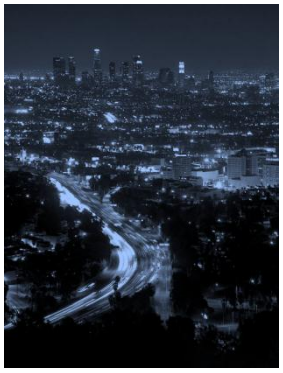
U.S. FDI Competitiveness Report 2011

Revival of the United States as an Economic Powerhouse

Investment Consulting Associates – ICA

October 19, 2011

Amsterdam

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Amsterdam, the Netherlands

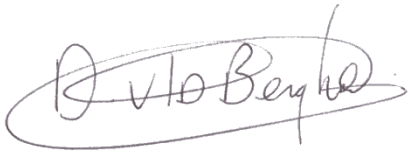
Dear Sir, Madam,

It has been two years since we successfully launched our proprietary location benchmarking platform locationselector.com at a number of events and institutions around the world. Our audience largely consisted of corporate senior management, government officials and economic development professionals. During various presentations we illustrated the competitiveness for Foreign Direct Investment (FDI) of emerging markets versus Europe and the United States. The results were not very surprising, with the usual suspects (i.e. the BRICs) and some new hotspots in South East Asia. However, as a young innovative strategic advisory firm we challenged the established view by posing that the United States could be re-discovered by investors as a favorable location for various manufacturing and service processes and in some cases even outsourcing activities.

Given recent global developments in corporate strategies, we increasingly see our pioneering view becoming reality. To justify our statements and to validate the revival of the United States as an economic powerhouse, we have conducted a thorough research into the current competitiveness of the United States versus emerging markets. The report demonstrates the leading position of the U.S. economy by recent decisions by major companies to re-shore, relocate or even expand their existing US operations. In addition, the report highlights a fact based analyses using our benchmarking software platform LocationSelector.com and a real business case from our advisory practice identifying accurate financial scenarios for making a strategic decision to relocate overseas or to expand domestically. Finally, the report shows the incentive potential of the United States for expansion and new investment by using our proprietary incentive deal database ICAincentives.com.

This report is the first in a series on the future competitiveness of nations. We hope you enjoy our report and appreciate your feedback, suggestions or comments. For more information regarding the U.S. FDI Competitiveness Report 2011 please contact info@ic-associates.com.

With kind regards,



Dr. Douglas van den Berghe
Managing Director
Investment Consulting Associates – ICA

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1. Introduction

The flow of inward investment and in particular Foreign Direct Investment (FDI) brings with it potential benefits for locations – they are able to differentially benefit from a strengthened technological base, enhanced supplier base and improvements in both the quantity and quality of local employment opportunities. Investment also plays a key role in enhancing the capacity of a host location to respond to opportunities offered by global integration, investment and production.

Traditionally the developed countries had most inflow of foreign investments. However, the economic downturn that started in 2008 changed the global landscape. For the first time in history, developing countries and transition countries[1] absorbed more than half of global FDI flows[2]. Given the rise of the emerging markets and the developments in the U.S. since the financial crisis broke out, e.g. debt ceiling debates, increasing budget deficits and high unemployment, the U.S. has been increasingly warned for its deteriorating investment location.

Already in 2008 Investment Consulting Associates – ICA challenged this wide spread view by posing that the United States could be re-discovered by investors as a favorable location for manufacturing and service processes as well as outsourcing activities. By means of our research study -presented at the IEDC 2011 Annual Event in Charlotte, North Carolina- we justified and validated our statements to a wider audience. The presence of a large internal market, highly educated employees, strategic infrastructure and relatively decreasing international labor costs point towards a newly emerging trend in Foreign Direct Investment: The Revival of the United States as an Economic Powerhouse.

This study contains four sections. First we discuss the determinants and drivers of corporations engaging in FDI. Second, we take a look at the market by collecting anecdotal evidence of the United States as a continuing leader in FDI. Third, using the online benchmarking tool LocationSelector.com we assess, benchmark and rank the competitiveness of the United States versus emerging markets based on economic indicators from international organizations. Lastly, we illustrate its financial attractiveness as an investment location by simulating a business case incorporating all relevant cost drivers that should be considered to make a strategic decision to relocate overseas or to expand domestically.

[1] Transition economies are economies in transition from a centrally planned economy to a free market economy
[2] UNCTAD Global Investment Trends Monitor: Global and Regional Trends 2010 No. 5 (January 17th 2011)

2. Determinants of Foreign Direct Investment (FDI)

According to the United Nations Committee on Trade and Development (UNCTAD) FDI inflows comprise of capital provided (either directly or through other related enterprises) by a foreign direct investor to a FDI enterprise, or capital received by a foreign direct investor from a FDI enterprise. Based on our global corporate location selection experience, we have structured the corporate drivers to engage in FDI in four categories, i.e. Market seeking, Resource seeking, Efficiency seeking and Strategic Asset seeking.

2.1 Market seeking

Market seeking foreign investments are driven by the market potential of the foreign market. According to the recent World Wealth Report by Merrill Lynch Global Wealth Management (MLGWM) and Capgemini, globally the High Net worth Individual (HNI) population is still concentrated in three markets, i.e. the US, Japan and Germany, who together accounted for 53 per cent of the world's HNIs in 2010. More specifically, the United States alone constitutes 28.6 per cent of the global HNI population and will remain the largest market now and in the near future for products and services versus established emerging markets.

2.2 Resource seeking

In terms of resource seeking, recent trends in raw materials seeking FDI show that Chinese firms invested significantly in African countries to secure the increasing demand for raw materials. Typically these types of investments are rather labor and capital intensive, instead of knowledge intensive. The extent of value added logistics is in most cases very limited and does not add to any capacity building for the foreign local economy.

2.3 Efficiency seeking

Efficiency seeking investors are continuously exploring ways to optimize their current footprint of facilities by shifting activities to new locations that offer increased efficiency, hence lower cost levels. However, selecting locations providing lower labor costs only can result in a very costly mistake. If the production process is capital and knowledge intensive, and the main markets for high value added goods and services are United States, Canada or Mexico, then an integrated financial model must prove the feasibility of the offshore business case compared to keeping the production in the US.

2.4 Strategic Asset seeking

Multinational corporations (MNCs) as well as Small and Medium Sized Enterprises (SMEs) engaging in strategic asset seeking FDI are motivated mainly by the quest for strategic resources and capabilities: the underlying rationale for such asset-seeking FDI is strategic needs. The United States have a unique competitive advantage over emerging economies in terms of developed industries, number of specialized suppliers, and clusters of supporting industries. These are unique selling points to potential investors that cannot be imitated in the short to medium term by other countries.

The public debate on the competitiveness of the United States, particularly focusing on outsourcing and relocation of specific business activities towards emerging economies requires a closer theoretical and practical look and may result in a more positive outlook. The economy of the United States needs to create

21 million jobs by 2020[3] for the unemployed and the new entrants into the labor force. In our view Foreign Direct Investment (FDI) to the United States is crucial to create these jobs as the largest economy of the world is still very well positioned to attract Market seeking FDI and Strategic Asset seeking FDI projects. In some circumstances, the United States could even become competitive against BRIC countries for Efficiency seeking FDI, especially when you take into account the overall supply chain costs, customs and duties and exchange rate risks.

The last decade the B(R)IC and emerging countries did enlarge their competitive position in manufacturing projects significantly, but the attractiveness of a low labor cost business environment is only temporary and fades away over time as country's move up the value chain and/or labor costs increase (see for example recent developments in the coastal areas of China). The transition to the next level in economic development requires different conditions, where the United States can again show its muscles: knowledge and talent, some of the best universities in the world, strategic infrastructure, entrepreneurship and purchasing power.

The next chapter will take an anecdotal perspective by looking at voices from the market: Market indicators and Trends about America's future to attract more FDI.

[3] According to latest analysis by McKinsey

3. America's Manufacturing Future: Corporate Manifestations and Global Trends

The U.S. suffered hard during the latest economic downturn. Even today a lot of uncertainty concerning the economic situation exists. When scanning through news reports and articles, not surprisingly, the creation of jobs and stimulating economic development is the single most important theme in American politics. The United States faces a daunting challenge in creating jobs: at current rates, it will take until 2016 to replace the 7 million jobs lost during the 2008–09 recession. Research from McKinsey & Company titled *Job Creation and America's Future*, indicated recoveries are becoming increasingly jobless due to firm restructuring and skill and geographic mismatches between workers and jobs.

Technology is changing the nature of work. Where jobs are being disaggregated into tasks, work is becoming virtual and firms are increasingly relying on flexible labor. These trends offer new opportunities for creating jobs in the U.S. This voice is echoed and built upon by *Wired Magazine* which states that "as the smoke from four years of charred capital starts to dissipate…we can see the gradual emergence of a whole new category of middle class jobs: a realm of work that could begin to close the gap in American employment. These new middle class jobs are what you might call smart jobs."

Smart jobs are defined here as innovative and high tech but don't require employees having a PhD, although they do require on the job training or a vocational program. These smart jobs tend to scramble the line between blue-collar and white-collar. Their titles tend toward the white—technician, specialist, analyst—but the underlying industries often tend toward the blue, towards the making of physical objects. While these jobs involve factories and machines, plastics and chemicals, the operating of the necessary instruments demands far more brains than brawns.

Interestingly, these new innovative middle class smart jobs are also located far from the traditionally innovative regions such as Silicon Valley and New York. They are cropping up all over the United States, in regions where you don't traditionally expect. Dayton, Ohio, for example, is a hot spot for Radio Frequency Identification (RFID) technology. Calcasieu, Louisiana, has become a hub for PVC and synthetic rubber, while job growth is flourishing from Richmond, Virginia to Provo, Utah in the information technology industry. To emphasize the development, an article from *wired.com* titled *New, High Tech Hope in Poverty-Wracked Old South* , illustrates I-85 as the new high tech corridor and is located in two of America's poorest regions.

This development has not been unnoticed by the federal and state governments. As *Industry Week* quotes Tim Ryan, co-chair of the House Manufacturing Caucus, as saying "while much of manufacturing has become more competitive and efficient, advanced manufacturing in areas such as green technology is critical to the country's economic future".

Ryan continues by saying "Everybody has to come to grips with the fact that we are not making tennis shoes any more. We are not going to make certain low-end manufacturing products. One of the real assets the United States always had was the fact that we supported that kind of cutting edge research and partnered with industry to make it work." Even the government is calling for the U.S. to lead the world in advanced manufacturing.

Adding to the discussion on moving production back to the U.S. was *Industry Week's* article titled *Are You Sure it is Cheaper to Go Offshore?* The article demonstrates that the total cost of the supply chain or Total Landed Costs (i.e. the sum of all costs associated with making and delivering products to the point where they produce revenue), is not only dependent on item by item product costs. Observing transportation costs, customs and duties and costs associated with increased lead times makes the U.S. much more attractive compared to many competing locations in Asia. Among others, the existence of third party logistics (3PL) and even 4PL providers who specialize in optimal supply chain management justifies this statement. A trend is emerging in the United States where 3PLs are helping manufacturers better understand the total cost of their supply chain and are therefore seriously beginning to look into the viability of adopting near-shoring strategies.

Combining the innovative characteristic of the U.S. and the increased focus on efficient supply chain management with the continuing rising labor costs in China (according to a study by the Boston Consulting Group), it is no surprise that *Reuters* and *MFG.com* confirm a "re-shoring" movement in the U.S., (i.e. repatriating production back to the U.S.).

A few examples of re-shoring and new foreign investments in U.S. manufacturing industry:

- Ford Motor Company and Wham-O (the makers of the Frisbee®) are cited as having already brought production back to the U.S.
- Germany-based Automaker Quaprotek USA invests $22 Million in a new Tennessee facility that brings over 120 jobs to the area.
- Presair, a manufacturer north of New York City, will return production of its switches from China by this Fall, 2011. The reasons included long lead times for product and the tying up of capital needed for expansion. While Presair will see its costs jump 8% with the move back to the U.S., its CEO Art Blumenthal believes those higher costs will evaporate with the rising costs of manufacturing in Asia.
- NCR plans to begin a second production shift, which will result in a total of 800 new (re-shored) jobs to Columbus, Georgia.
- In July 2011, American chocolate manufacturer Mars Inc. has announced plans to build a brand new "state-of-the-art" chocolate manufacturing facility in Topeka, Kansas—its first such site in the U.S. in over 35 years.

More interesting findings of the *Reuters/MFG.com* survey show that 40% of North American manufacturers with off-shored production are investigating bringing that work back to the U.S. within the next year. Additionally, Peter Dorsman, Senior VP of Global Operations for NCR, who recently moved production back to the U.S. from China to respond more quickly to competition and market trends, has received many phone calls from CEOs of other companies looking to follow suit and re-shore some or all production.

This chapter took an anecdotal perspective from the market on the competitiveness of the U.S. and the revival of an economic powerhouse. The next chapter will make a fact-based analysis of U.S. competitiveness by benchmarking the U.S. against competing emerging markets on cost as well as risk levels.

4. Benchmarking the Competitiveness of the U.S. versus Emerging Markets

This study started with an examination of the different drivers behind corporate FDI decisions, followed by a closer look of different views and opinions by various subject matter experts addressing these FDI drivers. Now we continue our assessment with a factual benchmark of the global competitiveness of the United States versus emerging and low cost economies. Based on several comparative global benchmark reports as well as national statistical resources, we have computed and modeled a competitiveness score for all countries under study.

To assess the competitiveness of the United States we have used Investment Consulting Associates´ (ICA) web-based location benchmarking software product LocationSelector.com.

Below are the aggregated location groups that we took into consideration for this benchmark analysis. More specifically, the six location groups consist of several location factors, and in total we modeled 61 location factors.

1. Business environment
2. Business risks
3. Infrastructure
4. Labor cost
5. Macro economy
6. Tax

The web-based benchmarking tool LocationSelector.com transforms the actual country values in a relative score between 10 and 100 (e.g. best in class country for a particular factor receives a relative score of 100) and calculates the overall country competitiveness scores.

Locations / Location Groups	Brazil	China	India	Indonesia	Mexico	United States of America	Vietnam
BUSINESS ENVIRONMENT	41.24	56.21	41.09	50.01	64.08	90.87	57.43
BUSINESS RISKS	28.86	21.52	21.29	14.66	36.52	100.00	10.00
INFRASTRUCTURE	13.48	50.66	41.17	28.65	39.74	100.00	20.06
LABOR	37.47	86.76	79.61	100.00	74.96	10.00	99.43
MACRO ECONOMY	29.48	57.26	43.16	32.52	33.85	55.00	37.26
TAX	47.81	62.53	32.00	64.13	68.99	76.00	60.24
Average Competitiveness Score	33.06	55.82	43.05	48.33	53.02	71.98	47.40
Rank	7	2	6	4	3	1	5

Source: LocationSelector.com

The overall competitiveness ranking implies that the U.S. still offers a very competitive investment location compared to the selected emerging low cost and high growth markets. The U.S. consistently score well in terms of business environment, business risks, infrastructure and tax. However, China, Vietnam and Indonesia score better on the criteria Macro Economy and Labor due to China's strong future growth figures and the relatively low labor costs in Vietnam and Indonesia.

In terms of labor costs the U.S. has a distinct cost disadvantage compared to its competitors. Yet, a new trend is observed called "re-shoring". Re-shoring involves re-migration of business activities back to the U.S.

from overseas locations and indicates that corporates are increasingly giving (and should also give) more priority to the softer factors, as these embrace a lot of hidden costs. The next sections will stipulate further on the different details per location group, included in this competitiveness benchmark assessment.

4.1 Business Environment

This location group not only consists of several criteria of the most recent World Bank's Doing Business In Reports, but also includes the FDI Confidence Index, the Intellectual Property Protection Index and statistics relating to the Efficiency of the Legal Framework. In total we included 42 different location factors relating to this location group only. Overall, the United States score significantly higher compared to its competitors, i.e. 90.87 with maximum scores on 30 out of the 42 location factors. Behind the United States and ranking second is Mexico, with a competitiveness score of 64.08 followed by Vietnam with a competitiveness score of 57.43.

The findings suggest that the business environment of Vietnam is considered more favorable than China's. This is also what we experience in our daily corporate site selection activities: bureaucratic concerns that corporates face in China are reflected by low scores on dealing with construction permits, starting a business, closing a business and employing workers.

India and Brazil have the least appealing business environment according LocationSelector.com. Yet, these countries have and still do enjoy large inflows of FDI projects, and this can partly be explained by the fact that these countries represent a significant internal market, which is still one of the most important drivers for foreign investment. In this perspective it is therefore not that surprising that these countries were popularly labeled as the BRIC's.

4.2 Business Risks

Business risks encompass corruption levels and economic freedom. Here the United States score best on both aspects, while Vietnam has the highest degree of business risks among all competing countries. A large gap exists in general between the United States and the runners up Mexico and Brazil with scores of respectively of 100, 36.52 and 28.86. This implies that the United States are much more stable than its global competitors, and provide corporate investors with a low risk investment location.

4.3 Infrastructure

The quality of road, rail, air transport, and sea ports is, among others, a measure of the physical effectiveness of corporate supply chains. A higher score implies a more effective supply and distribution of finished goods to final customers by using different modes of transport. The United States clearly stand out as reflected by the best possible score of 100. China ranks number two, but with a large difference in score with the US, i.e. almost 50 base points out of 100. Interestingly Brazil has the worst overall score in infrastructure. However, with the World Cup and the Olympics in the next 6 years, improvements in this area are expected.

4.4 Labor

The location group Labor in our benchmark analysis includes the average hourly compensation costs for all direct employees in manufacturing. Here we clearly see the relative high labor costs of the United States and the favorable low costs in Indonesia and Vietnam. The results here coincide with our experience in Asian

corporate site selection activities that routine and labor intensive production is relocated out of China to countries such as Vietnam and Indonesia.

4.5 Macro Economy

As a proxy for purchasing power, we used the GDP per capita and the estimated GDP growth rate over the next 5 years. China ranked first based on these two location factors. This is due to the high GDP growth rate forecasts for the next five years, whereas the United States has the lowest growth figures among the competing countries. The highest score for relating to the location factor GDP per capita does not compensate sufficiently to overtake China.

4.6 Tax

The location group Tax encompasses the corporate income tax for resident companies, ease of paying taxes, number tax payments, time to comply and total tax rate. Also here, it is the United States that scores best with maximum scores for the ease of paying taxes and the time to comply. Second place with less than 10 base points difference is Mexico. The US, however, scores lowest on corporate income tax for resident companies, whereas Brazil scores best by far. Interestingly, the total tax rate in Brazil is ranked lowest, which illustrates President Lula's social agenda and strict taxation rules on foreign capital entering Brazil.

4.7 Summary of the Benchmark for the U.S.

The final ranking in competitiveness as illustrated below suggests 4 main groups:

1. Competitiveness score 61< U.S.
2. Competitiveness score 51-60: Mexico and China
3. Competitiveness score 41-50: Indonesia, Vietnam and India
4. Competitiveness score 30-40: Brazil

Countries	Rank	Competitiveness Score
United States of America	1	71.98
China	2	55.82
Mexico	3	53.02
Indonesia	4	48.33
Vietnam	5	47.40
India	6	43.05
Brazil	7	33.06

Source: LocationSelector.com

A competitive and low risk investment climate, with relatively stable wage inflation, increased productivity levels and a skilled labor pool in the United States compared to rapid rising labor costs and seemingly overheating economies in South East Asia are shifting the global landscape of FDI. It does however all depend on the type of business you are in. As Tim Ryan, co-chair of the House Manufacturing Caucus said: "*We must face the fact that the United States will not produce any sport shoes anymore"* and *"While much of*

manufacturing has become more competitive and efficient, advanced manufacturing in areas such as green technology is critical to the country's economic future", illustrates the new direction and era in manufacturing.

According to the United States department of Labor, the output per hour at non-farm businesses rose 5.2% from mid-2009 until the end of 2010, while hourly wages rose only 0.3% in relative terms. This increased productivity in combination with the strong competitive environment (highly favorable for market, efficiency and strategic asset seeking FDI) plays a big role in the current "*reshoring*" movement as surveyed by Reuters and MFG.com. Of all the companies surveyed, as much as 15% say they have repatriated production back into the United States in the past 2 years. Trends like *reshoring* often sustain for decades as opposed to years (just as the offshoring trend), and now that the balance between cost levels versus risk levels is changing in favor of the US, we expect to see more and more jobs re-generated due to reshoring.

Our next and final chapter of our final report on "The United States: The revival of an economic powerhouse will demonstrate a real business case of a manufacturing plant in the United States versus competing low cost locations.

5. A Corporate Business Case

A much heard statement in the media nowadays is that the United States are steadily losing ground to emerging and developing economies if it comes to locating manufacturing business activities. In contrast, we also saw increasing anecdotal evidence of a trend which is called "re-shoring", which involves a re-migration of business activities back to the United States from overseas locations. This fourth chapter in the series on U.S. competitiveness will take a closer look into the total cost of producing overseas versus producing domestically, and tries to highlight hidden costs of relocating overseas, often ignored by internationally operating companies.

5.1 Total Cost of Ownership (TCO)

By means of a real business case, we present all relevant cost drivers that should be considered to arrive at accurate financial scenarios for making a strategic decision to relocate overseas or to expand domestically. Any financial base case analysis of the impact of offshoring manufacturing activities must take into account all the costs associated with an offshore initiative. The Total Cost to Ownership[4] approach (TCO) analyzes the entire cost a company incurs when producing or purchasing a particular manufactured part overseas. The TCO approach consists of the following key components:

1. Raw material Costs
2. Packaging Costs
3. Transportation Costs
4. Customs and Duties Fees
5. Inventory Costs
6. Lead times and local warehousing Costs
7. Quality control Costs
8. Travel Costs
9. Training and Productivity
10. IP Risks
11. Exchange Rate Fluctuations
12. Inflation Rates

In practice, corporate decision makers often ignore important cost drivers as listed above, and focus only on the labor cost differential between the United States and emerging economies such as China, Vietnam and India. Indeed, in that case China's labor cost of 2,80 USD per hour versus 25 USD per hour in the United States would eliminate all manufacturing activities in the U.S. However, there is a growing trend of re-shoring business activities from offshore back to the U.S., and by means of a case study we will highlight the ratio behind this trend.

5.2 Business Case

Company – XYZ – is productive in the automotive industry and is a first tier supplier to OEM automotive manufacturers. It produces high-technology braking and gearing systems, for which it also uses its own software systems, fully integrated with their "hardware" products. For their supplies of specific steel

[4] Based on the TCO model provided by Reshoringmfg.com

products, they are depending on several suppliers that are located globally. The board of directors is following a vertical integration strategy to allow for further growth of the company. One strategic question is to source the steel from third parties or produce and process the steel for their products internally. Second important question is where to locate the steel processing plant. Would it be more beneficial to locate the steel plant overseas and potentially benefit from lower cost levels, or does it make more sense to keep it close to the other facilities located in the US, to minimize lead times and minimize transport costs?

We will apply the TCO approach to these two strategic questions and try to provide a fact based answer to both questions.

Total Cost of Ownership (TCO) Estimator			
COST FACTOR	**U.S.**	**CHINA**	**CALCULATION FORMULA**
CoGS (Cost of Goods Sold)			
Raw material FOB price	$100,00	$70,00	
Packaging	$1,00	$1,40	unit price x packaging cost %
Duty	$0,00	$2,80	duty % X price
Fees: % of price	$0,00	$0,50	fee % x price
Fees: flat	$0,00	$0,10	Fixed fees
Routine surface freight, excluding local	$0,00	$0,29	% routinely planned for surface freight x (unit weight + packaging weight) X surface freight rate
Routine air freight, excluding local	$0,00	$0,00	(1- % routinely planned for surface freight) x (unit weight + packaging weight) X air freight rate
Total CoGS	$101,00	$75,09	

Source: Reshoringmfg.com 2011 and *Source: LocationSelector.com*

Now let's consider a unit price of one component steel of $100 versus $70 in China. The reason why packaging costs is typically higher in China, is because of export packaging is much more complex and has to meet specific standards of the countries of destination and origin. An important cost driver here are the import and export duties for this product (i.e. 4% for steel parts), and the associated fixed (Broker and Customs Fees) and handling fees. Given the nature of the product (i.e. weight / value ratio) we furthermore assume that all supplies are shipped per surface freight. Adding all costs for the United States and China we have a total Cost of Goods Sold (CoGS) of $101 compared to $75,09.

This case study demonstrates that off-shored production may mean a "lower price per unit", but not necessarily "lower Total Cost of Ownership". Sourcing or producing locally means long lead times, transit and warehousing issues, urgent matters which requires traveling, and other hard costs. The next page shows a summary of the different cost drivers for this particular case study.

Other Hard Costs	U.S.	CHINA	CALCULATION FORMULA
Carrying cost for in transit offshored product if paid before shipment	$0,00	$0,47	shipment time in years X interest rate X price
Carrying cost for inventory on-site	$0,82	$2,57	unit price X (avg. cycle inventory mos. + safety stock mos. + buffer stock mos.) / 12 X carrying cost %
Prototype cost	$0,03	$0,12	prototype cost/annual units/ product life
End-of-life inventory	$2,41	$5,83	1/12 x unit price x (Delivery time + avg. inventory) x annual quantity/annual quantity/product life
Travel: start-up	$0,02	$0,17	start-up cost / annual units / vendor life
Travel: audit/maintain	$0,08	$1,57	annual # of trips X (per trip cost of travel time + expense) / annual units
Pick/place into local inventory	$0,00	$2,00	(1- % of inventory delivered JIT) x U.S. unit price x pick and place cost as % of U.S. unit price
Purchasing cost, excluding travel	$2,00	$3,00	U.S. unit price x purchase cost %
Total Other Hard Costs	$5,37	$15,72	
Cumulative Total	$106,37	$90,81	

Source: Reshoringmfg.com 2011 and *Source: LocationSelector.com*

A carrying charge is the cost of storing a physical commodity, such as grain or metals, over a period of time. The carrying charge includes insurance, storage and interest on the invested funds as well as other incidental costs. When producing locally we assume no transit carrying costs, while the cost for inventory on-site are significantly lower in the United States with 100% Just-in-Time solutions, compared to China with average lead times of 45 – 60 days. In addition, long lead times require local warehousing stock for continuous delivery with coordination costs to place and pick the right products for the right shipments.

The prototype costs, including industrial design, are also generally higher when offshored, with local U.S. firms adding a risk premium to compensate for not getting the production.

One straightforward cost driver frequently underestimated is the travel cost back and forth. En economy class fare from the United States to China easily amounts US1,500 per tickets, with business class tickets 3 - 4 times more expensive, and this is even without any accommodation costs. In addition, factor in the time and expenses necessary to visit several suppliers and then audit at least one or more to finally select one.

If all hard costs are factored in, the price difference decreases to $16, still in favor of the scenario to start production in China. Undeniably for different products and commodities, China or any other emerging economy might be an interesting sourcing or production destination taking into account hard cost figures only. Yet, per definition there are also business risks involved in producing overseas. One of the major

concerns relates to the protection of intellectual property protection, with relatively poor enforcement regimes in many emerging economies. One other aspect that relates to several major concerns is the quality levels of producing or sourcing overseas.

Risk	US	CHINA	CALCULATION FORMULA
Emergency air freight	$0,00	$0,37	% air freighted x (unit weight + unit pkg. weight) x air freight rate
Rework/quality	$1,00	$2,10	unit price X quality cost %
Product liability non-recovery risk	$0,10	$0,42	unit price X liability risk cost %
IP risk	$0,10	$1,40	unit price x IP risk cost %
Opportunity cost: lost orders, slow response, lost customers	$0,50	$1,05	unit price x opportunity risk cost %
Economic stability of the supplier	$0,10	$0,35	unit price x supplier economic instability risk
Total Risk	$1,90	$6,04	
Cumulative Total	$108,17	$96,50	

Source: Reshoringmfg.com 2011 and Investment Consulting Associates

There are daily examples of shipments being delayed due to difficult logistics, strikes or customs issues. Additional costs are necessary to get the supplies in time, and avoid capacity constraints at the other production plants or delivery expectations with final customers.

Moreover, there are higher risks with working with overseas suppliers due to the fact that they will incorporate rapidly rising cost levels to you as customer, face language and cultural barriers and increasingly, behave opportunistically. Opportunistic behavior frequently occurs with local overseas suppliers breaching contracts when they negotiate a better deal with competing firms. Quantifying these risk levels based on estimates found in international business literature, results in a further reduction of the cost differential between the United States and China (i.e. $108,17 and $96,50 respectively).

In relation to some of the business risks, there may also be strategic reasons for senior management to keep production in close geographical proximity with R&D departments. There is much debate on the advantages of face-to-face meetings, with personal interaction, superior to conference or video calls. Physical distance is considered a negative indicator for the impact on innovation and the extent to which one is able to differentiate production or adjust production due to changed customer demand.

Strategic	US	CHINA	CALCULATION FORMULA
Impact on innovation of distance from mfg. to R&D	$0,00	$0,35	unit price x innovation risk cost %
Impact on product differentiation / mass customization	$0,00	$0,35	unit price x commoditization risk cost %
Total Strategic Costs	$0,00	$0,70	
Cumulative Total	$108,17	$97,20	
GRAND TOTAL	$108,17	$97,20	

Source: Reshoringmfg.com 2011 and *Source: LocationSelector.com*

When we include these strategic cost differentials we arrive at a total cost of ownership of $108,17 compared to $97,20 in China. In other words, the United States are facing a cost disadvantage of 11,3% for this particular part compared to China. Is this disadvantage in TCO reason enough to move production to China? And what about forecasting trends?

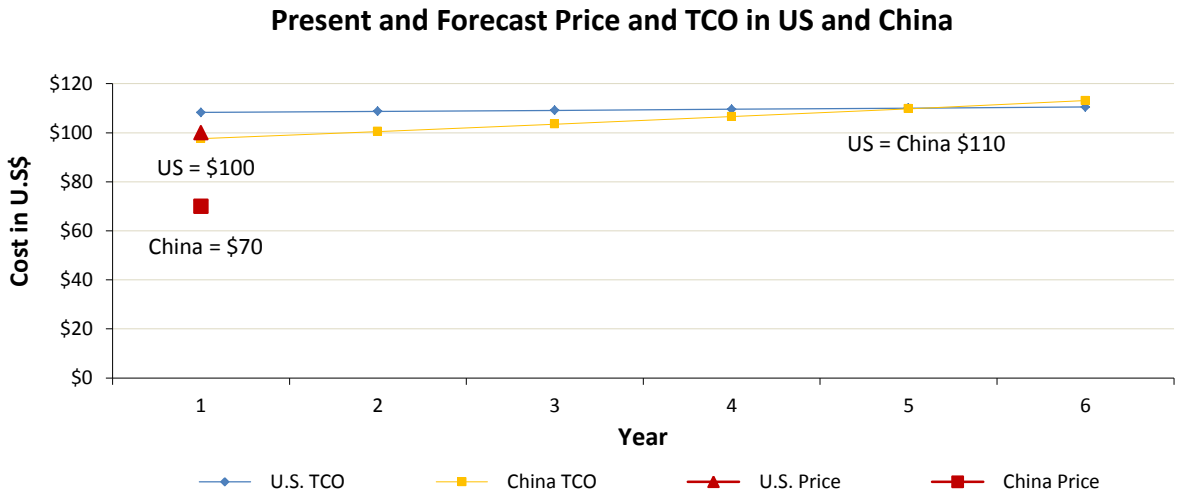
As Foreign Direct Investments are generally long term investments, a corporate location selection firm should always incorporate future trends into financial modeling. National and international statistics show that skilled wages in low labor cost countries have been rising at about 10% per year versus 2% in the U.S. Recent major labor strikes in China have resulted in wage increases of 24% to 100% annually. Transportation costs are rising again as oil prices increase and OEM's who have sourced work overseas continue to report problems with quality, counterfeiting and intellectual property violations. In addition, China's currency is appreciating against the dollar (on average 5%), which will further increase local product prices denoted in U.S. dollar.

By forecasting the annual cost increases based on the yearly impact of wage inflation and the appreciation of the Chinese Yuan, we can model the cost of ownership for a longer period.

5 Year Forecast	US	CHINA	CALCULATION FORMULA
Annual impact of wage inflation and currency appreciation on $ price of product	0,40%	3,00%	0.2 x (wage inflation % + currency appreciation %)

Source: Reshoringmfg.com 2011 and Investment Consulting Associates

A 5-year forecast model in this case study shows that the total cost of ownership will be eliminated in the medium to long run (i.e. 5 year time span).



Source: Reshoringmfg.com 2011 and Investment Consulting Associates

Our study shows that after adjustments are made to account for American workers' relatively higher productivity, wage rates in Chinese cities such as Shanghai and Tianjin are expected to be about only 30 percent cheaper than rates in low-cost U.S. states. And since wage rates account for 20 to 30 percent of a product's total cost, manufacturing in China will be only 10 to 15 percent cheaper than in the U.S.—even before inventory and shipping costs are considered. After those costs are factored in, the total cost advantage will drop to single digits or be erased entirely.

6. Incentive Potential for Investment into the United States

Today investment incentives are used by many governments around the world to attract FDI to their country or region. Especially globalization and regional economic integration have led to rapid growth in FDI projects and greater competition to attract them. Although, incentives (tax breaks, job creation grants etc.) are one of the pillars of economic development and FDI policy making, for many corporate decision makers incentives are only important in the last phase in a site selection project and can be seen as the "icing on the cake". This chapter shows that apart from the general business environment and a specific business case the United States also offers an attractive incentive policy regime (at both federal and state level) in favor of many industries and corporate investment projects considering the United States as a final destination for their investments.

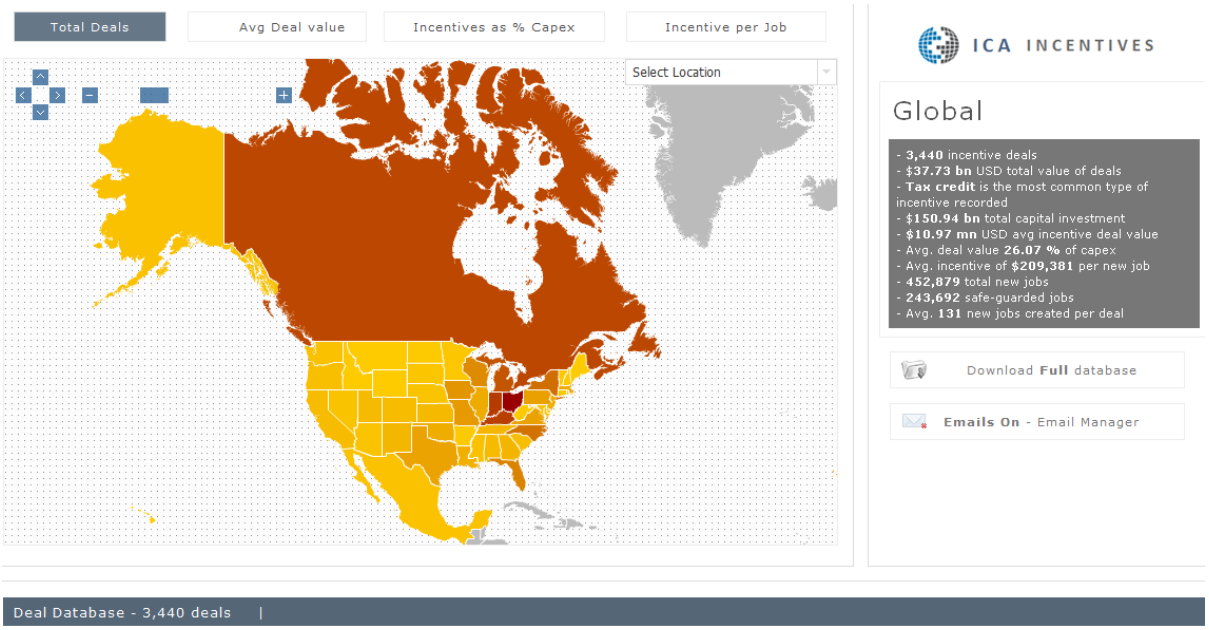
Quantifying the importance of incentives, the WTO estimated that 1% of global GDP is spent on subsidies. In the economic climate of the last few years, the subject is of even greater significance. Tax revenues are declining, while governments are under huge pressure to bail out troubled industries and to create jobs. In general, five policy objectives can be identified that incentives are used to achieve:

1. To overcome a competitive weakness
2. To promote investment in deprived areas
3. To attract particular industries
4. To correct for market failures (e.g. investment in environmental technologies)
5. To change the image of a location

Thomas' study on investment incentives[5] identified advantages, e.g. increase in economic growth, and disadvantages, e.g. reduction in economic efficiency, of the provision of investment incentives. While it should be emphasized that there are no points on which researchers are in unanimous assent, one conclusion is widely shared: Lack of transparency hinders academic and policy analysis, and it hamstrings popular participation in decisions over taxpayer resources (Thomas, 2007). Incentives should be transparent, easy to understand, visible, and credible in order to establish a reputation in the market.

ICAincentives.com is the only incentive deal database tracking all major financial subsidies and incentives awarded to domestic (interstate and intrastate) and foreign investment projects globally. Through the transparency provided by this database in awarded tax credits, cash grants, loans and training grants, we are able to show the role of incentives in the U.S. business climate.

[5] [5] Thomas, Kenneth P. *Investment Incentives: Growing use, Uncertain benefits, Uneven Controls; An exploration of government measures to attract investment.* Prepared for The Global Subsidies Initiative (GSI) of the International Institute for Sustainable Development (IISD),Geneva, Switzerland. November 2007.



ICAincentives.com 2011

When comparing the United States and Canada in terms of incentives awarded since January 2010, ICAincentives.com generates the excel output below:

	United States	Canada
Number of incentive deals	2657	221
Total new jobs	274454	16700
Total safeguarded jobs	89915	15310
Average deal value	$19 million	4,4 million
Average number of jobs created per deal	103	76

ICAincentives.com 2011

The output shows that the United States are spending significantly more than Canada on incentives measured by average incentive value and the United States provide more incentive deals per capita. Companies planning to invest in either the United States or Canada will therefore generally be more inclined to invest in the United States than in Canada when observing the overall incentive data. The large amounts and number of incentives awarded by state agencies and local governments significantly enhance the competitiveness of the business climate of the United States.

When zooming in on manufacturing projects, since January 2010 the industry received $22,2 billion in incentives, which amounts to 43% of total incentives in the United States and an average incentive value of $15 million. Of all incentives awarded, 56% have been given to projects in manufacturing and generated in total 141574 jobs. The figures show the determination of American governmental agencies in reviving the manufacturing industry in an (inter)national setting.

Although an incentive offer is not the sole argument to decide to locate in the United States, its value in the final stages of the location decision making process cannot be underestimated. ICA's corporate site selection experience show that final decisions on an investment project are strongly influenced by incentive packages offered as the final shortlisted locations typically offer similar investment climates.

7. Conclusion

The main message in ICA's *U.S. FDI Competitiveness Report 2011* is to show that corporations increasingly prioritize "softer" factors, as these, in practice, embrace the bulk of hidden or unexpected costs. It is not the labor cost differential only which is driving the decision to source and produce locally versus overseas. Undeniable, they look appealing for any operations manager, controller or CFO. Yet, the complexities, risks and service and quality levels involved in global supply chains requires a much more sophisticated cost modeling approach.

Increasingly, Total Cost of Ownership (TCO) is gaining ground and tries to capture the entire cost volume a company incurs when producing or purchasing a particular manufactured part overseas. The comprehensive simulation of the manufacturing business case highlighted this TCO approach, and shows which cost drivers are often neglected by finance departments. An important conclusion is the fact that the total cost differential between the US and China decreased to as much as 11%. After incorporating the annual wage inflation and the appreciation of the Chinese Yuan, the cost differential decreases to single digits and eventually evaporates in a 5 year time horizon.

This report also showed that apart from the general business environment and a specific business case the United States also offers an attractive incentive policy regime (at both federal and state level) in favor of many industries and corporate investment projects considering the United States as a final destination for their investments.

Undisputedly, this is a defining moment for American manufacturing leaders and the United States economy as a whole. Business leaders as well as Federal and State governments have come to terms that the world has changed. Tim Ryan's quote stating "*We must face the fact that the United States will not produce any sport shoes anymore"* supports the recommendation that governments must actively support advanced, knowledge and capital intensive manufacturing that drives the United States into a new era of innovation. As our research shows, there is much to gain when prioritizing the right sectors and industries. It is exactly the combination of the competitive and low risk investment climate, with relatively stable wage inflation, increased productivity levels and a skilled labor pool in the U.S. compared to rapid rising labor costs and seemingly overheating economies in South East Asia that are shifting the global landscape of FDI in favor of the United States.

8. About Us

About Investment Consulting Associates - ICA

Investment Consulting Associates (ICA) is an independent adviser to companies optimizing their global supply chains and location portfolios. ICA also supports governments in building and enhancing their Foreign Direct Investment (FDI) and economic development strategies. Through our global partner network and multi-disciplinary approach we can assist our clients with an integrated package of service offerings.

Our business philosophy is to utilize smart and efficient software solutions in providing dedicated and tailored consulting services. LocationSelector.com and ICAincentives.com are two of our flagship web based products for companies and governments assessing and benchmarking the competitiveness of global business locations and optimizing their incentive potential. This unique service offering differentiates Investment Consulting Associates from traditional management consulting firms who are active in the field of investment promotion and corporate site selection services.

Many of our clients are ranked among the world's 500 largest companies, but we also advise midsized businesses, nonprofit organizations, and government agencies. Our global track record supports our mission to become world leader in FDI advisory.

About LocationSelector.com

In today's global investment arena, it is crucial to stay informed about the latest investment opportunities and new hot spots for investors. Pioneering new markets, maximizing supply chain networks, evaluating your location portfolio, these are all very relevant, yet complex matters. LocationSelector.com is the web-based software tool that offers four modules to monitor, benchmark and rank the competitiveness of investment locations through: rankings, tables, graphs and time series, financial analysis tools, best practices and report functions.

About ICAincentives.com

ICAincentives.com is the only global incentive deal database tracking all major subsidies and financial incentives awarded to interstate, intrastate and foreign investment projects. The platform allows corporates, consultancy firms and governmental agencies to analyze trends in incentives being awarded by country, state, city, and sector, optimize incentives packages and negotiate more effectively.

9. Authors

Douglas van den Berghe (PhD)

Managing Director Investment Consulting Associates – ICA, LocationSelector.com and ICAincentives.com

Douglas van den Berghe (PhD) is the CEO and founder of Investment Consulting Associates – ICA headquartered in Amsterdam and two web based FDI advisory products: www.locationselector.com and www.ICAincentives.com. Douglas was previously the director of Ernst & Young - International Location Advisory Services (ILAS) part of the real estate group of Ernst & Young Global. He holds a PhD in Business Administration from Erasmus University Rotterdam – Rotterdam School of Management (RSM). As a management and strategy consultant he assisted many corporate clients in successfully implementing their global investment strategies, location selection as well as optimizing their global supply chains across the world. Some of his corporate clients include: Shell, Philips, Electrolux, HB Fuller, John Deere, Johnson Controls and ING.

As an Economic Advisor he also worked on issues related to Foreign Direct Investment (FDI), economic development and competitiveness for numerous governments, Freezones and Investment Promotion Agencies (IPAs) in numerous countries. As an Economic Advisor he has also worked for various international organizations like the US State Department, United Nations Conference on Trade en Development (UNCTAD), United Nations Development Program (UNDP), Organization for Economic Co-operation and Development (OECD), European Commission and the Economist Intelligence Unit (EIU).

Douglas has lectured at a large number of universities and business schools worldwide including: Harvard Business School (HBS) and published in several journals like: International Business Review, Transnational Corporations and Business Strategy Review.

Douglas has worked in many countries including: EU-27, Central America, Albania, Australia, China, Ghana, India, Jordan, Iraq, Mexico, Saudi Arabia, Senegal, Ukraine, United Arab Emirates, United States and Turkey.

In addition, he has the following sector expertise: electronics, consumer products, financial services, automotive, oil & gas, chemicals and IT.

Matthijs Weeink

Director Consulting Investment Consulting Associates – ICA

Matthijs Weeink holds a double master degree in International Economics & Geography and Business Administration, providing him with key essentials to understand the complexities of FDI advisory.

Throughout his career, Matthijs has been engaged by some of the world's largest multinationals, providing high quality location and site selection services in various continents. As a project leader of high profile cross border investment projects, Matthijs proved capable of handling multidisciplinary teams (i.e. Human Resources, ICT & Telecom and Tax), while meeting deadlines, leaving satisfied clients.

Matthijs broadened his horizon with FDI advisory and training workshops for Economic Development Organizations (EDO's). In conjunction with other ICA consulting specialists, he developed FDI Academy, a full set of training workshops that can be provided to maturing as well as advanced EDO's. In addition, Matthijs provides regular guest lectures at Universities and Business Schools, highlighting the investment decision making process by multinationals and successful FDI acquisition strategies by governmental agencies.

Besides consulting skills, Matthijs obtained specific expertise in the field of software development, maintenance and testing. As product developer for LocationSelector.com, he is responsible for further improving ICA's unique FDI software solution.

Frank Peterse

Senior Consultant Investment Consulting Associates – ICA

Frank holds a double Master degree in International Business from Maastricht University and International Relations (First Class Honors) from IE Business School. During his master in International Relations, Frank specialized in Foreign Direct Investment and Economic Development.

In his position as Senior Consultant of FDI Advisory projects for governmental clients worldwide, Frank advised many Investment Promotion Agencies and Regional Development Organizations in their FDI Promotion and Lead Generation Strategies. Recently he conducted in-depth competitive benchmark analyses of CEE and CIS countries and delivered a lead generation strategy and aftercare techniques in Georgia. Based on his experiences he developed *Achieving Excellence* in international competitiveness for Governmental Organizations globally.

Before joining ICA, Frank had setup an IT Consultancy company with multinational clients. His extensive knowledge and experience in Sales Management, Human Resource Management, Brand Positioning, Market and Business Development made him responsible for ICAincentives.com, the only North American Incentives Deal Database.

Frank worked with both corporate and international organizations such as ING, Philips, UNDP, OECD, and the European Union.

10. Contact Details

Investment Consulting Associates (ICA)

HFC Plaza

Symphony Tower, 26th Floor

Gustav Mahlerplein 109 - 111

1082 MS Amsterdam, The Netherlands

P: +31 20 794 60 81

F: +31 20 708 59 03

E: info@ic-associates.com

www.ic-associates.com | www.locationselector.com | www.icaincentives.com