
PCCAT 2011 Annual Meeting

Competing to Win in the Global Economy: The X Factor

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Let's Talk Hockey!





Team Roster

	1978/79	1998/99	2008/09
Quebec	12 (50.0%)	5 (20.8%)	7 (30.4%)
Canada (other)	10 (41.7%)	9 (37.5%)	4 (17.4%)
Belarus	-	-	2 (8.7%)
Czech Republic	-	1 (4.2%)	3 (13.0%)
Finland	-	1 (4.2%)	1 (4.3%)
Latvia	-	1 (4.2%)	-
Lithuania	-	1 (4.2%)	-
Sweden	-	1 (4.2%)	-
Russia	-	3 (12.5%)	2 (8.7%)
Slovakia	-	-	1 (4.3%)
USA	2 (8.3%)	2 (8.3%)	3 (13.0%)

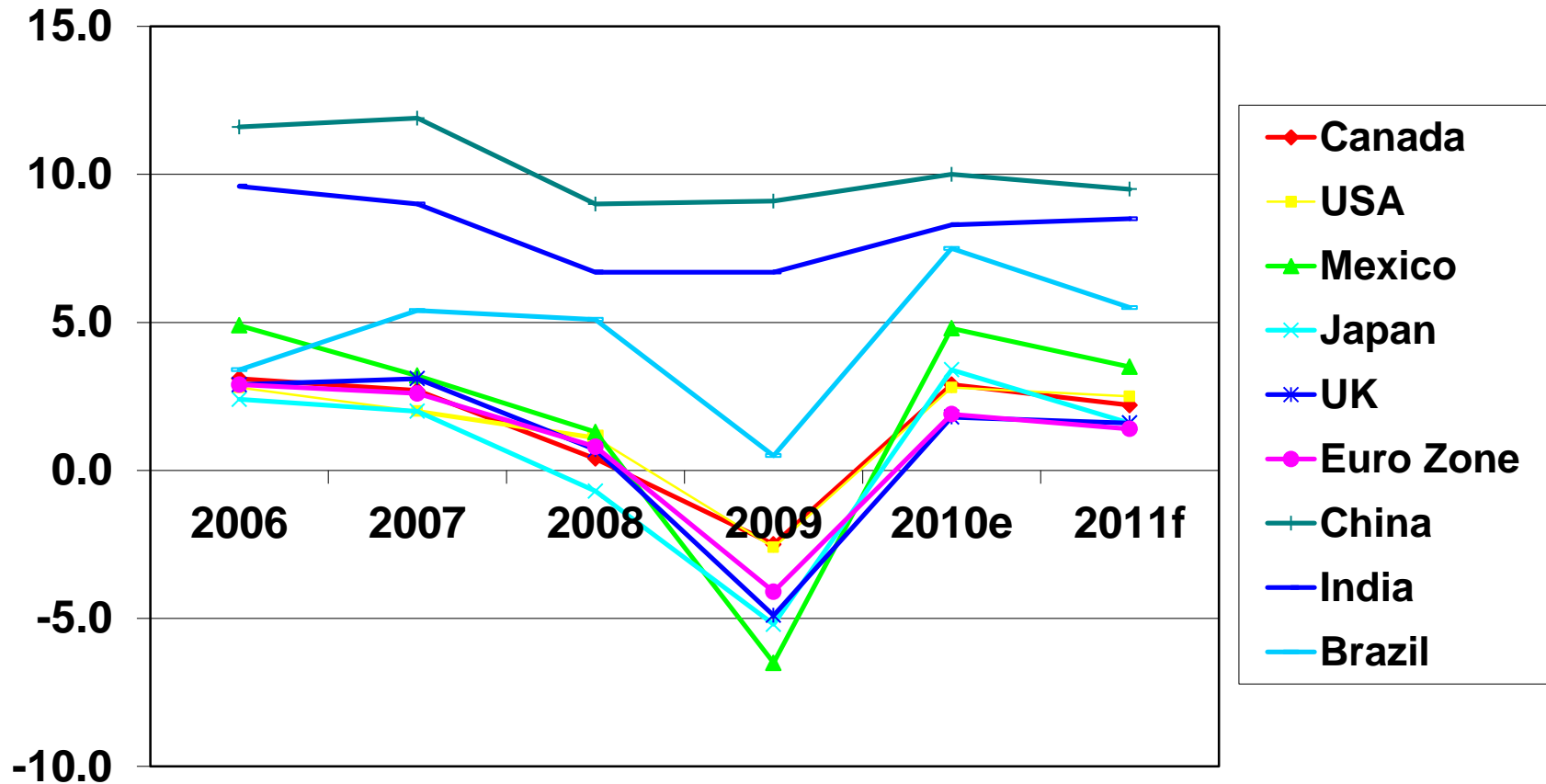
Fundamentals of Competitiveness in a Global Economy

World Economic Forum

Global Competitiveness Report

- **National Competitiveness**
 - ⇒ That set of factors, policies, and institutions which determine the level productivity of a country.
- Raising productivity (i.e. making better use of available factors and resources) is the driving force behind the rates of return on investment which, in turn, determine the aggregate growth rates of an economy.
- A more competitive economy will be one which will likely grow faster in the medium and long term.

Real GDP (% change) by Country



Source: Scotia Economics

Global Competitiveness Index: 12 Pillars of Competitiveness

- Institutional Environment
- Infrastructure
- Macroeconomy
- Health and Primary Education
- Higher Education and Training
- Goods Market Efficiency
- Labour Market Efficiency
- Financial Market Sophistication
- Technological Readiness
- Market Size
- Business Sophistication
- Innovation

Determinants of Productivity and Productivity Growth

Macroeconomic, Political, and Legal Context for Development

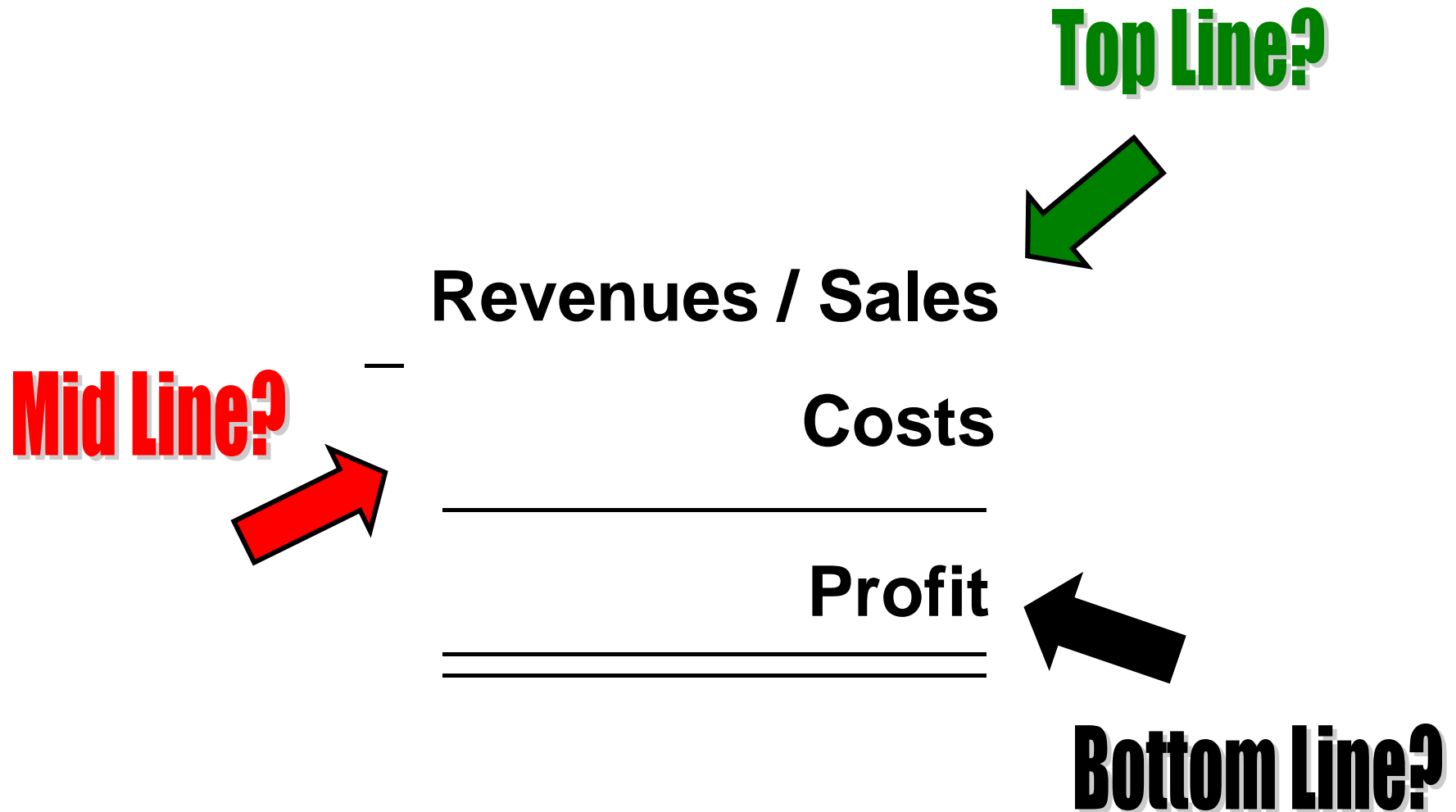
Microeconomic Foundations of Development

**Sophistication
of Company
Operations and
Strategy**



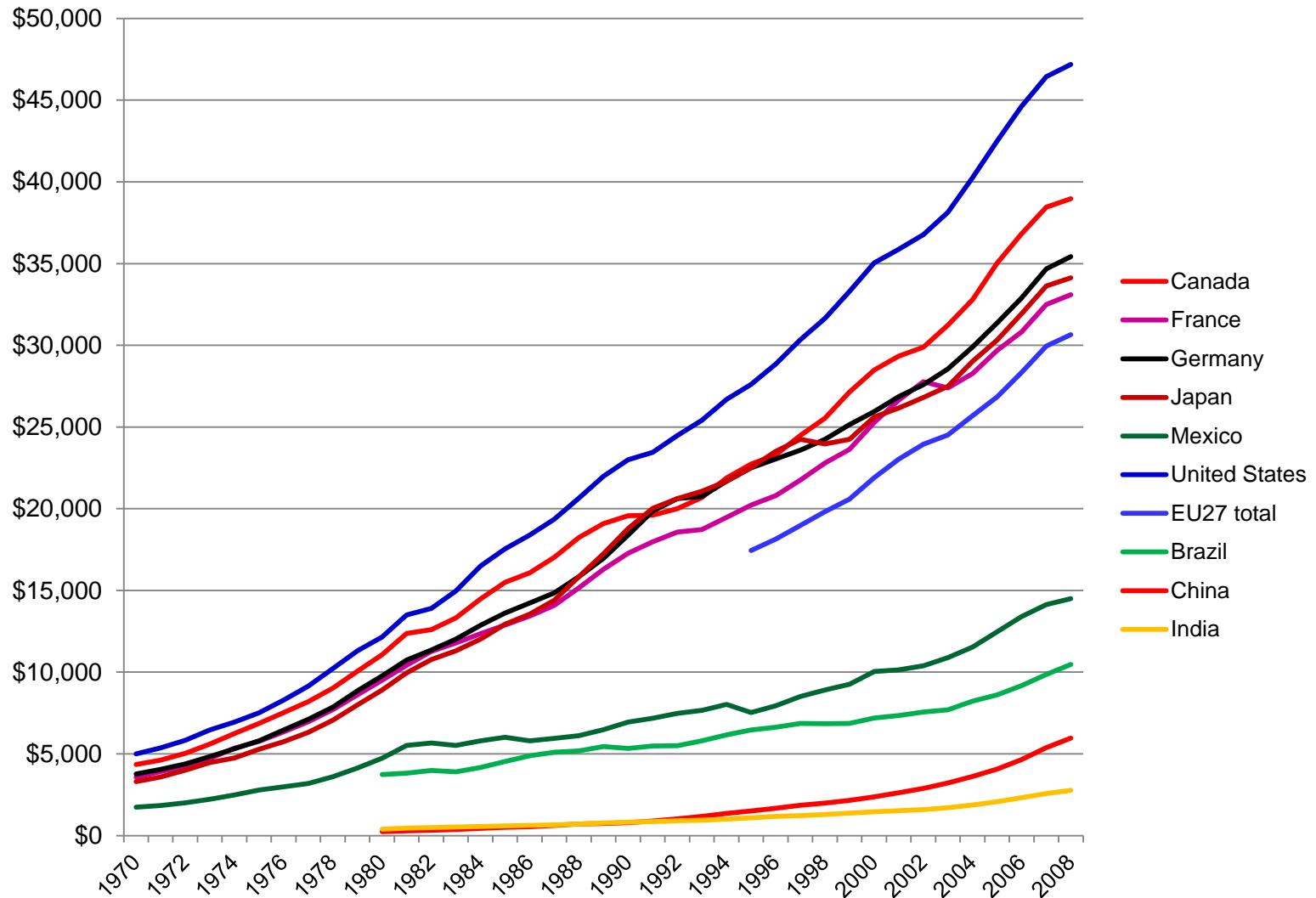
**Quality of the
Microeconomic
Business
Environment**

Measuring Business Competitiveness



GDP per Capita, 1970-2008

(USD, current prices and PPPs)



Source: OECD

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The Knowledge-Based Economy

Knowledge-Based Economy

- An economy which is directly based on the production, distribution and use of knowledge and information (OECD, 1996), and in which the generation and exploitation of knowledge plays the predominant role in the creation of wealth (UK Department of Trade and Industry, 2000).
- In this case, the term knowledge-based economy reflects the central role of knowledge and technology in economic growth.

Different Kinds of Knowledge

(Source: OECD)

■ Know-what

- ⇒ Refers to knowledge about facts
- ⇒ Here, knowledge is close to what is normally called information

■ Know-why

- ⇒ Refers to scientific knowledge of the principles and laws of nature
- ⇒ Underlies technological development and product and process advances in most industries

■ Know-how

- ⇒ Refers to skills or capability to do something
- ⇒ Know-how is typically a kind of knowledge developed and kept within the border of an individual firm

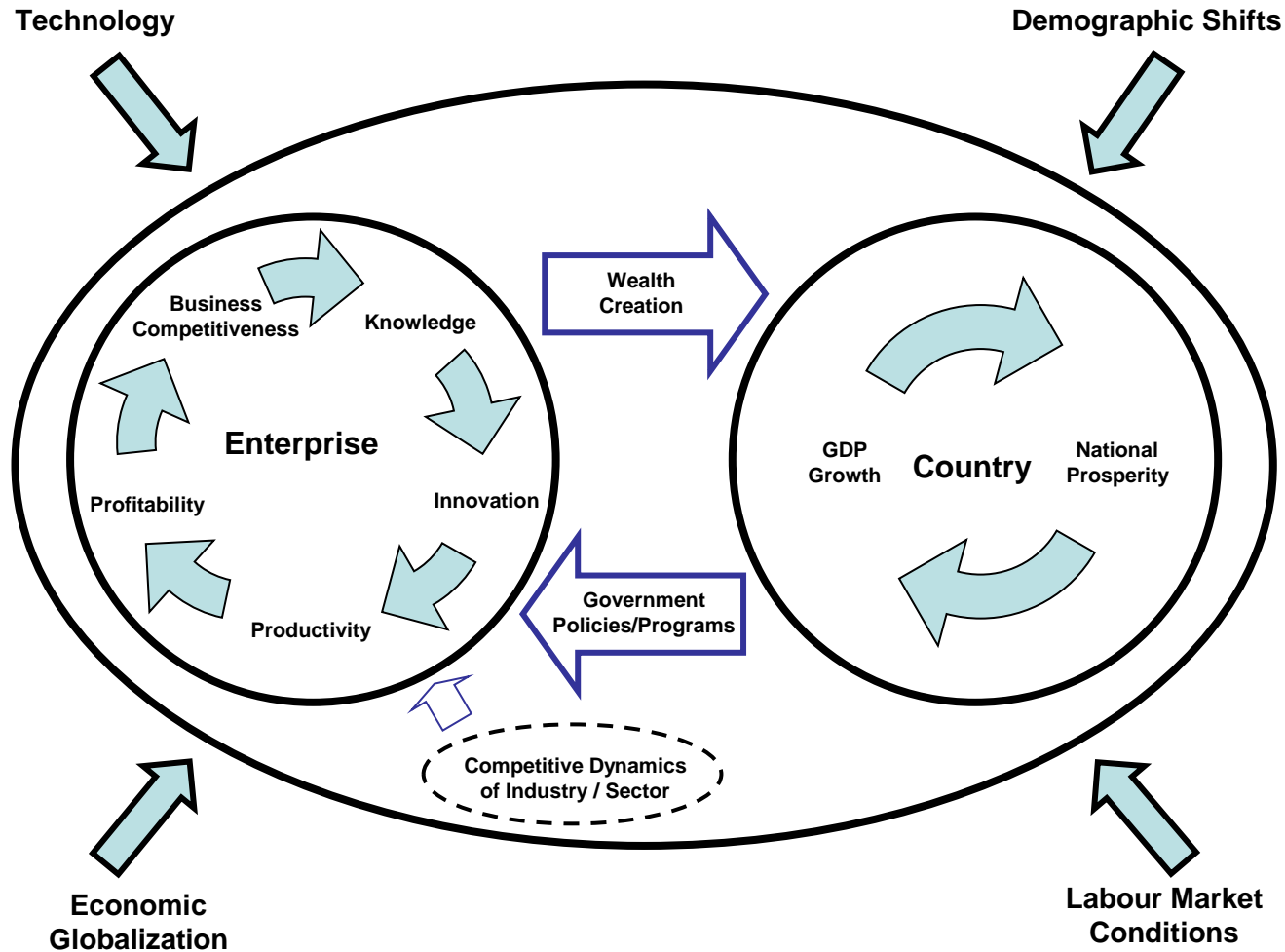
■ Know-who

- ⇒ Involves information about who knows what and who know how to do what
- ⇒ The know-who kind of knowledge is internal to the organization to a higher degree than any other kind of knowledge

Achieving Competitive Advantage

- The realization of competitive advantage goes beyond the R&D and innovation imperatives that are widely recognized as the catalysts for economic competitiveness and productivity growth.
- From the Desautels Program for International Competitiveness' perspective, competitive advantage in the knowledge-based and global economy is driven by knowledge, but knowledge that is based on a composite of the know what, know why, know how, and know who.

The Dynamics of Competing and Creating Wealth in a Knowledge-Based and Global Economy



Source: William Polushin 2009

The Knowledge Revolution

(Source: World Bank)

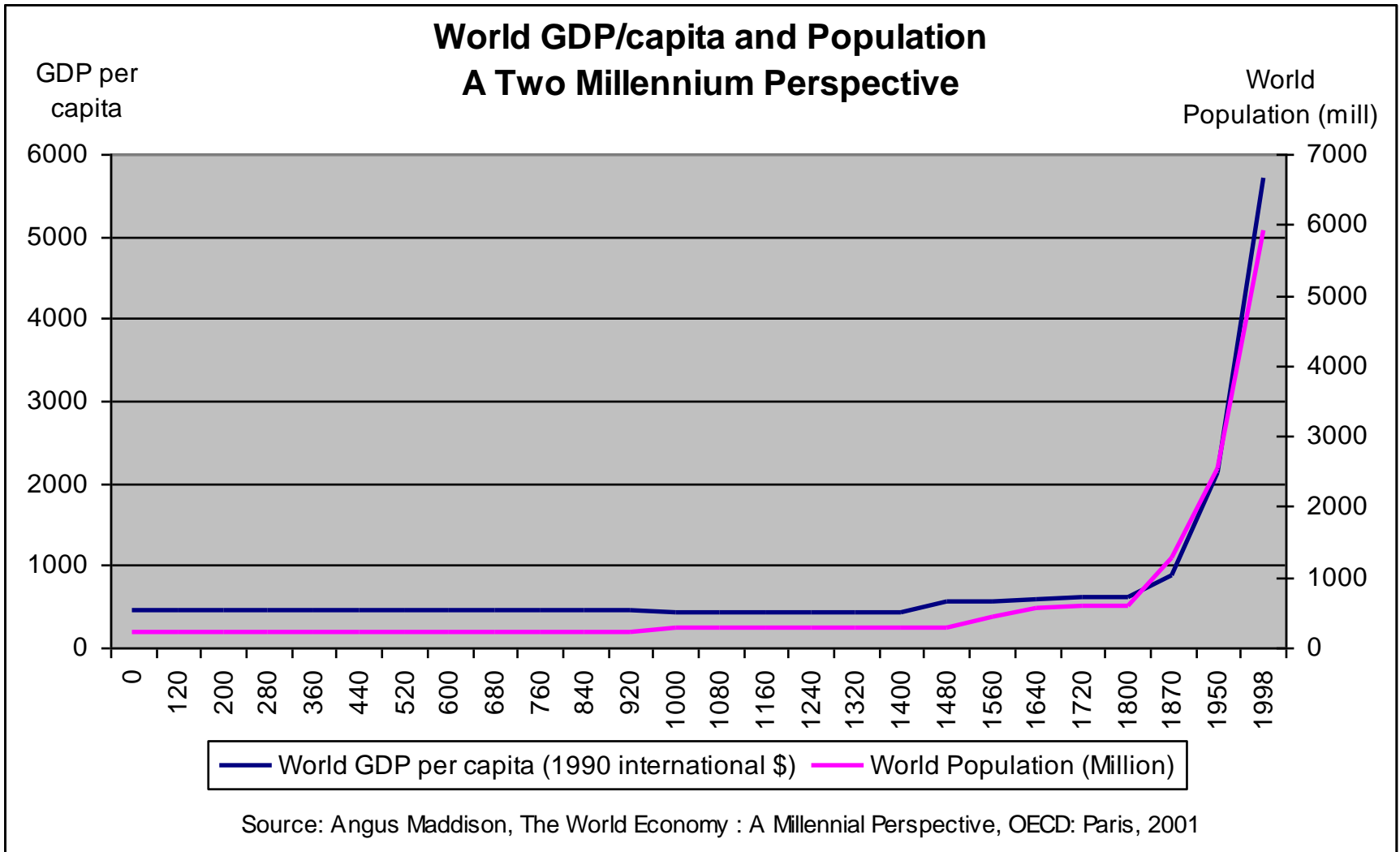
- Ability to create, access and use knowledge is becoming fundamental determinant of global competitiveness
- Seven key elements of “Knowledge Revolution”
 - Increased codification of knowledge and development of new technologies
 - Closer links with science base/increased rate of innovation/shorter product life cycles
 - Increased importance of education & up-skilling of labor force, and life-long learning
 - Investment in intangibles (R&D, education, software) greater than investments in fixed capital in OECD

The Knowledge Revolution

(Source: World Bank)

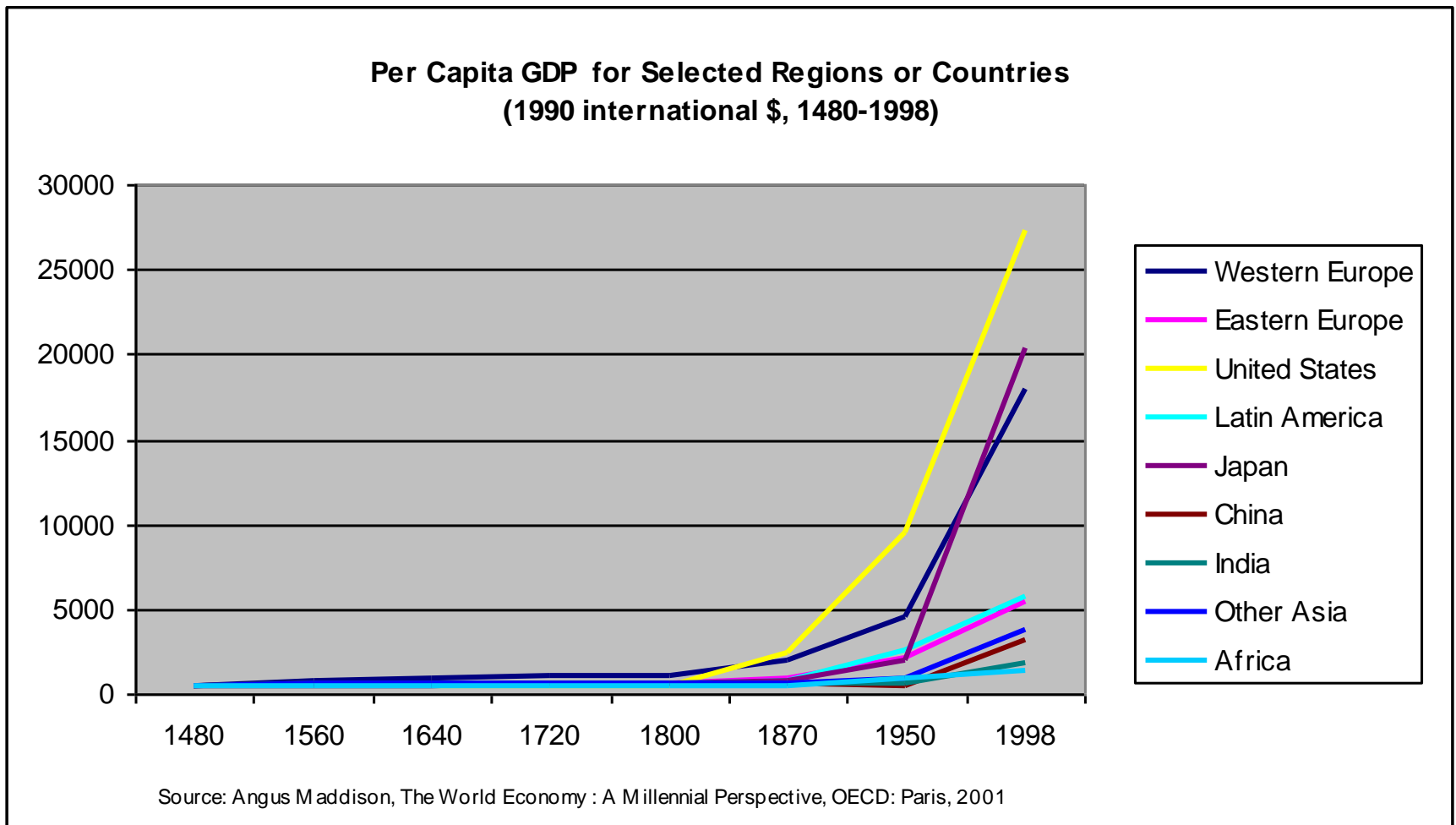
- Greater value added now comes from investment in intangibles such as branding, marketing, distribution, information management
- Innovation and productivity increase more important in competitiveness & GDP growth
- Increased globalization and competition
- Bottom Line: Constant Change and Competition Implies Need for Constant Restructuring and Upgrading

World GDP/Capita and Population



Source: World Bank

Growing Differences in GDP/Capita

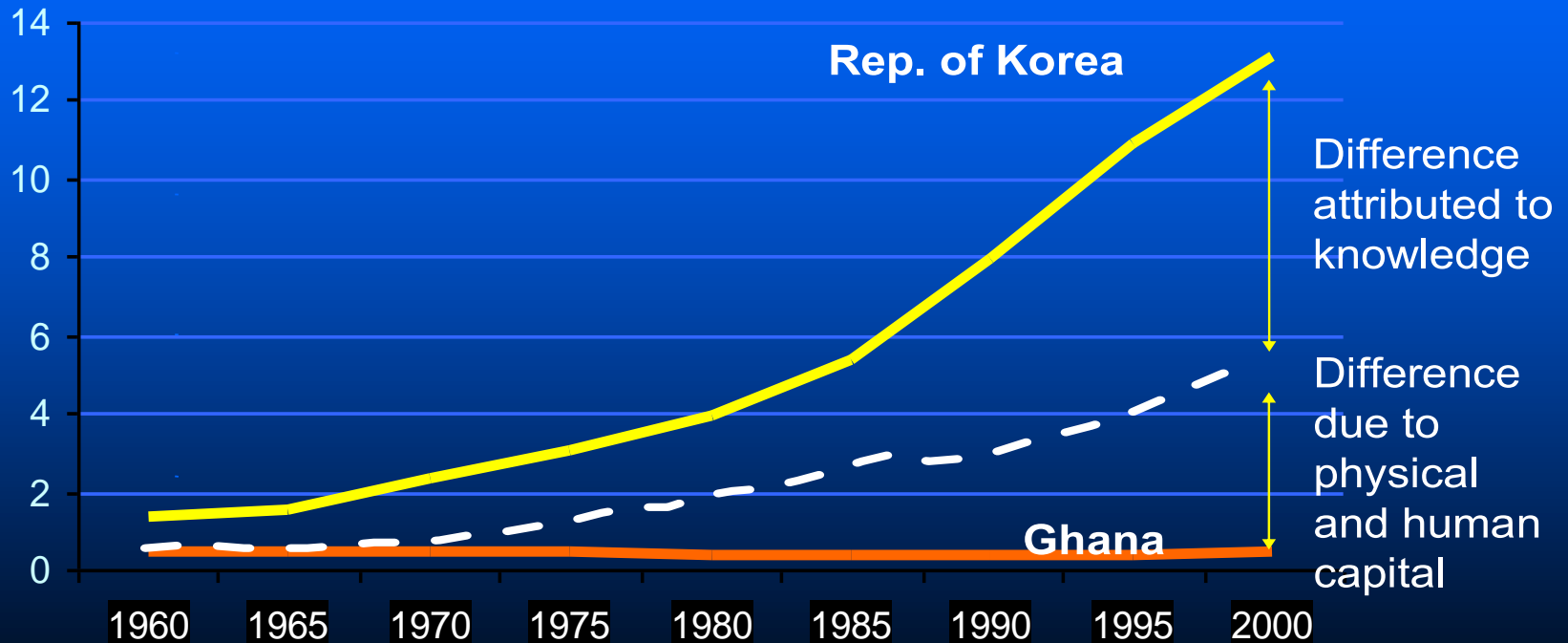


Source: World Bank

GDP/Capita Growth: Korea vs. Ghana

Knowledge makes the Difference between Poverty and Wealth...

Thousands of constant 1995 US dollars



Source: World Bank

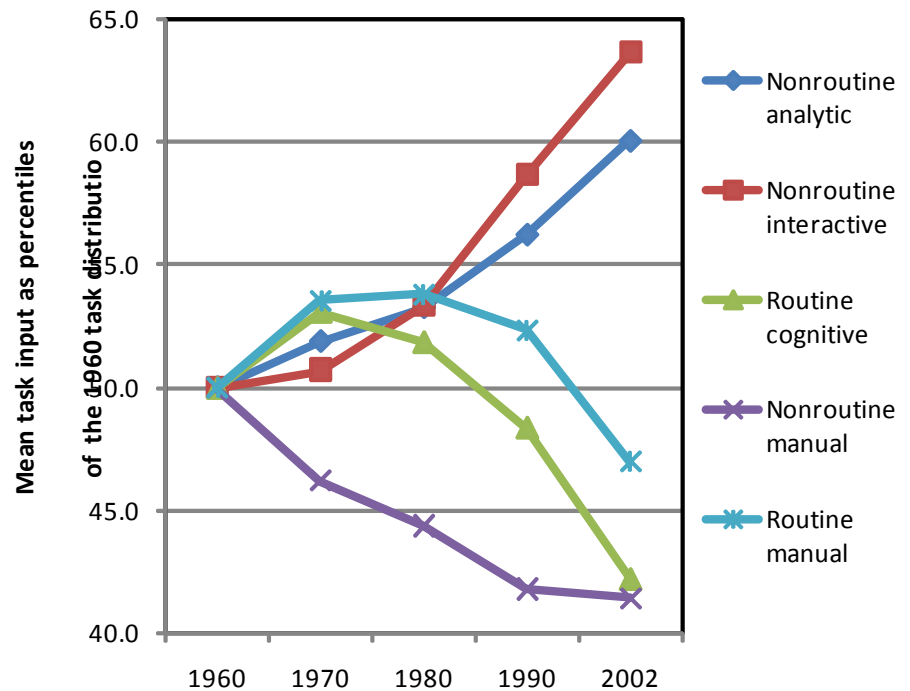
Video: Dark and light of the new world of work

Skill Demands are Rapidly Changing

- ✓ Globalisation and rapid technological & organisational change have changed skill demands radically
- ✓ Falling demand for jobs involving routine tasks and increasing demand for jobs involving less routine analytic and interactive skills
- ✓ These analytic and interactive or “soft” skills cannot be easily outsourced
- ✓ And they are becoming the driving force of innovation and competitiveness for firms and economies

Source: OECD

Change in labour demand in terms of routine and non-routine tasks, United States



Source: Estimates supplied by Levy and Murnane.

Country Benchmarking

Canada in the Global Economy

(USD, Official Ex. Rate)

	2009	2010e
United States	\$14.12 trillion	\$14.62 trillion
Japan	\$5.07 trillion	\$5.39 trillion
China	\$4.98 trillion	\$5.75 trillion
Germany	\$3.34 trillion	\$3.31 trillion
France	\$2.66 trillion	\$2.56 trillion
United Kingdom	\$2.18 trillion	\$2.26 trillion
Italy	\$2.12 trillion	\$2.04 trillion
Brazil	\$1.57 trillion	\$2.02 trillion
Spain	\$1.47 trillion	\$1.37 trillion
Canada	\$1.34 trillion	\$1.56 trillion
India	\$1.24 trillion	\$1.43 trillion
Russia	\$1.23 trillion	\$1.48 trillion
Australia	\$0.99 trillion	\$1.22 trillion
Mexico	\$0.87 trillion	\$1.00 trillion
Korea	\$0.83 trillion	\$0.99 trillion

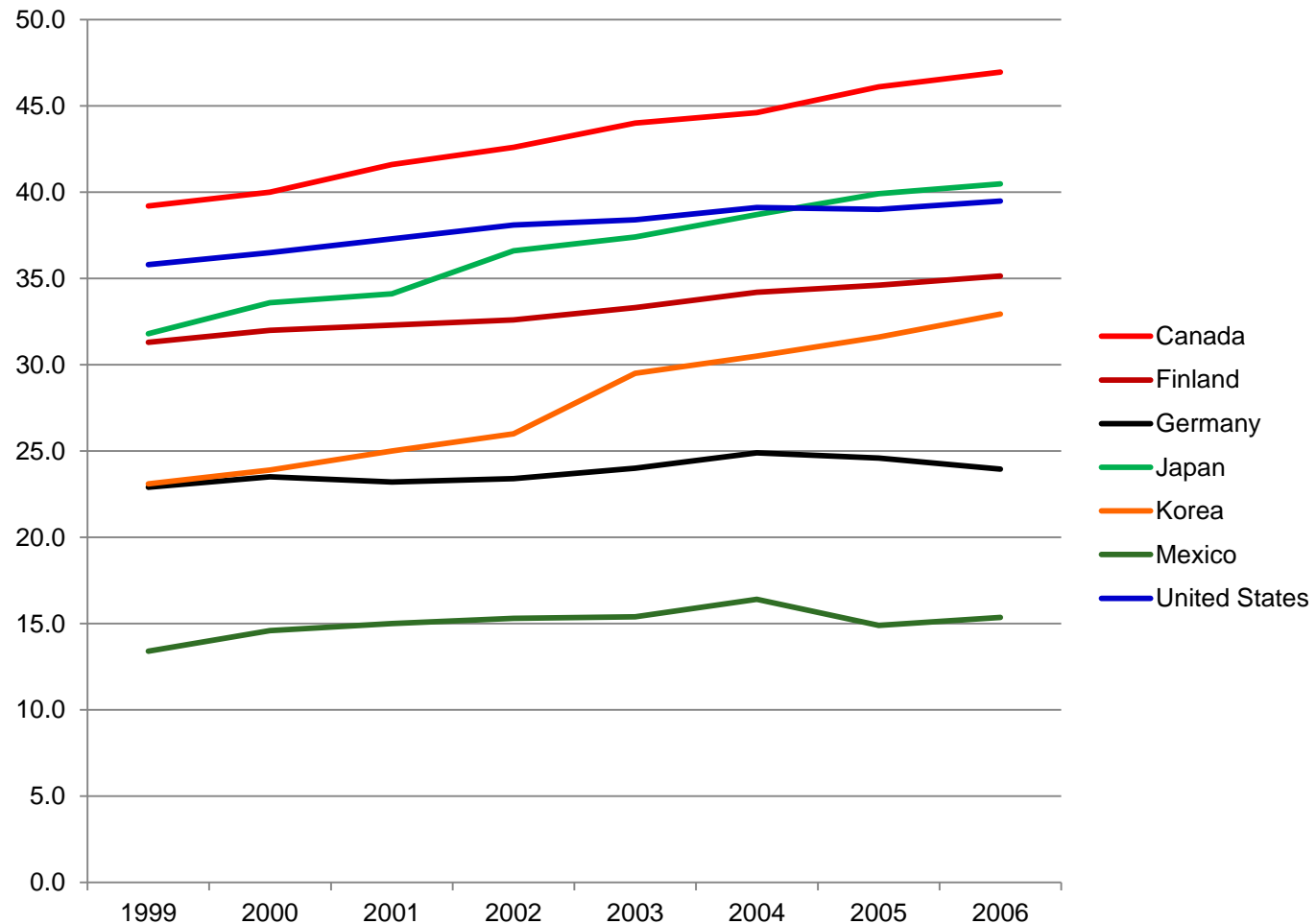
Source: IMF

Selected Education Statistics by Country

Country	Tertiary Education Graduation Rates (2007)	Tertiary Attainment for Age Group 25-64 (2006)	Expenditure per Student in Primary, Secondary, and Post-secondary Non-tertiary Education (USD, 2005)**	Expenditures per Students in Tertiary Education (USD, 2005)**
Canada	30.6%*	47.0%	\$7,836	\$20,156
USA	36.5%	39.5%	\$9,769	\$24,370
EU				
Germany	23.4%	23.9%	\$7,039	\$12,446
Finland	48.5%	35.1%	\$6,610	\$12,285
Poland	49.0%	17.9%	\$3,165	\$5,593
Japan	38.8%	40.5%	\$7,343	\$12,326
Australia	49.8%*	33.0%	\$7,142	\$14,579

Source: OECD, * This data for Canada and Australia is for 2005, ** 2000 constant prices and PPPs

Tertiary level educational attainment for age group 25-64 (percentage of population)



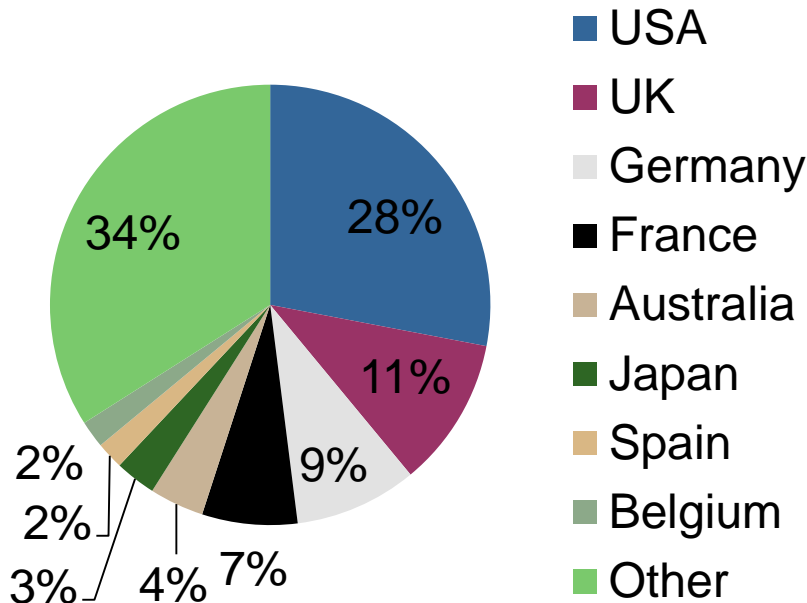
Source: OECD

Student Mobility

Global Destinations for International Students at the Post-Secondary (Tertiary) Level, 2001 and 2009

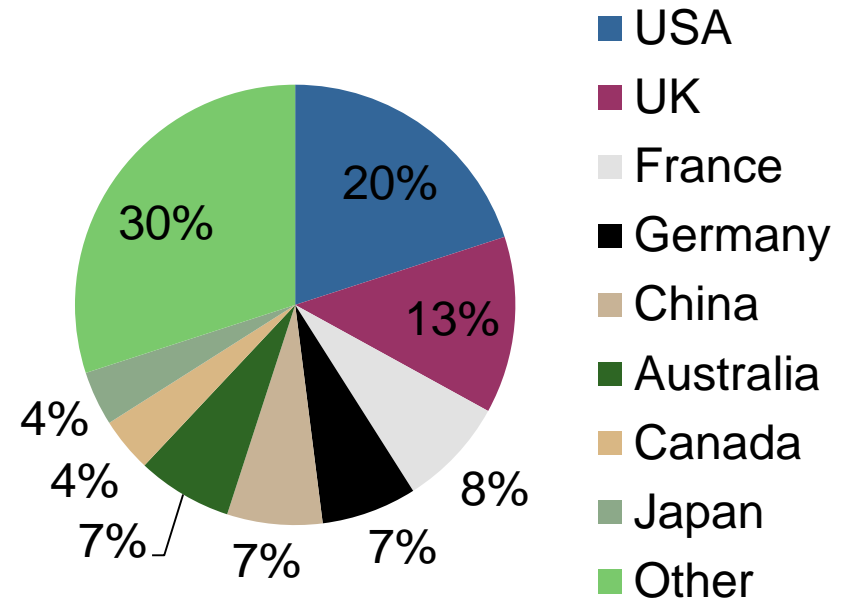
2001

2 million internationally mobile students worldwide



2009

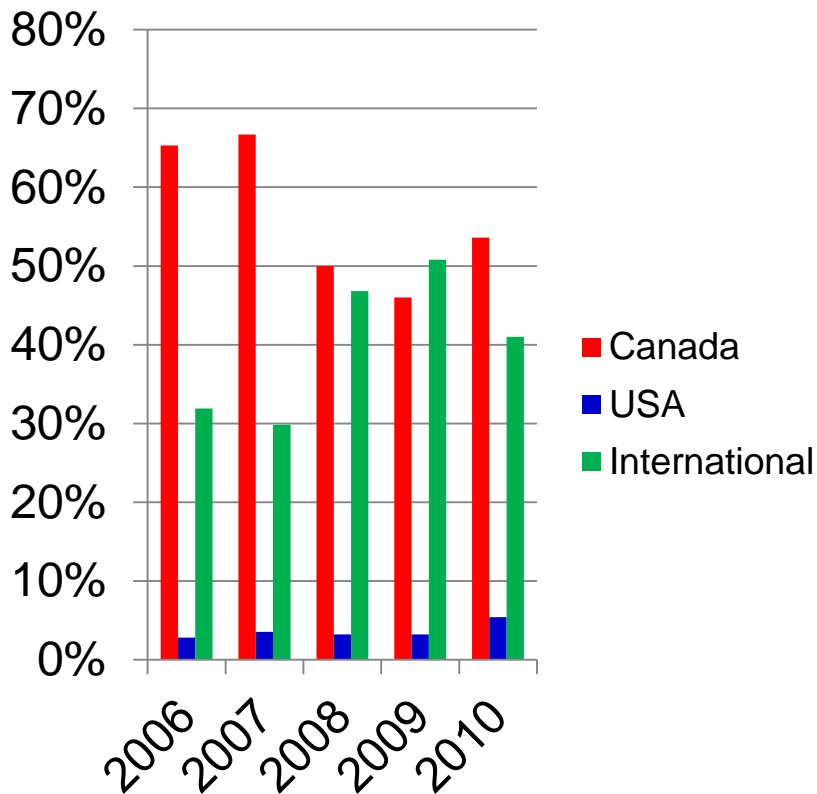
3.3 million internationally mobile students worldwide



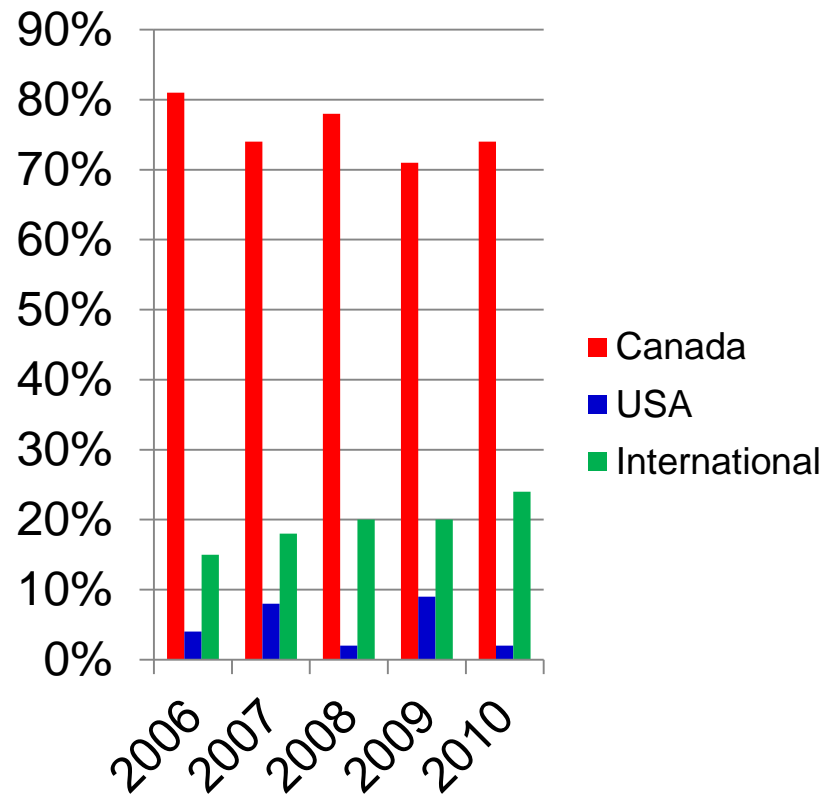
Sources: Institute of International Education, OECD

Mini Case Study: McGill MBA Program, 2006-2010

Incoming Students: Country of Origin



Outgoing Students: Job Placement

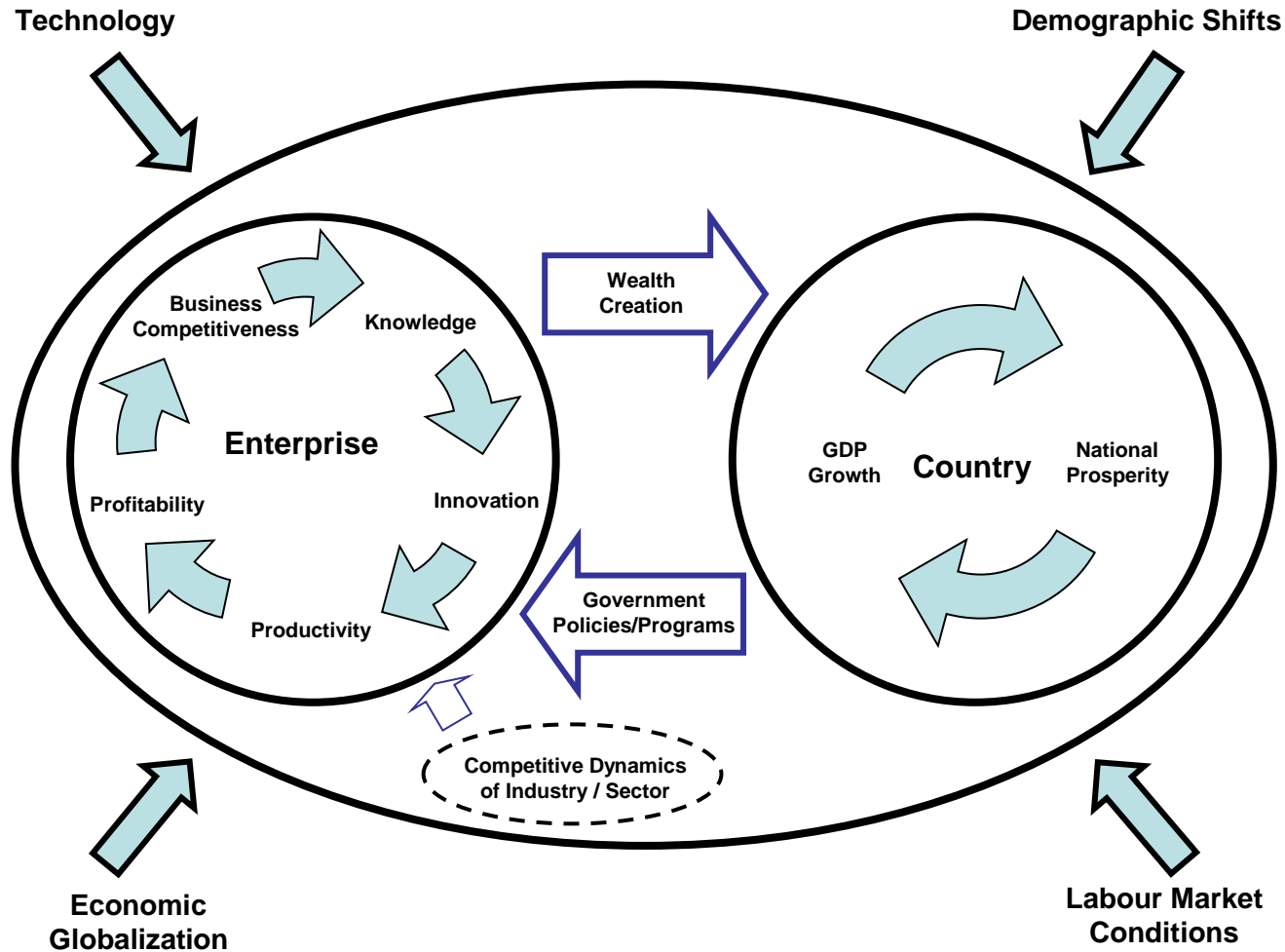


The Global Competition for Talent: Mobility of the Highly Skilled

Policy / Program (sample)	Canada	Australia	South Korea
Facilitating Inflows	Canada Research Chairs Program	ARC International Fellowships	Study Korea
	CFI Infrastructure Support	ARC Federation Fellowships	Post-doctoral fellowships
	CIHR International Scientific Exchanges	ARC Discovery Projects	Summer Institute in Korea
	Foreign Credential Recognition	Fullbright awards	Exchange of International Researchers
Facilitating Research Abroad	CIHR International Scientific Exchanges	ARC International Fellowships	International Collaborative Research
	CIHR Collaborative Research (China-Canada)	ARC Linkage International Awards	Overseas Study Visits of Professors
	Japan Society for the Promotion of Science Fellowship Programs	NHMRC CJ Martin Overseas Biomedical Fellowship	Early Career Research Program between Korea and Australia
	SSHRC International Opportunities Fund	International Science Linkages (DEST)	Summer Institute in Korea

Source: OECD Pilot Questionnaire on the International Mobility of Researchers

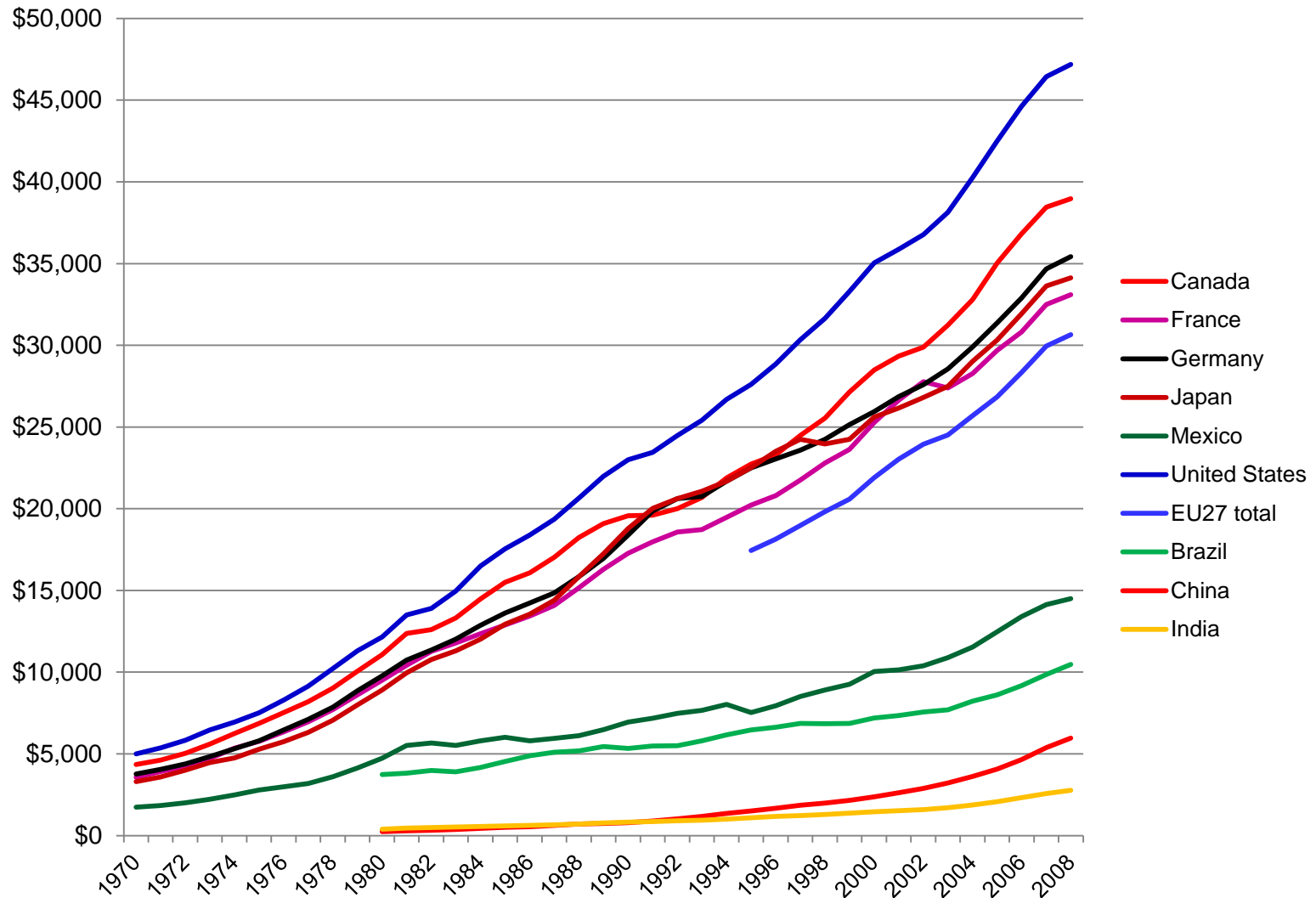
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Source: OECD

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The X Factor

Knowledge

The Fundamental Question of Business[©]

Why Me / Why Us?

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