



21st Century Education

@

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Why 21st Century Education?



Average is over



Globalization has changed the world. For Example:

- We are preparing students for Jobs that don't currently exist.
- We are competing with countries that are more committed to education than ours.
- Students are entering a job environment that is more GLOBALLY competitive.



"To get rich is glorious."

Deng Xiaoping



**The Rise of China & Globalization and How it Impacts American
Public Education**



CHINA

- China has a population of 1.3 Billion people.
- China is currently opening one university a week.
- 40% of Chinese university graduates completed their studies in a STEM related field. This is twice the share of US students. (<http://www.bbc.com/news/business-35776555>)
- By 2030, China and India could account for more than 60% of the Stem graduates in major economies, compared with only 8% in Europe and 4% in the United States.



- The number of graduate and undergraduate students has been growing about 30% a year since 1999.
- Skilled labor supply in China now equals around 40% of that in all OECD (Organization for Economic Co-operation and Development) countries, and the growth rate of student numbers is much higher than in the OECD.
- China produces three times the number of engineers compared to the US. Among 24 year olds in 2001 who had a Bachelor of Science or Bachelor of Arts degree, only 5% in the U.S. were engineers, compared to 39% in China.



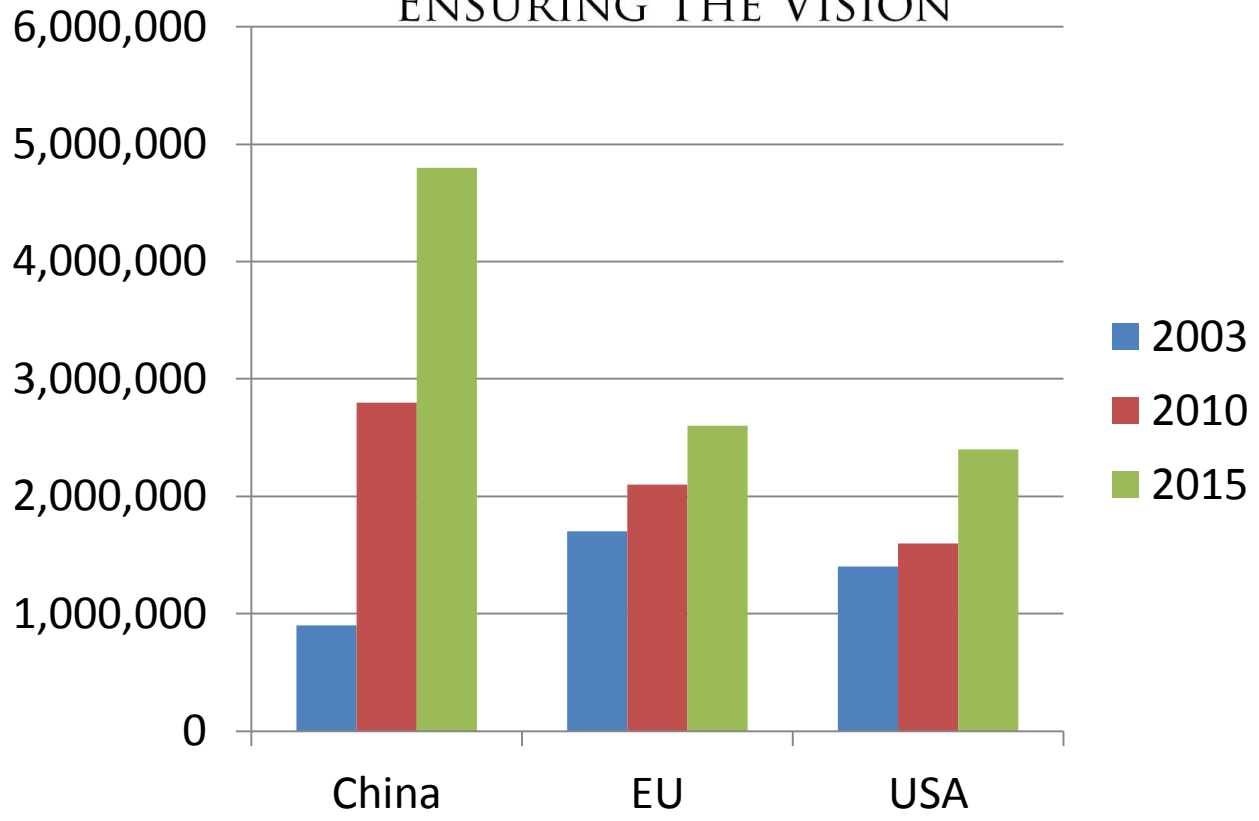
CHINA

- Chinese college enrollment has quadrupled since the 1980's
- The Chinese are graduating 200,000 engineers a year vs the United States graduating 66,000 a year.
- China's share of Asian science and engineering articles increased from 14.54% in 1998 to 22.43% in 2003, with an annual growth rate of 9%.

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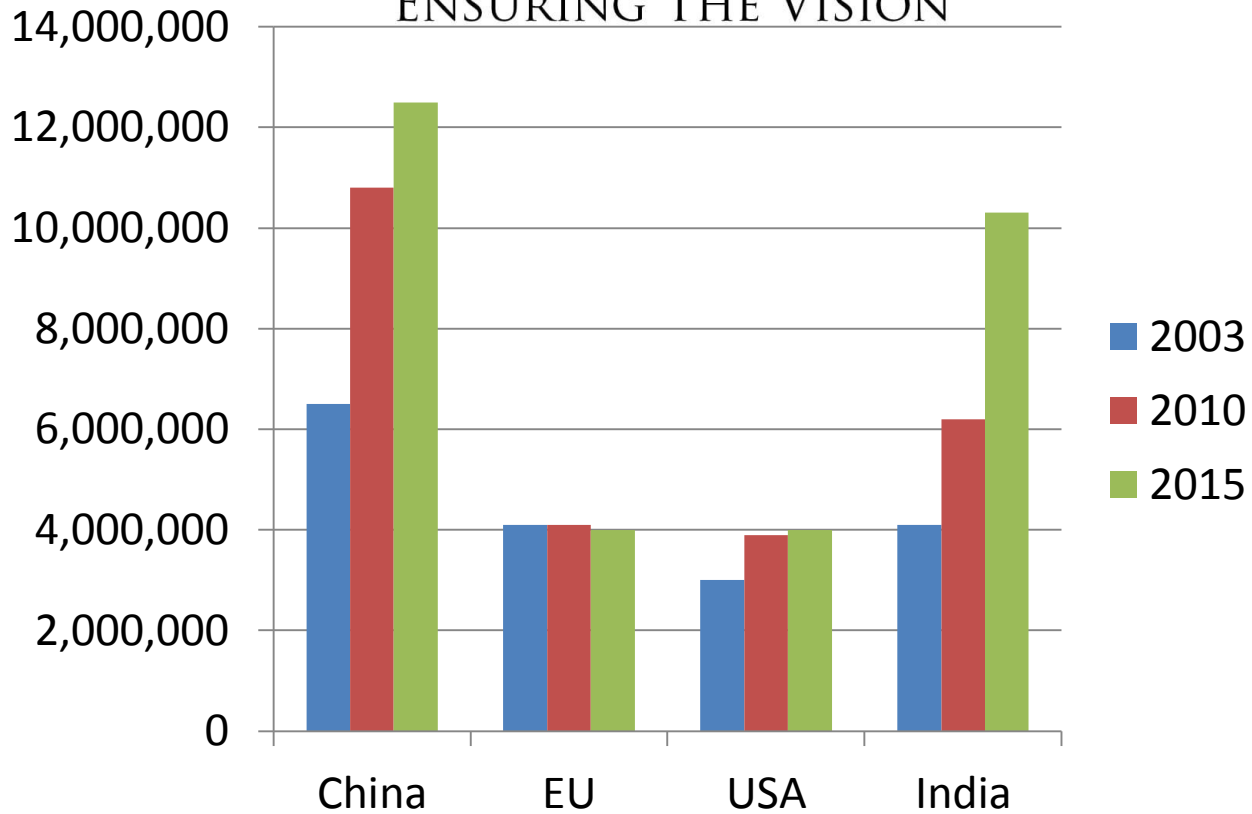
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Projected Future Supply of College Graduates

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Projected Future Supply of Secondary Graduates



CHINESE ECONOMY VS US ECONOMY

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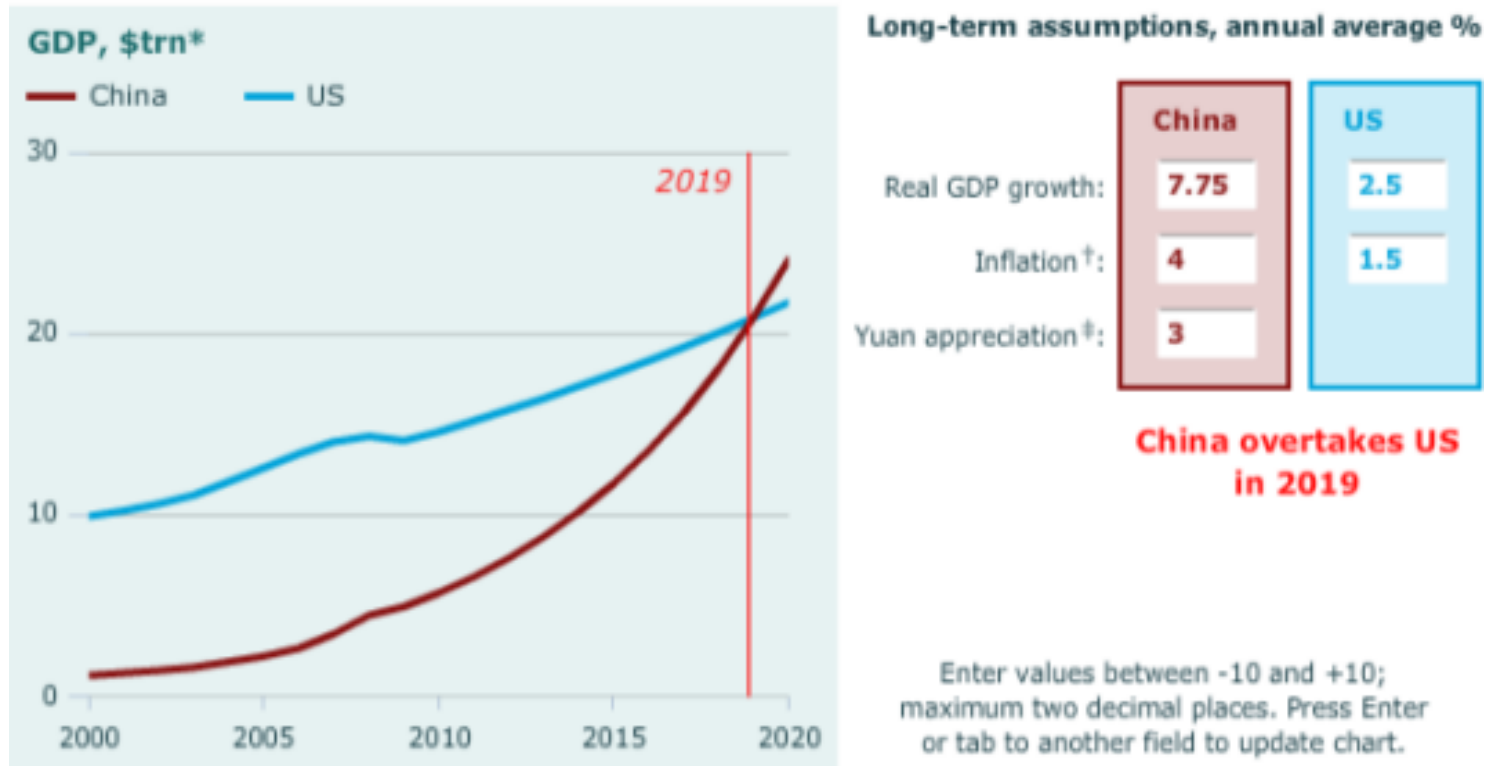


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The Economist

China v US GDP

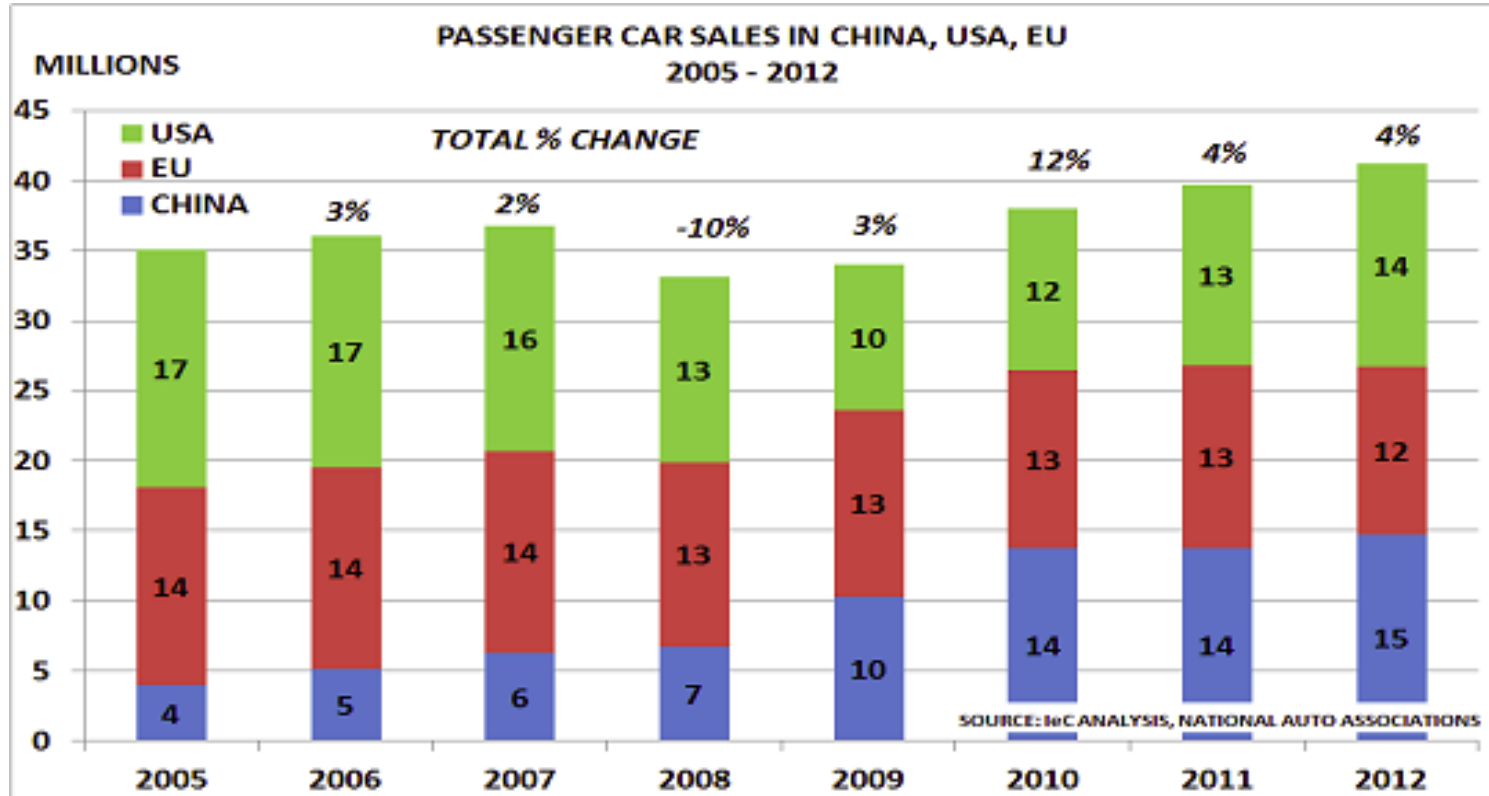
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*At current prices and market exchange rates †GDP deflator ‡Against the dollar

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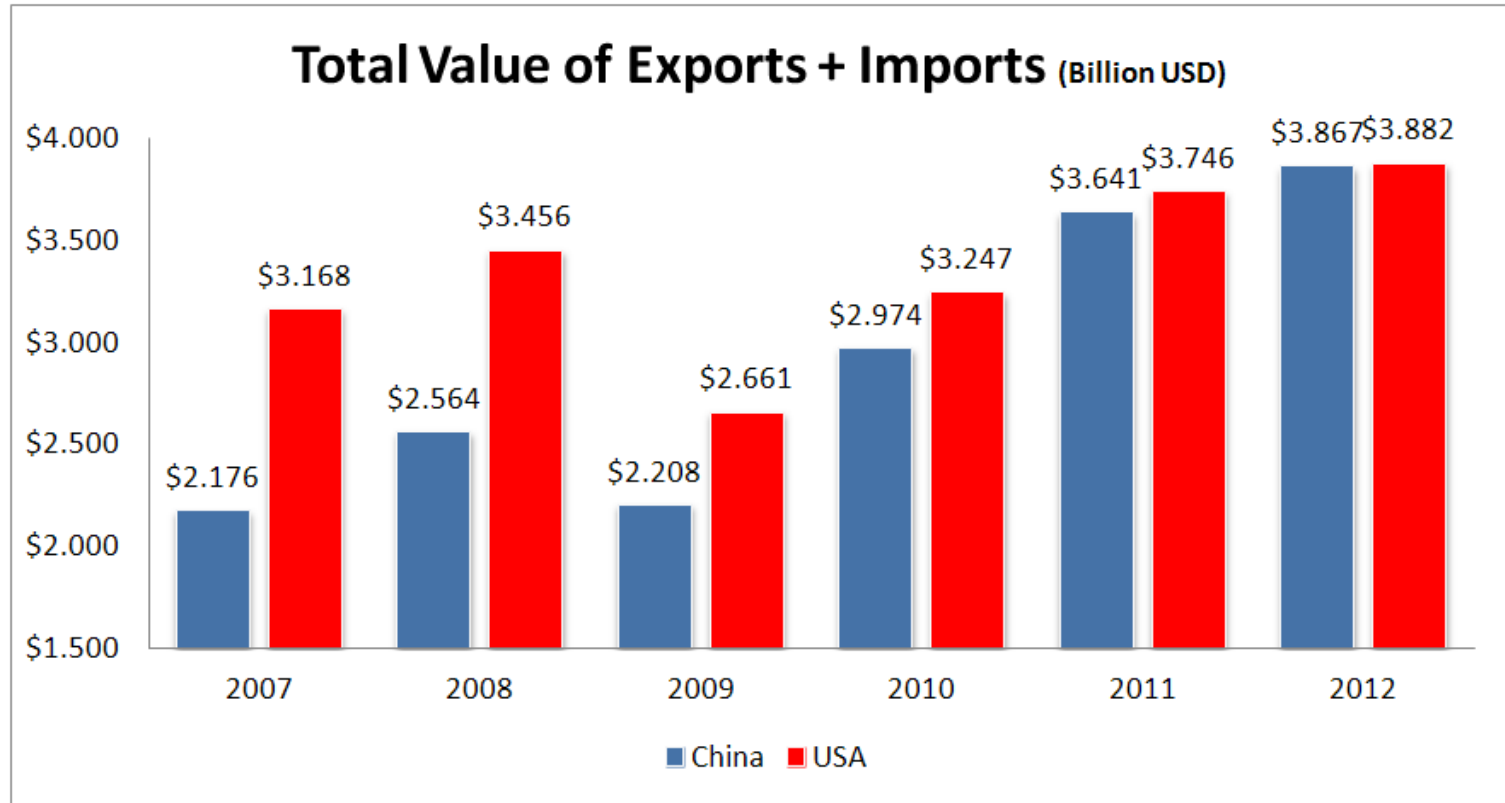
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Impact of China Emerging Economy in Auto Sales

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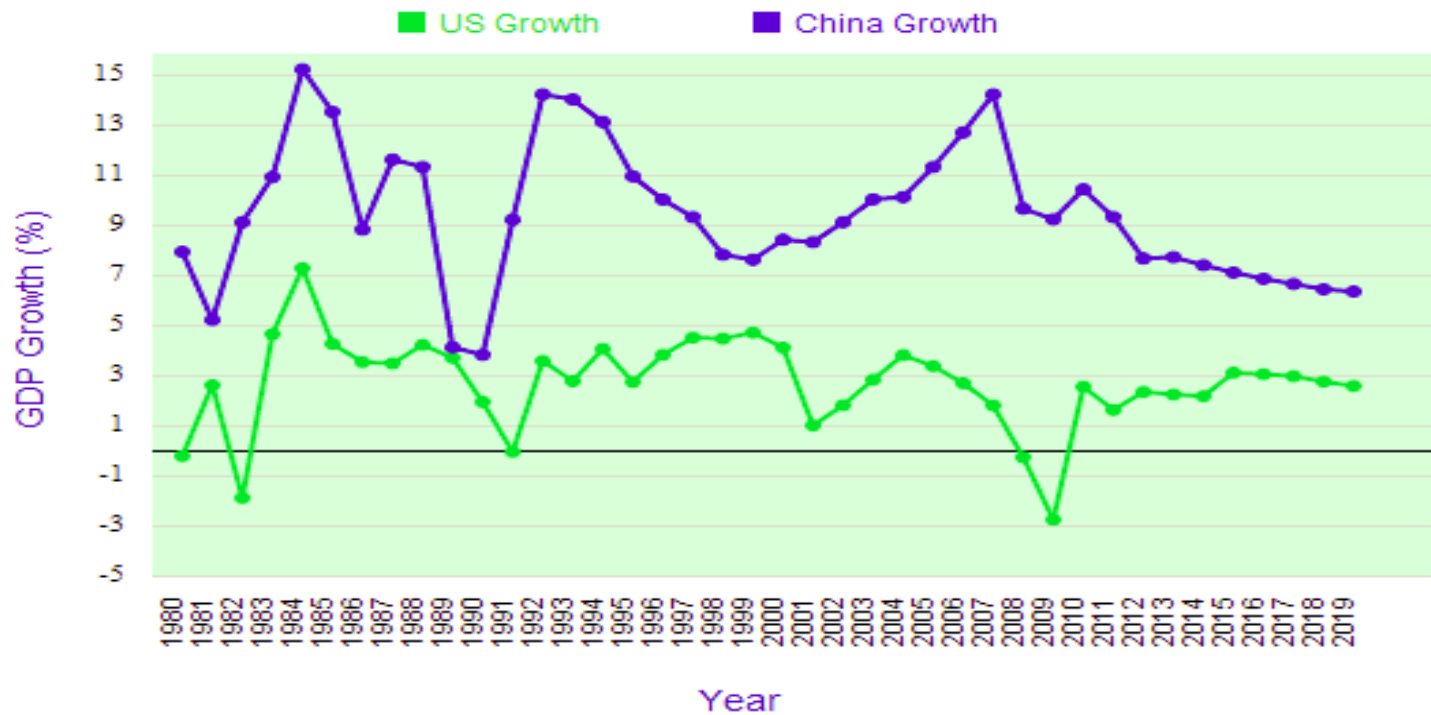


Impact of China Emerging Economy in Exports & Imports

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United States vs China GDP Growth

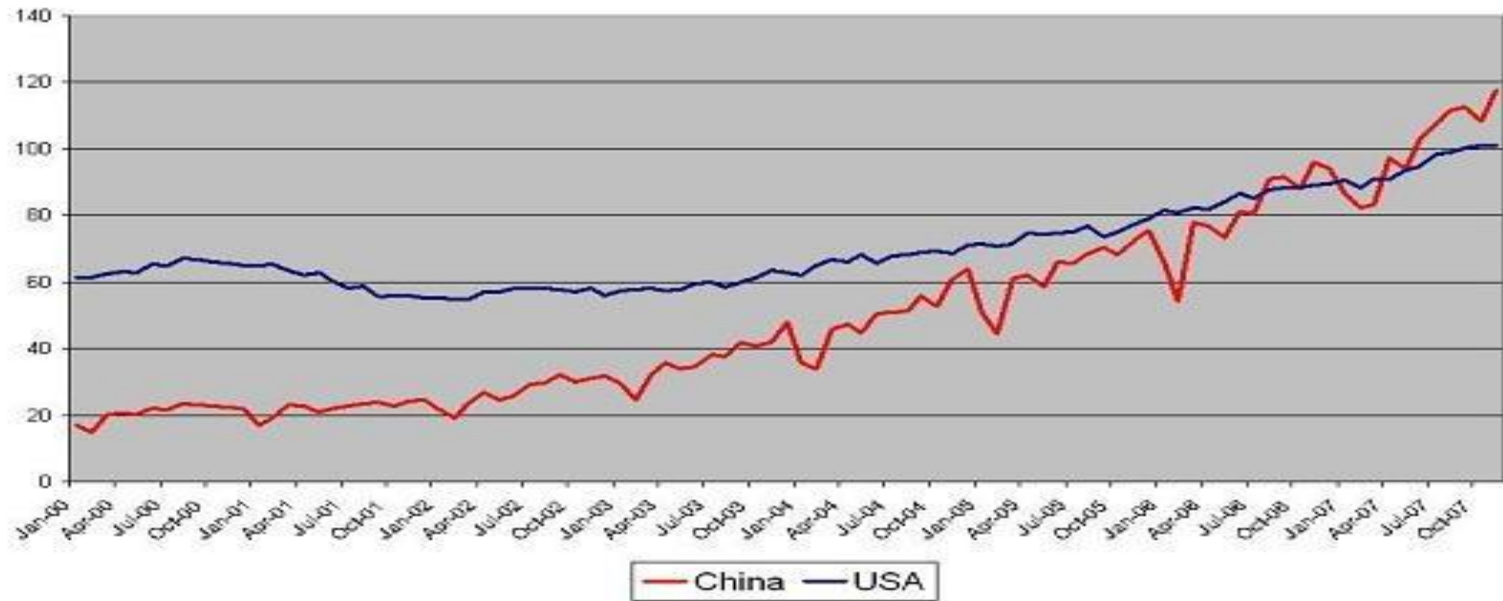


Impact of China Emerging Economy in GDP

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Monthly Exports
China v US (\$ billion)



Impact of China Emerging Economy in Monthly Exports

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- Three Gorges Dam
 - China Could NOT have built this facility 20 years ago
 - 22.5 Billion Dollar Project
 - Relocated 1.2 million people
 - The Dam slows the rotation of the earth

Impact of Chinese Educational Investment

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- China has also started to develop an aggressive expansion program in the South China Sea by constructing man made islands and arming them.
- 50% of world shipping pass through the South China Sea

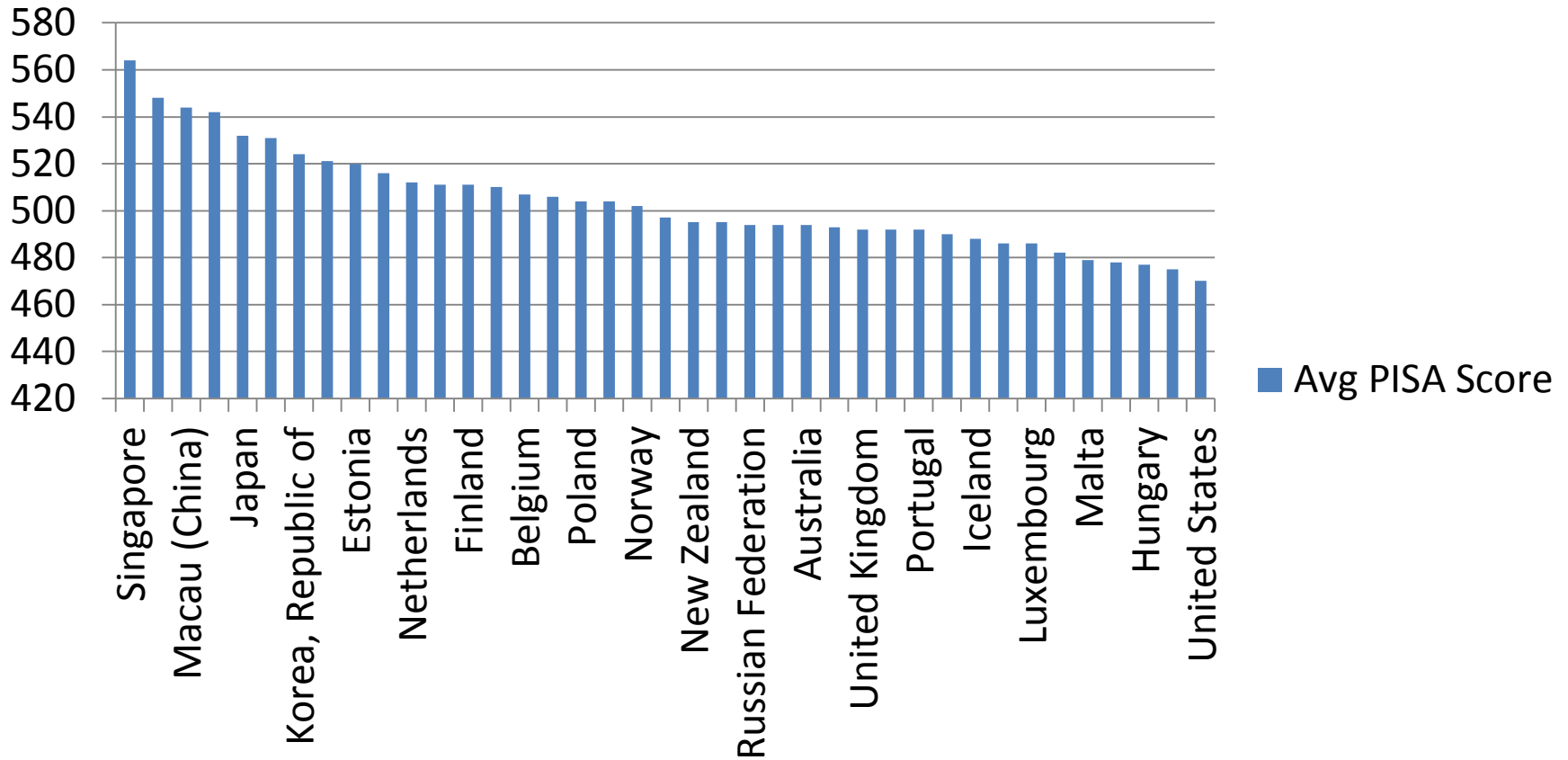


Not only are we losing in quantity, but we are also losing in quality.

For example, the 2015 Program for International Student Assessment reported the dominance of Asian students in Math and Science. Over half a million students, representing 28 million 15-year-olds in 72 countries and economies, took the internationally agreed two-hour test.

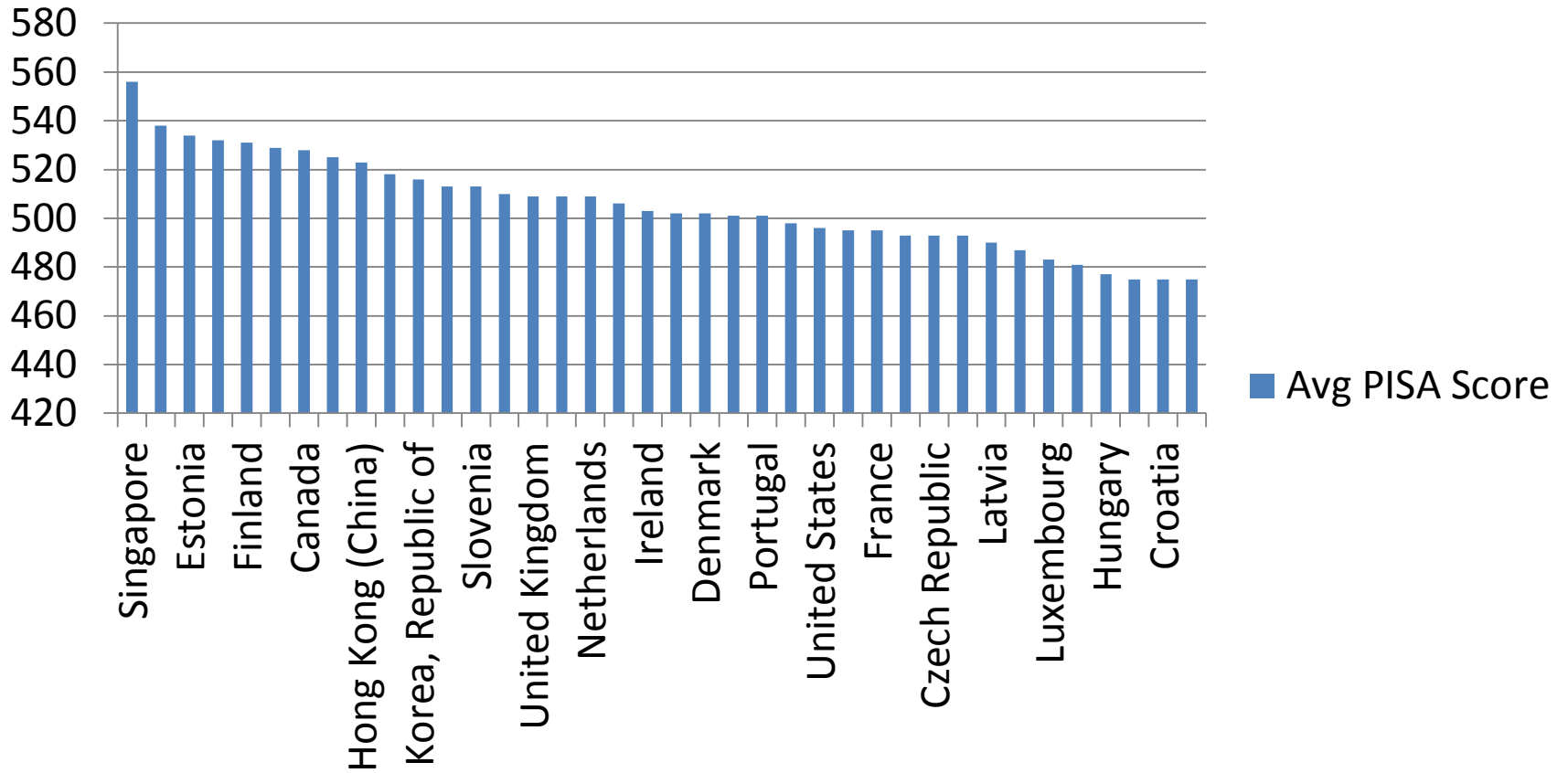


Avg PISA Score Math Literacy



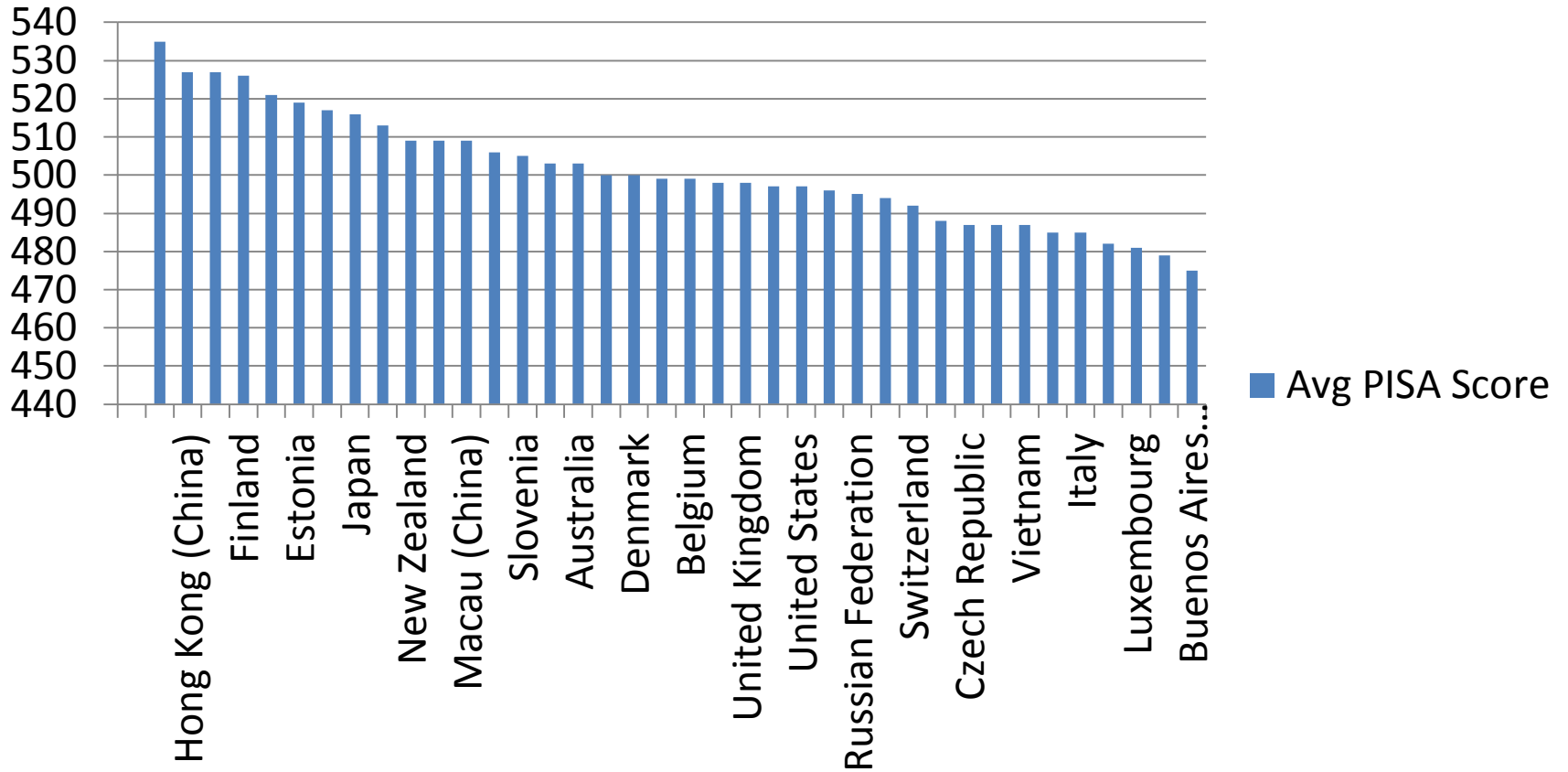


Avg PISA Score Science





Avg PISA Score Reading Literacy





How do we counter the education systems of emerging countries?

- **There needs to be more innovation in schools – teachers and students.**
- **Teachers must be encouraged to take risks.**
- **To provide relevancy, students should be given project-based education.**
- **Students should be encouraged to collaborate, work in groups, and solve problems.**
- **Students should be encouraged to think critically.**
- **Foreign language should be introduced earlier in a students' education.**



Closing Thought

Visit the Canton 20/20 Website