

More contacts and money will get us everywhere

Trade promotion through education

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Ladies and gentlemen,

Let me first of all thank you for the invitation. It is a great honor. It is also very encouraging that you are meeting like this together as Nordic and Baltic universities. I think it is obvious that there is a lot of common ground and it makes a lot of sense to meet in this community.

Just listening to the conversations here is a great learning opportunity. So thanks for that.

I will try to make two points today.

- First, that a move **from student exchange** between universities **to student integration** by universities would not only accelerate education payoffs and research, but also boost trade.

This is something the universities can influence directly at least to a large degree.

- Secondly, that the funding of this integration must be increased and managed by the universities themselves.

This has implications to that hard, but important, issue of the funding of higher education. In essence we should **not only have public funding of the income statements** of universities, **but of their balance sheets**. And there should be more of it.

But on this issue we need to start a debate together, because this is much a political issue.

*The fundamental thesis behind this is that **in a global knowledge economy, the integration of global higher education is the best long term trade promotion there is. And the engineering profession is at the core of this.***

First a word about the BCCA.

The BCCA is a network of the chambers of commerce around the Baltic Sea Region. Together these chambers of commerce organize hundreds of thousands of companies that join our efforts to develop our economies and –foremost of all – do business and trade together.

Most people in the world actually live in growth markets. Many of them are far away, but our region is actually doing very fine as well. The post 1989-Baltic Sea Region is a success story. There has never been more trade than today.

Trade is about spreading knowledge, behavior and technology and at the core of trade is of course human contacts and therefore the spreading of customs and ideas.

Trade is to economy and development what water is to nature and evolution. It gets in everywhere and is absolutely essential. My favorite example is how this force of commerce was used to outlaw segregation in the USA. In 1964 president Johnson continued the work of Kennedy on a bill to prevent public establishments from discriminating against race.



(Picture 1- President Johnson (the first southern president since the civil war 1865) signs the civil rights act of 1964. Note Dr Martin Luther King overseeing it behind him).

But the federal government could not just forbid the states of the United States to ban discrimination in restaurants and public places. Because the constitution is clear that the states are sovereign within their state limits with regard to this. But Washington can decide about anything that passes the borders, such as inter-state trade. So the clever solution was this.

The act outlawed “*discrimination based on race, color, religion or national origin in hotels, motels, restaurants, theaters, and all other public accommodations **engaged in interstate commerce.***”

And since in a modern economy there is no single place of business which does not use any product or bi-product which is traded between states, this in practice meant EVERY public accommodation.

Think about it. A radio show may be produced in only one place, but the equipment you need to send, transmit and receive it is composed of the efforts from lots of people from lots of places. So any place with a radio must comply with the federal law. And by a similar logic, this goes for all places serving a cup of coffee as well.

I say this to underline that trade is not mainly about money. It is mainly about people meeting and sending ideas in the form of products and service to each other. Money is just a very nice bi-product.

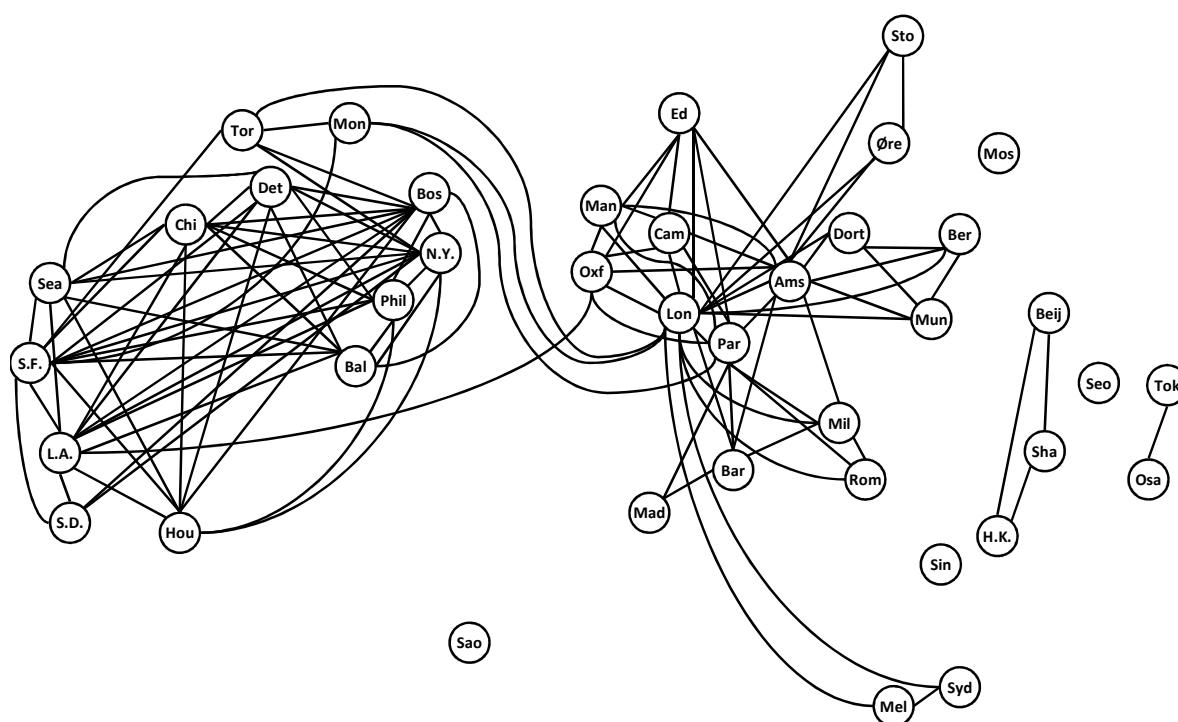
So, trade just gets in everywhere.

And as you are all aware, so does knowledge. We humans have this innate propensity to seek out other like ourselves and learn. In fact we are so good at learning technology that we have forbidden it in some cases. This is called patent law.

In spite of the current economic recession trade in the Baltic Sea region is actually growing. Statistics from my own home-country Sweden is an example: import and export with countries in the Baltic Sea area was up about 10% last year.

In fact if you look at it, trade with our close neighbors far exceeds that of the trade with Asia and south America. A similar thing goes on in terms of scientific collaboration. We all know that geography still means a lot for our choice of partners.

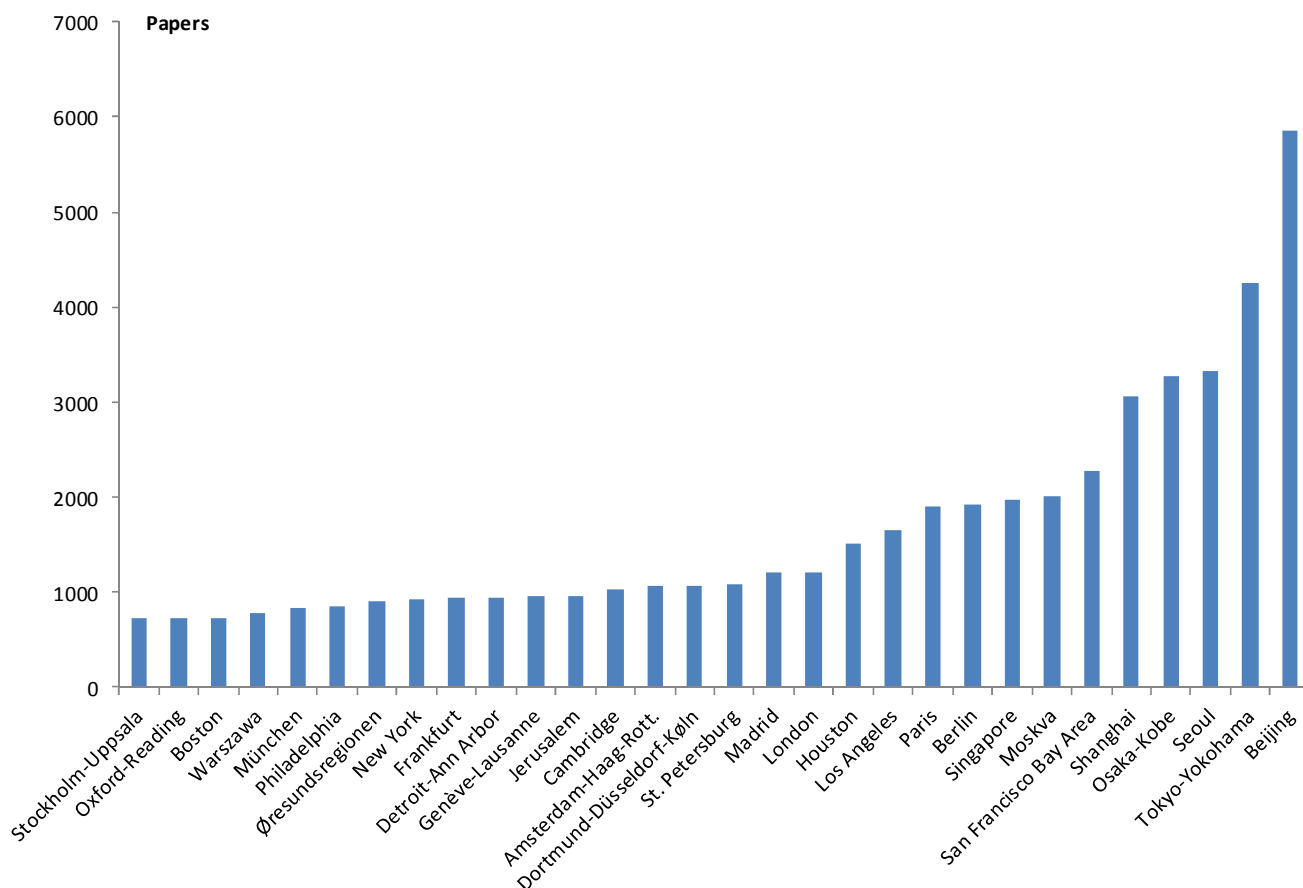
My next picture comes from a very recent study, which will be published later this Year. It is a map based on bibliographical co-authorships. And it shows the strongest international relationships in the world (2008-2010). Twenty years ago the network was much smaller. But as you can see, China and Brazil are not yet fully connected. We still cooperate more with close neighbours and old partners, such as the Nordic /Baltic sea markets.



(Picture 2 – co authorships in peer reviewed journals, relationships with more than three times the mean collaboration. Source: Professor Christian Wichmann Mathiessen)

But this does not mean that the universities of E.g. China is lagging behind, at least not in terms of effort. Again I will show a picture from this upcoming report, and this one shows the number of publishes papers with the field of nano-technology.

Here both Moscow and several Chinese universities stand out as very keen students of technology. But the important take-away from these pictures is how fantastically integrated the world of research is, and what a great potential we have to integrate more.



(Picture 3 – papers published in peer reviewed journals in the broad field of nano-technology. Source: Professor Christian Wichmann Mathiessen)

This brings me back to the issue of trade. In the past trade policy has been about tariffs to stop and direct trade and about subsidizing official agencies to help companies do export. This all comes from a time when exports and international trade always had huge dimensions of diplomacy in them and involved even more paper work than today. For instance not so long ago in the 1980ies you could not move money abroad from Sweden to Denmark without permission and registration at the National Bank. A lot of government policy for promoting trade is still based on the world as it looked back then.

But modern trade promotion should recognize this propensity to inter-act more. And it should acknowledge the importance of exchange of skills and knowledge to commerce and industry.

If you look at the European Union with all its warts and faults it has a number of things it actually have done rather well. One of the most important is to fund inter-state exchange between students and researchers. The contacts that have been created this way has probably boosted trade much more than all the official government grants put together. (Actually someone should study it seriously)

This brings me to my first point.

Because while successful, the current student exchange philosophy we still have was designed in the 1980ies. The fact that I am myself a former Erasmus student proves that the system has been in place for a very, very long time. And hopefully has better judgment nowadays as to who gets a grant.

I think it is time to take the next step and go beyond exchange to integration. I am aware that to some extent I am kicking in open doors here, but I think the volume, pace and intensity of what is going on is simply too small, too small and too relaxed.

The problem with student exchange on a more individual basis is mainly that it is risky. It is costly; it's a social challenge and the quality of courses unknown. This makes many hesitate. Perhaps we should think the other way around and make international engagement the safe choice by incentivizing it better.

One answer is to make programs international by design. We see this among business schools, especially in their well-funded flagship programs aimed at businesspeople. They are more and more designing a program in collaboration between schools. An example is MIT Sloan and IMD. This builds international networking into the very fabric of the education. And this increase trust and market knowledge, which fosters trade exchange.

The opportunity to co-design programs this way has a lot of potential, especially in masters and phd programs. But it should not be the exception, it should be the rule. The experience of interaction and learning abroad and the networks will stay with the students their whole careers. And that is really good for trade.

Put simply an engineer 1984 is not the same thing as an engineer 2012.

In 1984 you could function rather well just staying in your country. Today companies and their engineers are global and very seldom domestic.

By integrating programs so that they are co-designed between schools and mix students from different cultures we gain a lot

- There is accelerated peer learning (between students and between faculty)
- It exposes students to technology knowledge and views from different cultures
- This prepares them for the global world in which they will work
- This in turn fosters trade development long term

Note that peer learning (i.e. when you learn from colleagues) is a very important contribution to adult learning and the effect should not be underestimated. It is for example one of the value drivers of innovation clusters.

The same should be done for the education of our future researchers in PhD programs.

The excellent example of the five Nordic technical universities (NORDIC FIVE TECH) that now collaborate is a step in the right direction. The joint M.Sc. programs in maritime engineering are a good example of a more integrated model. However we need to go deeper and have much more of it.

There are of course obstacles, but you are all aware of them so I need not mention it.

Technology has an opportunity to spearhead this development. Simply because technology is a very international and vital language. Probably as much or even more than medicine, who still uses latin - a dead language to communicate - which is frankly a bit unsettling for a field that is supposed to keep us alive.

This brings me to my second point. Funding of international integration in Europe has been boosted by the EU and the national governments. The latter often in the form of student grants and loans.

The map I showed bears witness of a strong drive to integrate. Universities do not need to be told to integrate. It is in their DNA. **We should consider that the system with external funding for pre-set purposes and the current setup of rules is actually sometimes LIMITING integration.**

I think we should consider one option much more, namely allocating funds directly into the **balance sheets** of the universities themselves, i.e. making them independent financially in a literal sense. I think this is more important than ever, given the financial constraints that the fiscal systems will face for a long, long time.

When we ranked Swedish universities and university colleges some years ago it was striking that that the top performers had some things in common. One clear issue was governance – they all were run as independent foundations, i.e. they were freer to formulate policy and more independent financially.

I will not develop this much more than noting that the independence that your own money gives is likely to make universities much better partners to industry and will free up resources for even more international integration.

So it is not just about sums of money, but HOW they are given. Too often government funding comes via the income statement of the universities year by year. But as a complement we should give substantial funding in the form of donations to the balance sheet. And allow universities to build equity. This would make higher education more robust for fads and trends both in politics, the economy or the academia for that matter. Alliances can then become more stable, more strategic and this is important because good education takes some time to establish and fine tune.

But having said that it *is* also a matter of *HOW MUCH* we spend. Just to give you an idea of what I am talking about, I will give you a very upsetting example.

Yale University started a five year fund-raising campaign in 2006.¹ In 2008, the year of Lehman Brother, they adjusted their ambitions. They had aimed too low and instead of 3.0 Billion dollars, they increased the target to 3.5. In June 2010 they had passed the 3 billion dollar mark.

Just to make a benchmark, this is 20 times more than all the Swedish universities get in four years 2009-2012 years combined from the government directly². Considering that Sweden gives a lot, this speaks volumes.

You say well that's just the USA, they always had more money, it's a different system.

¹ "The University is in a capital campaign: Yale Tomorrow. FY10 was the fourth year of a five year public campaign (preceded by a two-year silent or nucleus fund phase). The goal is \$3.5 billion (the original goal of \$3 billion was increased to \$3.5 billion in June 2008). As of June 30, 2010, the campaign had raised \$3.026 billion in "outright" gifts and new commitments. At the end of FY10, 68.7% of the \$3.026 billion raised by the Yale Tomorrow campaign had already been received." **From Yale Financial Report 09-10**

² <http://www.sweden.gov.se/content/1/c6/11/39/70/9dca6e14.pdf>

Yes, but that's a poor excuse. And up until now this meant that they could recruit some of our best professors. In the future it may also be that they take the bulk of the best students, right off our campuses. Take a look at the Stanford free online courses that are now being taken up by Harvard and MIT as well. It is their system, but it is our students. Time does not allow a discussion of the implications, but this will be noted by everybody.

Also consider that China is aiming at educating or recruiting over a million PhDs by 2020. This can be compared to the fact that the US has about 600.000 researchers today. Even if they don't make it, you have to admire the commitment

By the way, the Chinese word for qualified labor is **renkai**. Remember it, because it might become as famous as the word karate, and just as powerful.

If we want to remain interesting and relevant partners, we too must own up and devote more effort to these issues as societies.

The European knowledge society should be something which is produced by European engineers today, not the catalogue title of a history class in Beijing.

So I today tried to offer two views.

- One – we should abandon mere student exchange between schools and integrate the schools themselves
- Two – we need to convince policy makers that this is needed and should be financed by injecting equity and more mandate into the schools
- The first issue is very much up to the universities, the second we need to start doing together.

Thank you for your kind attention.

/the end

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