside the country, and using limited currency reserves.

Along with the network hardware, installing fiber lines is difficult and expensive. Consequently, developing nations have generally focused on providing a limited number of connections to specific points. Wireless technologies provide a new, emerging method for building Internet connections at substantially reduced costs. These wireless technologies are WiMax, not typical WiFi. WiMax is capable of megabit speeds at distances of 10 km or more—longer for stationary point-to-point backhaul connections. It is straightforward to show that WiMax can reduce switch costs by 75 percent or more over traditional cables, and eliminate local last-mile cabling. (Details are omitted because of the mathematics involved, but are available on request.) Using WiMax as a backhaul can also eliminate many mid-level fiber connections, but may require line-of-sight access.

The main point is that emerging wireless technologies can be installed in developing areas at relatively low capital costs. These lower capital costs make it possible for entrepreneurs to enter the telecommunications industry. With a government policy to provide reasonable access to backbone networks, entrepreneurs could set up local WiMax Internet service areas for a relatively small investment in capital. By providing service connections to local businesses and consumers, the entrepreneurs can establish regional service businesses that generate ongoing revenue. These businesses could be started in relatively wealthy areas, such as larger cities or tourist locations, and the revenue stream could fund expansion into other areas over time. This approach has the dual benefit of providing immediate growth through investment, and long-term growth through providing better communications networks for more businesses and consumers.

GROWTH THROUGH ENTREPRENEURSHIP

In recent years, economists have placed more emphasis on Schumpeter’s views (Schumpeter, 1962) of creative destruction. The argument essentially notes that growth arises through change. Small businesses often lead the way, led by entrepreneurs willing to take risks and create new markets. Beyond the simple fact that they are larger, large companies differ fundamentally from small businesses. For example, (Heacki, 2000) examines the employee characteristics of small businesses.

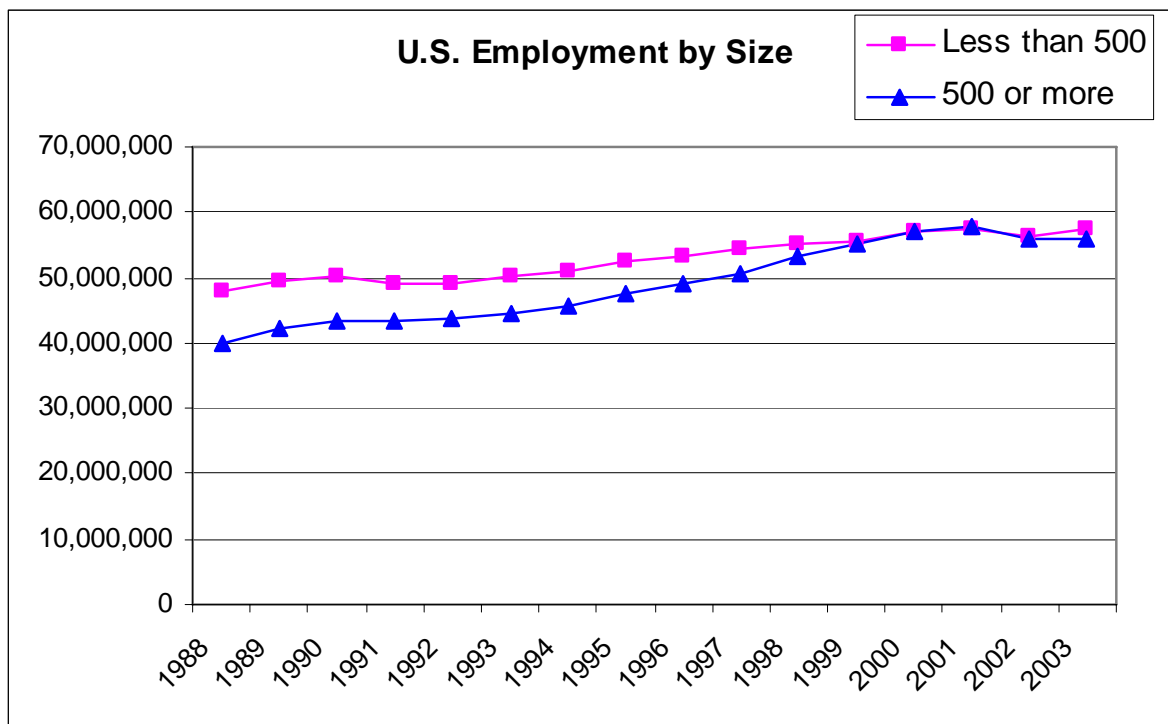


Figure 3: U.S. employment by firm size.

The increasing employment by larger businesses is likely due to mergers. Source: <http://www.census.gov/epcd/www/smallbus.html>.

Figure 3 shows the composition of employment at small and large firms in the United States. The split-point of 500 employees is chosen largely because it has been used by other researchers and because it is readily available from the U.S. Census bureau. Additionally, there is intrinsic error in the data because it is based on reports from individual workers—who might not know the exact number of employees in a firm. About half of all employees work for smaller firms. Until recently, considerably more people worked for small businesses. Part of the trend is likely due to the number of mergers occurring in the United States, along with the growth of a few key small firms into the large-firm category.

In the United States, anecdotal evidence that small businesses create growth is readily available by looking at the history of firms in the Fortune 500 listing. Many of them began as small firms and later grew to dominate entirely new industries. This dynamism is a critical element of growth in a competitive economy. Of course, it is difficult to identify exactly which firms and industries will succeed. However, the birth of new firms provides jobs for many workers and makes it possible for firms to experiment and find new directions. The point is that even in a large, developed nation like the U.S., economic growth and employment are often driven by small businesses. Consequently, it makes sense to focus on entrepreneurship in developing nations—faced with limited capital.

INTERNET ENTREPRENEURSHIP

Entrepreneurship plays an increasingly important role in the growth of new technologies. The Internet and the Web are important examples. As a new technology, exploration of business opportunities on the Internet was largely driven by new, entrepreneurial firms. Yes, large, existing firms, such as Cisco and MCI developed much of the underlying infrastructure. But, smaller companies led the way in exploring new business opportunities. Yes, many of the firms made poor business decisions and many failed in the dot-com crash. Nonetheless, they created new niches and hired thousands of workers for several years. For example, much of the commercial software was (and continues to be) developed by small companies.

Some authors, such as (Guillen & Suarez, 2001) have examined links between entrepreneurship and the Internet. Most have faced challenges with limited data availability. Causality is a major question. For example, (Guillen and Suarez, 2001) argue that Internet growth was faster in countries with greater entrepreneurship culture, laws, and resources. They show that Singapore had a high adoption of the Internet in part through government sponsorship but also due to a culture of entrepreneurship; while Argentina experienced low adoption rates. Despite a competitive economy, Argentina lacked financial capital for startups. (Waesche, 2003) examined the role of telecommunications reform in affecting entrepreneurship—largely in Germany. European telecommunication costs and restrictions posed several challenges to businesses. (Colombo & Delmastro, 2001) looked at the issues from the perspective of the entrepreneurs who chose to become early adopters of technology. They examined the traits of individuals in Italy who adopted the Internet versus more traditional managers—such as those in manufacturing. Although the differences are interesting, they are not directly controllable.

CONCLUSIONS

Economic growth is a complex subject. Governments usually want to encourage growth, but history has shown that it is virtually impossible to choose individual firms or even sectors that will lead to future growth. Even selecting infrastructures to support is a difficult question. Several writers have suggested that nations could follow the example of India and use information technology and the Internet to export services to other nations. Yet, a more careful examination of the Indian example shows that the net gains are highly variable and not necessarily positive. Additionally, the gains have come through government subsidies that have led to distortions in the economy. Although the approach might still be beneficial, other nations need to examine these effects and costs to determine if the costs are appropriate for other nations.

Even in large, developed nations, internal growth in the past years has largely come through small, entrepreneurial firms. With recent wireless technologies, developing nations have the ability to support the development and growth of entrepreneurial firms at relatively low cost. Wireless Internet technologies can be encouraged through bandwidth allocation and relaxation of telecommunications rules. Investments by small firms can lead to short-term growth. Development of an expanded Internet system can lead to new firms and improved efficiencies among existing firms.

REFERENCES

- Auerbach, A.J., & Gordon, R.H. (2002). Taxation of Financial Services Under a VAT, *American Economic Review*, 92(2), 411-416.
- Booth, L., Bruck, J., Franceschetti, M., & Meester, R. (2003). Covering Algorithms, Continuum Percolation and the Geometry of Wireless Networks, *The Annals of Applied Probability*, 13(2), 722-741.
- Bureau of Labor Statistics, data.bls.gov.
- Cnossen, S. (1998). Global Trends and Issues in Value Added Taxation, *International Tax and Public Finance*, 5(3), 399-429.
- Coe, N.M., & Townsend, A.R. (1998). Debunking the Myth of Localized Agglomerations: The Development of a Regionalized Service Economy in South-East England, *Transactions of the Institute of British Geographers*, 23(3).
- Colombo, M.G., & Delmastro, M. (2001). Technology-Based Entrepreneurs: Does Internet Make a Difference, *Small Business Economics*, 16(3), 177-190.
- Data Quest India, (2004). Upcoming and Potential Destinations for Offshoring IT Services (Until March 2003), <http://www.dqindia.com/content/datamine/2004/104022501.asp>
- Economist*, (2003). Extinction of the Car Giants, June 12.
- Economist*, (2004). Measure First, Then Cut, September 8.
- Freund, C. & Weinhold, D. (2002). The Internet and International Trade in Services, *American Economic Review*, May, 92(2) 236-240.
- Garcia-Mila, T., & McGuire, T.J. (1998). A Note on the Shift to a Service-Based Economy and the Consequences for Regional Growth, *Journal of Regional Science*, 38(2).
- Gilliard, D.J. (2004). Two Developing Countries With Two Different Economic Results: A Comparative Study of Thailand & Morocco, *Journal of International Technology and Information Management*, 13(4), 291-302.
- Guillen, M.F., & Suarez, S.L. (2001). Developing the Internet: Entrepreneurship and Public Policy in Ireland, Singapore, Argentina, and Spain, *Telecommunications Policy*, June, 25(5).
- Heacki, B. (2000). The Characteristics of Small-Business Employees, *Monthly Labor Review*, April, 13-17.
- IMF, International Financial Statistics.
- Jones, R.W., & Ruane, F. (1990). Appraising the Options for International Trade in Services, *Oxford Economic Papers*, 42, 672-687.
- Khan, S. (2004). Technology Can Be the Multiplier, *Business Week*, September 27, 2004.
- Kiiru, J.M. (2002). Revenue Implications of e-Commerce for Development, WTO, Ministry of Trade and Industry, Kenya. http://www.wto.org/english/tratop_e/ecom_e/ecom_e.htm
- Labour Bureau (India), labourbureau.nic.in.
- Lu, J., Liu, C., Yu, C.S., & Yao, J.E., (2005). Acceptance of Wireless Internet via Mobile Technology in China, *Journal of International Technology and Information Management*, 14(2), 117-130.

- Lynn, B. (2001). Growth Generation, *American Way*, August 15, 2001.
- Meier, G. M. (1984). editor, *Leading Issues in Economic Development/4e*, New York: Oxford University Press.
- Nath, R., & Murthy, N. R. V. (2003). An Examination Of The Relationship Between Digital Divide And Economic Freedom: An International Perspective, *Journal of International Technology and Information Management*, 12(1), 15-24.
- Schumpeter, J. (1962). *Capitalism, Socialism and Democracy*.
- Smith, A. (1776). *The Wealth Of Nations*, New Rochelle, NY: Arlington House (reprint).
- Stigler, G. (1961). The Economics of Information, *Journal of Political Economy*, 69 (3), 213-225.
- Takayama, A. (1972). *International Trade*, New York: Holt, Rinehart and Winston, Inc.
- Varian, H.R. (1980). A Model of Sales, *The American Economic Review*, 70(4), 651-659.
- Venkatraman, S.S., (2004). Web Services—The Next Evolutionary Stage of E-Business, *Journal of International Technology and Information Management*, 13(2), 111-122.
- Waesche, N.M. (2003) *Internet Entrepreneurship in Europe: Venture Failure and the Timing of Telecommunications Reform*, Edward Elgar Pub.: Cheltenham, UK.