



New Tendencies of Cooperation Brazil-Japan in Education, Science and Technology



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Brazil: present scenario and future perspectives

- Mitigation of poverty: very poor 35 million people upgraded to medium class (in 10 years)
- Public spending has been increasing up to 20% of GNP
- FDI inflow is still high (2012, 3rd in the world) with US\$ 65 billion
- Huge potencial of Energy, Agriculture, Biomass, Mineral, ...
- Increasing demand, market expansion
- Grade up of Science & Technology level
- **Japanese Companies → increasing activities**



Japan: new scenarios and future perspectives

JAPANESE PARTNERS

- China: biggest trade partner of Japan
- US, ASEAN and others
- Brazil (very attractive)

- Abenomics (Prime Min. Shinzo Abe)/Japan Central Bank: to pump US 1.3 Trillion liquidity into economy over next 2y.
- According to analysts: weak domestic money demand, long-term growth picture are still cloudy; significant part of this liquidity will make its way out of Japan.



Japan Inc.'s seeking growth abroad*

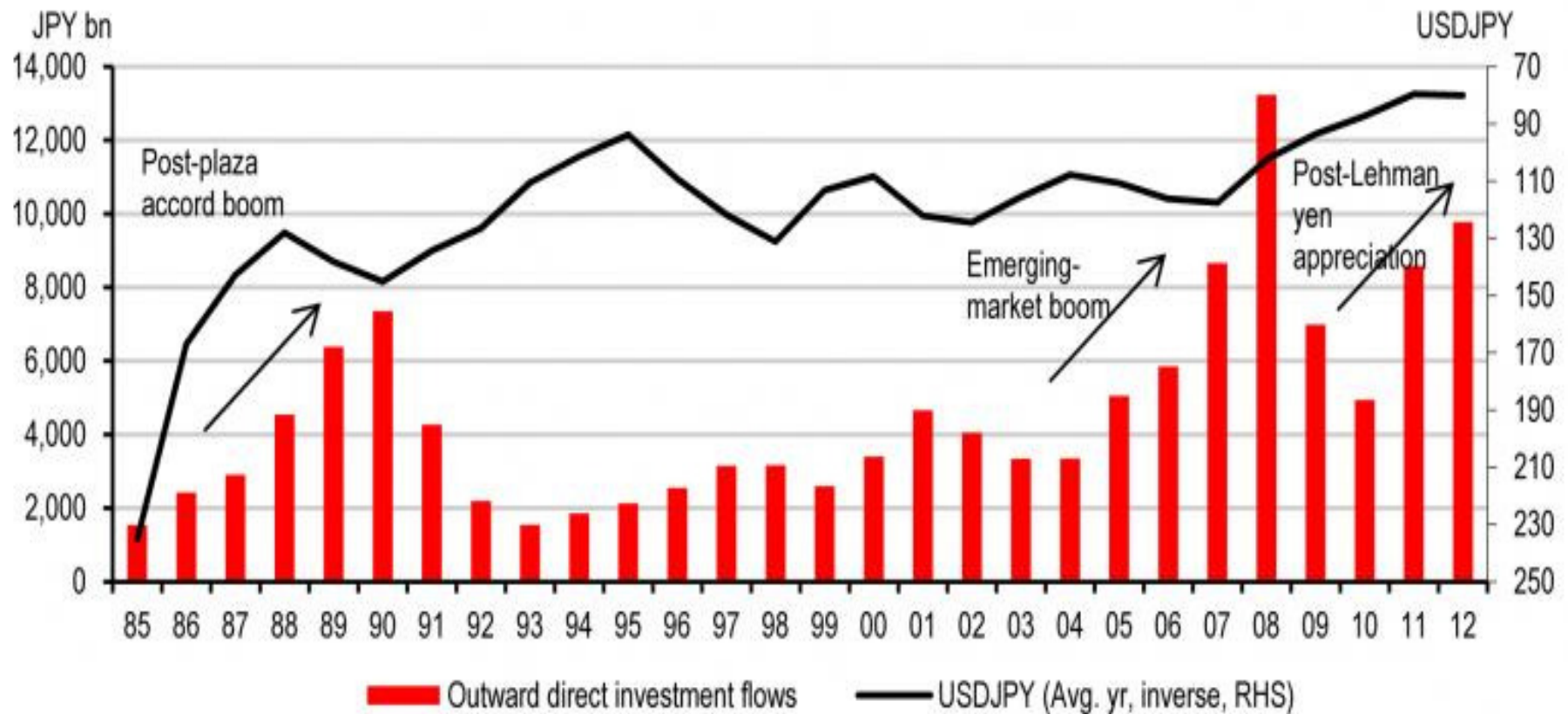
- **Japan Inc.'s** → Global Japanese Companies
- Cash-pile of Japan Inc.'s: **US\$ 2.4 Trillion**
- They are reluctant to spend money at home [due to Japan's slowly growing economy and declining population]
- In 2014, % of population older than 65y: in Japan 25%, China 9.6%, US 13.2%, Brazil 10%

(*) The Japan Times (J.Legewie), Aug 18, 2013.



Japan FDI outflows

Chart 2. Japan has seen three major FDI booms since the 1980s...



Source: CEIC, HSBC. NB: Exchange rate is annual average.



Some areas of interest for BJ collaboration

- Oil, Naval and Offshore
- Bioenergy
- Sustainable Agriculture (Precision Agriculture)
- Municipal waste treatment
- Automotive and Aerospace Eng.
- Mechatronics Eng.
- Renewable energy (solar, wind and others)
- Water management
- Others



Global Primary Energy (GPE) in the world

Energy represents 1/3 of WORLD GDP (~US\$ 75 Trillion)

In 2010: 81% of GPE is FOSSIL*

Oil represents 41.3%

**In 2036: 75% of GPE will still continue FOSSIL*
(without considering US shale gas/oil production)**

(*) International Energy Agency



Japanese Shipbuilders in Brazil

- Ishikawajima-Harima Heavy Ind. + Universal Shipbuilding (JFE)
- Kawasaki Heavy Ind.
- Mitsubishi Heavy Ind.



Expansion of Japanese automotives and others cos. in Brazil

F. ex., Honda will double vehicle production units from 2013 to 2015.

Something similar for other automotive companies.



New tendency of Japan-Brazil relationship

- The globalization of cooperation and personal exchange at Universities show a tendency to accompany the FDI inflows.
- Recife (in northern Brazil) shows a strong evidence of this new phenomenon
- University of Tokyo strategy



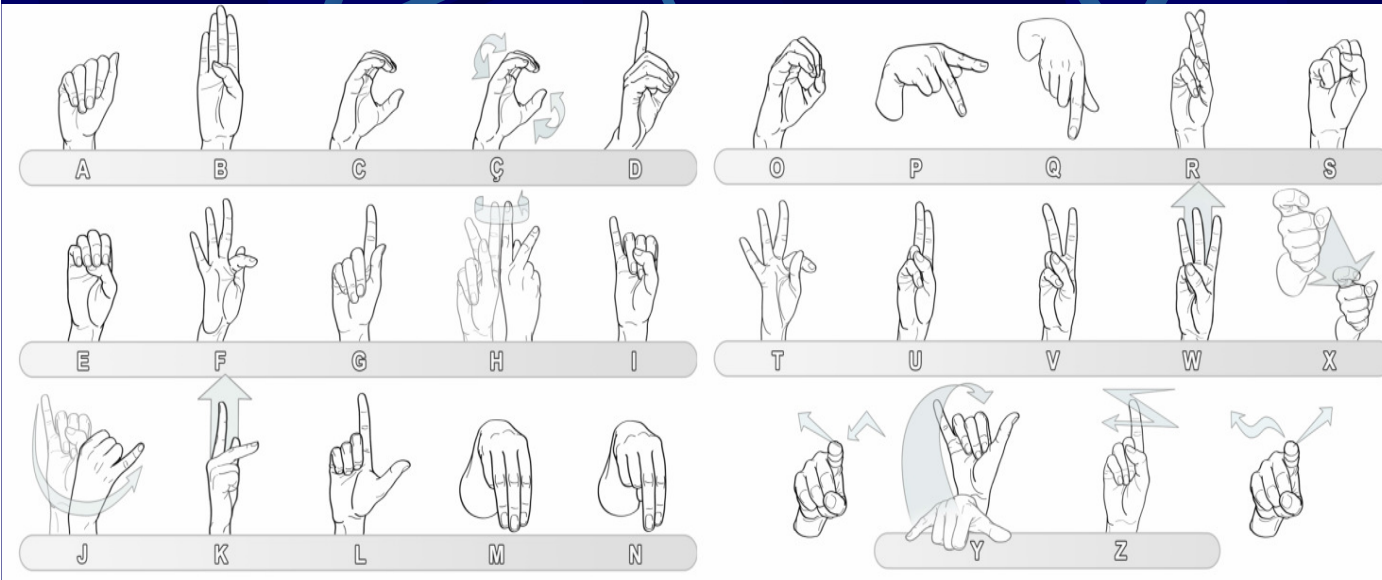
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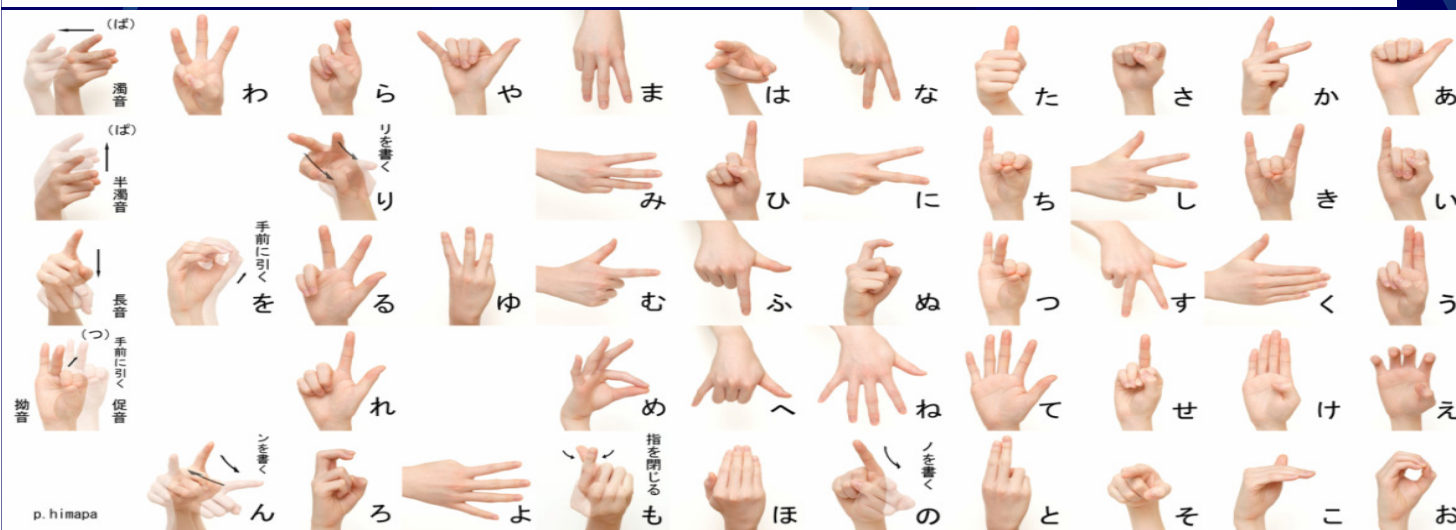


Mechatronics use for Brazil-Japan Signal Communications

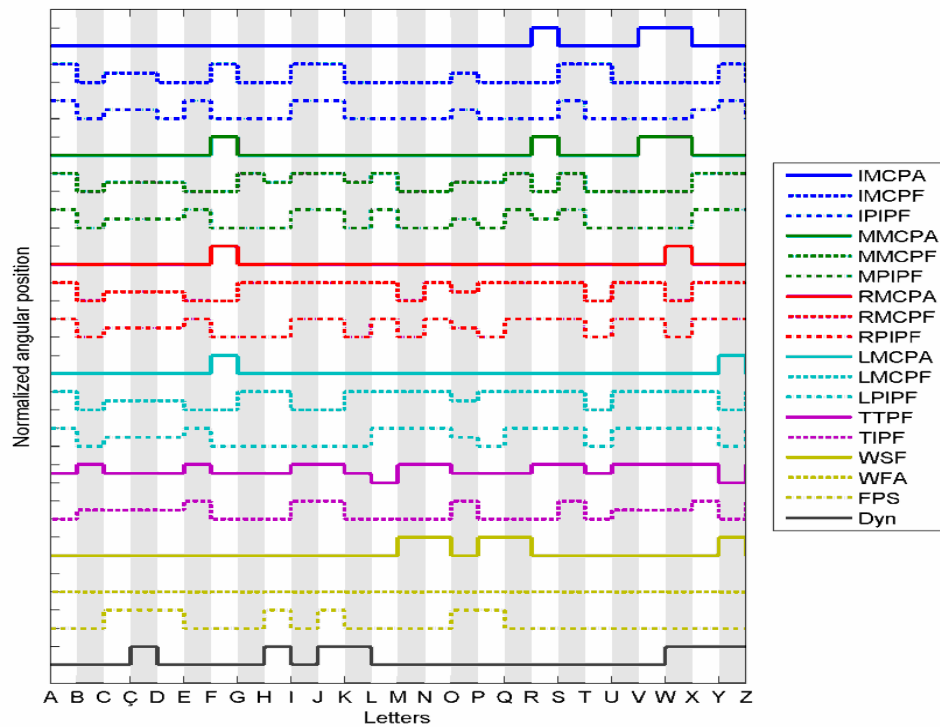
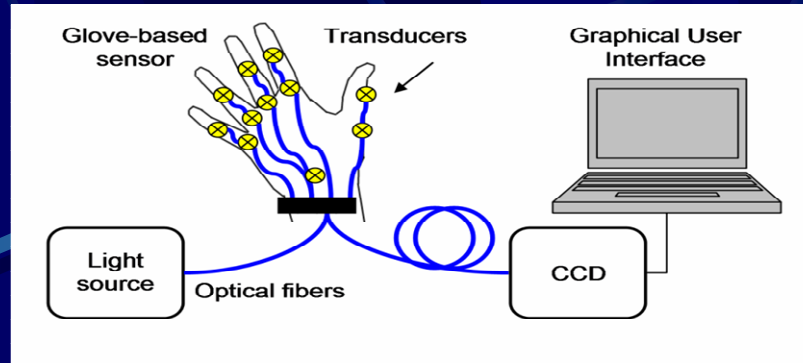
Sign language for hearing deprivation: ~345,000 in Brazil (2010) and ~312,000 in Japan (2008).



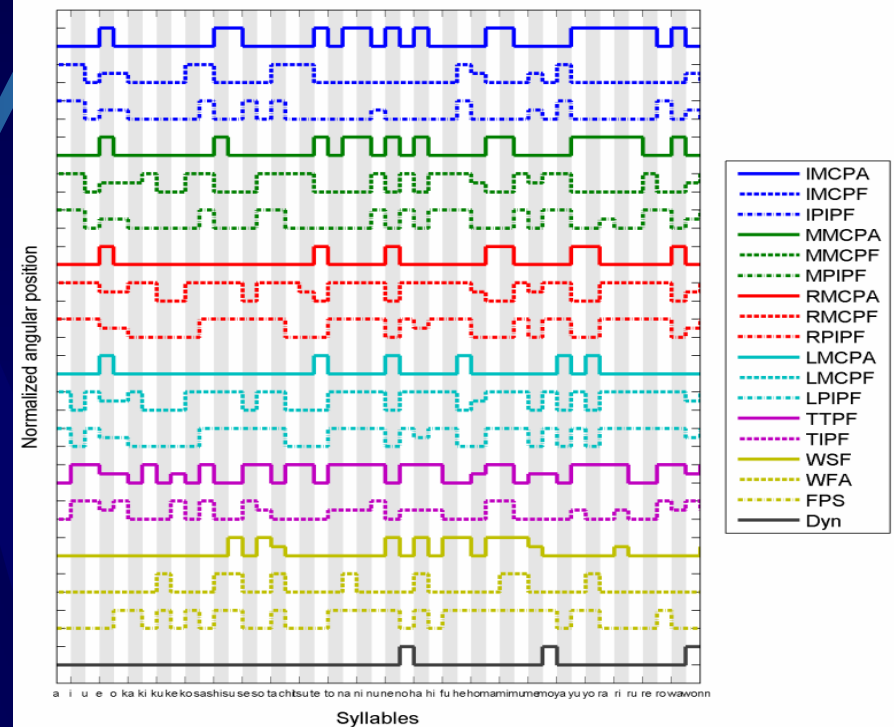
Gestures of the Brazilian Manual Alphabet, 27 letters: 'A' to 'Z' + 'Ç'



Gestures of the JMA, 46 syllables: 'a' to 'nn'. Additional sounds by dynamic gestures.



Evaluation of hand postures for
Brazilian Manual Alphabet gestures



Evaluation of hand postures for
Japanese Manual Alphabet gestures

Thank you

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