

An Innovator Leaving Japan

Deep-rooted Problems in the Japanese Knowledge Economy

Dominiek ter Heide, May 7, 2010

Most people learn about Japan for the first time in Junior high, the textbooks are probably still the same: earthquakes, volcanos, bullet trains, smoggy cities and state of the art technology. Almost everyone I meet outside of Japan still believes that technology is years ahead of its time here. In fact, it was one of the main reasons why I ended up spending a lot of my youthful years here. But I have news for you, Japan is no longer that country, in fact, it has been lagging behind for more than a decade now.

It's not strange that people's perception of Japan is so out of whack with reality, it's mainly because this country is still very closed. Whenever a big earthquake happens here, my parents ask me a couple of days later about it and when I ask them for the details, I notice that most simple facts reported by Western media are simply erroneous. Let's clear up a couple of things about innovation, business and economics in Japan.

The Axis of Manufacturing

Japan's economy runs around a very powerful axis, the axis of manufacturing. What does Japan export? Industrial goods: electronics, cars, plastics, etc. It's important to understand that most Japanese organizations are either directly or indirectly involved with the export and manufacturing of industrial goods.

	% of GDP
France	77
USA	76
UK	75
Italy	71
Germany	70
Japan	68

Figure 1: service sector size of G7 countries (except Canada); source: Worldbank 2005

Japan has a smaller service sector than most other industrialized nations (Figure 1). This might not necessarily be that alarming, because 68% is still a huge chunk of the GDP. However, when we start looking under the hood of Japan's service sector, things get scary: **Japan's service sector is primarily servicing domestic demand and the Japanese industrial complex.**

When taking a closer look at some of the top service sector companies, like for example, JAL, one of the largest companies in the world, most of it's revenue comes from domestic flights and air freighting [1]. Or what about Seven & I Holdings? This is a service company that's not facilitating the industrial complex and has 64% of its Seven Eleven stores outside of Japan [2]. Is this perhaps an interesting exception? On closer examination, it appears that still 67% of the revenue is still coming in from domestic operations.

Service Trade Balance G7 (in million US dollars)

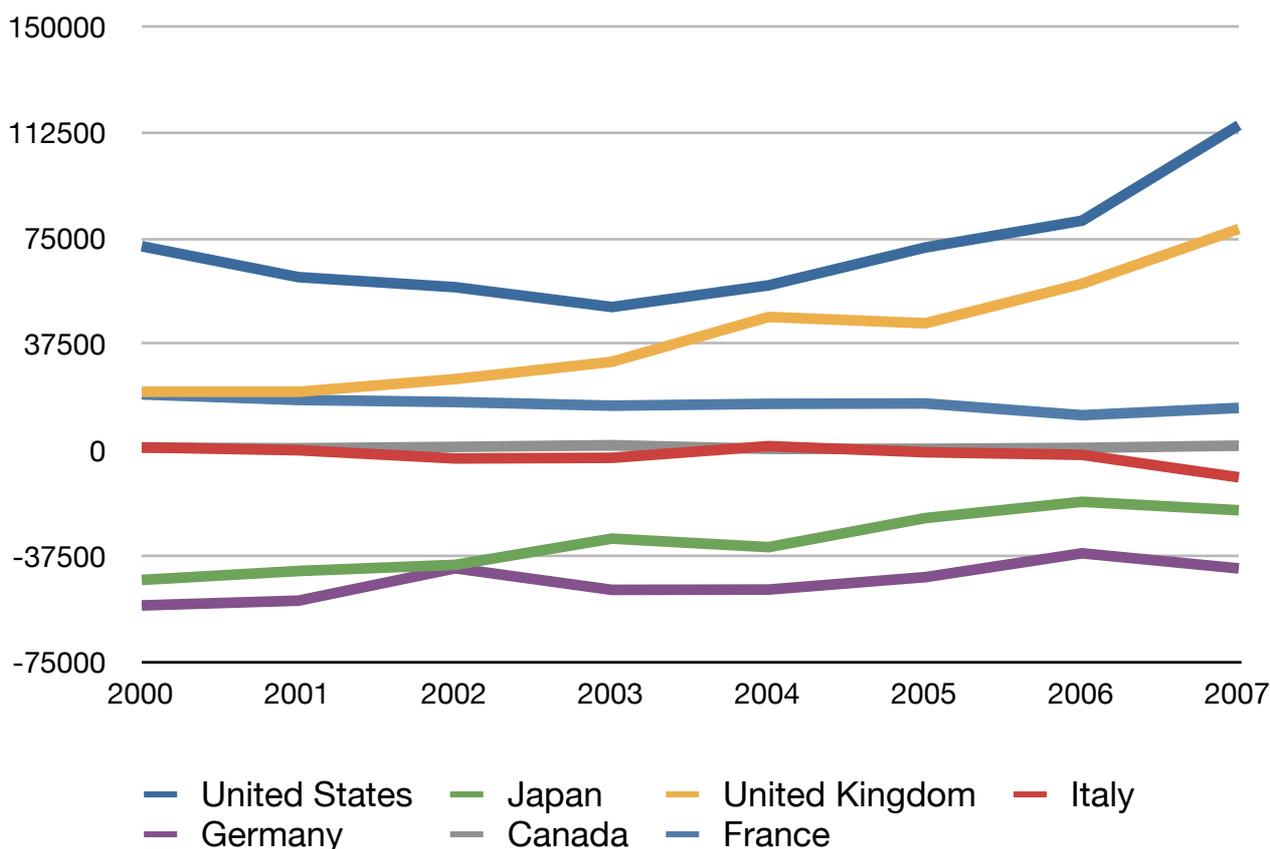


Figure 2: service trade balance of G7 countries; source: OECD

Patrick Ström has published a very revealing survey in 2005 in which he compared the Japanese service industry to its international counterparts [4]. The study revealed several shocking insights:

- Japan, together with Germany has a huge service trade deficit. Figure 2 shows an updated chart of the G7 trade balance.
- When looking at employment numbers in a specific sub-sector called 'intermediate services' - services aimed primarily at the business community - Japan employs 3 to 4 times less people than their G7 counterparts.
- Outward FDI has gone from a wide varied investment in multiple service sub-sectors to a single focus on finance and trade.

If somehow the export of industrial goods would come to a halt and the axis of manufacturing would stop spinning, Japan would be in big trouble. Japan's service sector would shrink significantly and apart from the export of tacit industrial knowledge (to China) there is no service trade. Also, Japan's service sector is under-internationalized [4] which could make it hard to bootstrap service trade. In other words, if the Japanese export of industrial goods would come to a halt, the fallout in the service sector will be great.

Dutch Disease?

In economics, the Dutch disease is a concept that is believed to explain the apparent relationship between the increase in exploitation of natural resources and a decline in the manufacturing sector. The theory is that an increase in revenues from natural resources will de-industrialize a nation's economy by raising the exchange rate, which makes the manufacturing sector less competitive and public services entangled with business interests. [21]

Perhaps a post-industrial version of this has happened in Japan. So let's flip it:

The Japanese Disease: An apparent relationship between the increase of manufacturing exports and a decline in the service sector. An increase in revenues from the industrial sector will delay the post-industrialization of a nation's economy by *lowering* the exchange rates, which makes the manufacturing sector *more dominant*.

Thanks to the Western consumption boom of the past decades, Japan's industrial export axis has spun fast and steadily. However, despite efforts like suppressing the Yen, the export of industrial goods has been stagnating. The usual suspects for its cause are the slowdown of foreign consumption and the overall disruption in the credit markets. But I would like to highlight another factor, something that's unfortunately much deeper. It has to do with the very fabric of today's innovation.

The Drivers of Innovation

To understand the root of the problem, you have to understand the very nature of technological growth. Technological growth is exponential, and the very reason why it is is because the world is becoming more informational. For example, the software on an iPhone and the virtual ecosystem its running are much more important than the actual hardware. The same goes for manufacturing, the knowledge and know-how of operating robots is much more important then the actual construction process. This phenomenon will exacerbate itself to its fullest extend when nano-technology matures.

When automation increases, the need for knowledge and design increases. Knowledge and design exist under completely different laws than the physical world. The physical world is all about scarcity and a low amount of variety. The informational world is all about abundance and extreme variety. In order to keep on innovating, companies, governments, education and society need to be able to deal with that.

Note: I've written a separate article that explains this in depth entitled [Redefining the Knowledge Economy](#) [18].

So what do you need to create an environment where innovation and thus knowledge/creativity thrives? What do you need for a thriving post-industrial economy?

You need a culture that can deal with change. You need companies that are small and agile. You need incentive structures that reward ideas over performance. You need a government that is not stuck in bureaucracy. You need a thriving VC investment climate with Angel Investors that are willing to take risk. You need entrepreneurs that take risk. You need an education system that rocks. And guess what, Japan has none of that [12, 13].

A New Hope?

Japan is a country that doesn't change easily, everything is running according to deep rooted rules and mechanisms. Individualism is a very different story here than in the Western world. People speaking up and revolutions are a scarce commodity here nowadays.

That's why it was quite special that only several months ago, people voted for change, they got rid of the 50 year ruling party the Liberal Democratic Party (LDP) and now the Democratic Party of Japan (DPJ) is in power. The LDP has been around for ages and were like a siamese twin with the industrial complex.

Here are the economic policy changes proposed by the DPJ:

Japan's Economic Growth Strategy [5]

We will increase the disposable income of households and encourage consumption, by introducing policies such as child allowance, free high school education, abolishment of highway tolls, and abolishment of provisional tax rates. These measures will change the Japanese economy to one centered on domestic demand, and will make stable economic growth possible.

The development and proliferation of the latest technologies such as IT, biotechnology, and nanotechnology will be supported. Strong government support will be given particularly to measures against global warming in order to further enhance Japan's advanced technical skills in this area and to nurture the environment-related sector as a future growth industry.

The agricultural, forestry, fishery, medical and nursing care industries are new growth industries. Providing an individual household income support allowance for farmers, improving working conditions for people in the medical and nursing care sectors and other measures will be taken to enhance attractiveness and growth potential of these industries, and nurture them so that they become industries that create large-scale employment.

DPJ's economic growth strategy is very populist without any real substance. Most of this 'strategy' is paying lip-service to voters with typical promises like: tax reduction; job security; elderly care; family support and eco-friendliness. All very popular themes in Japan, especially the latter.

One big re-occurring theme in economic policies is the stimulation of domestic consumption. While I understand that this might stabilize things, I don't see how this by any means could substitute for the economic growth that's powered by the axis of manufacturing and export.

The development and proliferation of the latest technologies such as IT, biotechnology and nanotechnology is the only part of substance. But this will only have significant impact if it's executed in a post-manufacturing fashion. Aside from providing government grants for certain research projects, the government should start cultivating an ecosystem where knowledge innovation can thrive. One such measure would be making it attractive for investors to invest in ventures by setting up joint seed funds, something that's being done

in Singapore right now. Singapore is leaping ahead in these areas, some even say that Singapore could become the 3rd Silicon Valley of the world [6].

Near-term Opportunities in Japan

Japanese culture has sparked the interest of many foreigners including myself. There is a big variety of both physical and digital cultural goods that are being consumed abroad. Unfortunately, the commercialization of the latter, digital and informational goods, has been quite slow. Instead, vibrant fan communities have sprung up and taken it upon themselves to pirate and subtitle Japanese Manga books and anime videos.

Interestingly, small startups with international understanding have sprung up that recognize this foreign demand and try to monetize it. Flutterscape [14] - a peer-to-peer trading community - is a nice example of such a company.

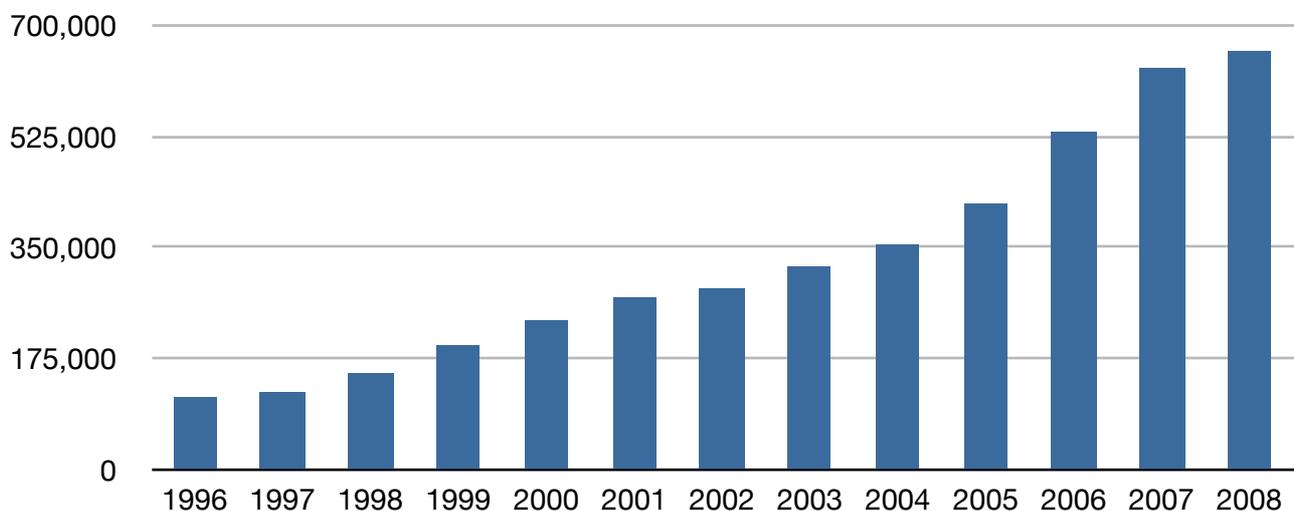


Figure 3: Annual Japanese Language Proficiency Test applicants [9]

Perhaps there is some doubt right now about the popularity of Japanese culture [7, 8], however, numbers indicate that there has been a static growth of the amount of people learning Japanese (Figure 3) and the amount of people visiting Japan (Figure 4). In recognition of this, the Ministry of Tourism has made it their goal to attract 10 million inbound visitors over the course of 2010 [15].

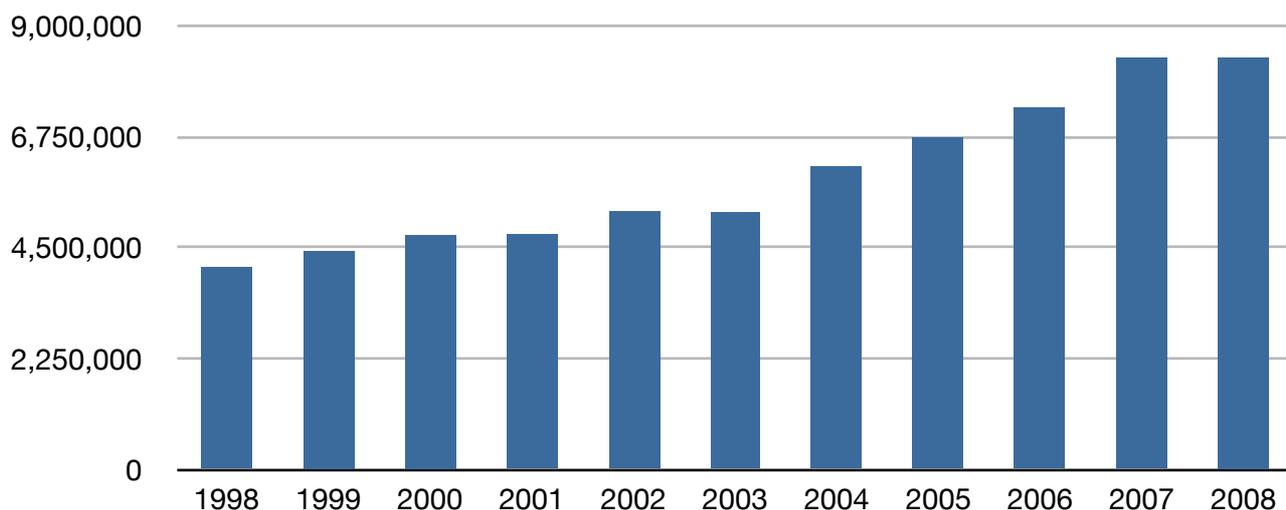


Figure 4: Annual Inbound Visitors [10]

The popularity of Japanese culture can have another major benefit: it can attract young foreign talent to Japan. During my days as CTO, about 80% of the software engineer job applications we received from overseas were people that are interested in Japanese culture and want to dive into the adventure of living in Japan. Some of these applicants were very talented indeed so we hired and relocated some of them.

In order to have an even greater impact however, this import of foreign talent should go way beyond employment. Many of the native Japanese entrepreneurs here have been abroad for a certain period in their life. They've been outside of their comfort zone and came back with a vision and a hunger for change. While not apparent at first, internationalization plays a big role in a startup climate. For example, a quarter of American technology companies have foreign-born founders and more than half of all Silicon Valley businesses were founded by immigrants [16]. Like the US [17], Japan should take measures to make it more easy for foreign entrepreneurs to set up shop.

The quality of life and the level of comfort is insanely high in Japan. This can mean that once you're living in Japan, it can be hard to leave. After what I think is a 5 year threshold, it becomes increasingly hard to leave the comfort-zone of Japan. This comfort is a double edged sword: While it upgrades the quality of your life, it can also take away your ambitions and make you lazy. I've seen the latter happen to many foreigners around me.

The Japanese standard of quality and excellence has made it difficult for foreign companies to engage domestic consumers [13]. Companies like Toyota have used this pursuit of excellence to transform foreign markets. This same strength should be used in industries beyond manufacturing.

Most Japanese people will tell you that the single most important thing in life is eating. Before I came to Japan, I thought eating was simply a means to survive, after spending some time here, I've started to align more with the Japanese on this subject: You don't eat to live, but you live to eat. In a country where Michelin stars are not good enough [19] and international uproar is caused by an endless pursuit of a piece of sashimi [20], cuisine is perhaps an enormous hidden asset that is waiting to be monetized. Miki Watanabe, is an example of someone who is doing that very thing. He is taking the great Watami franchise he founded and exporting it to the world [13, 21].

Conclusion

As optimistic as these near-term opportunities might sound, there is no way that they can substitute for the amount of wealth created by the axis of manufacturing. A vibrant tourism industry will also far from contribute to economic stability. Ultimately, Japan needs massive change, with a primary focus on creating a knowledge economy which is now simply non-existent.

When industrial production becomes more commoditized, it becomes vital for an economy to move beyond it's industrial era. This means that a strong knowledge economy needs to be created by stimulating non-incremental change. Such knowledge economies can only come to exist by creating a healthy business and investment climate, a characteristic that's present in the US, but is very often underrated and undervalued. In Japan's case however, there are many deep cultural issues that need to be addressed first in order for people to step outside of their comfort zone, something that's affecting everything from business to education.

I started writing this article to address the issues around information innovation and how it's starting to affect manufacturing companies. To explain, for example, why Toyota has trouble with software in their cars and why an iPhone will outcompete any advanced Japanese phone. But when I started my research by diving below some of the macro-economic figures, I was shocked to find out that things are way worse than I thought: The service sector is too small and under-internationalized, inward FDI has been neglected, outward FDI has been non-diverse and worst of all, the service sector is one big extension of the manufacturing axis with few activity in higher level business services.

Even though this is all very grim, there are many things in Japan that have great value-creation potential. The standard of life, the excellence in food and the perfection of arts is a gift to the world. Right now, the people that have never been to Japan are missing out on something amazing. Many people in the world however, will soon travel to this land of the rising sun and they will fall in love with it.

For me, new technological opportunities lie ahead, but they are not in Japan for the time being. However, my three years in Japan have been one hell of a ride and also I have fallen in love with this country and it's people. That's why you can be assured that I will be touching down on this island at least once a year, to keep a finger on it's pulse and to spend quality time with my friends.

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