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**THE ROLE OF POST-SECONDARY
EDUCATION IN THE TRANSITION
TO A KNOWLEDGE-BASED
ECONOMY**

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April 30, 2010



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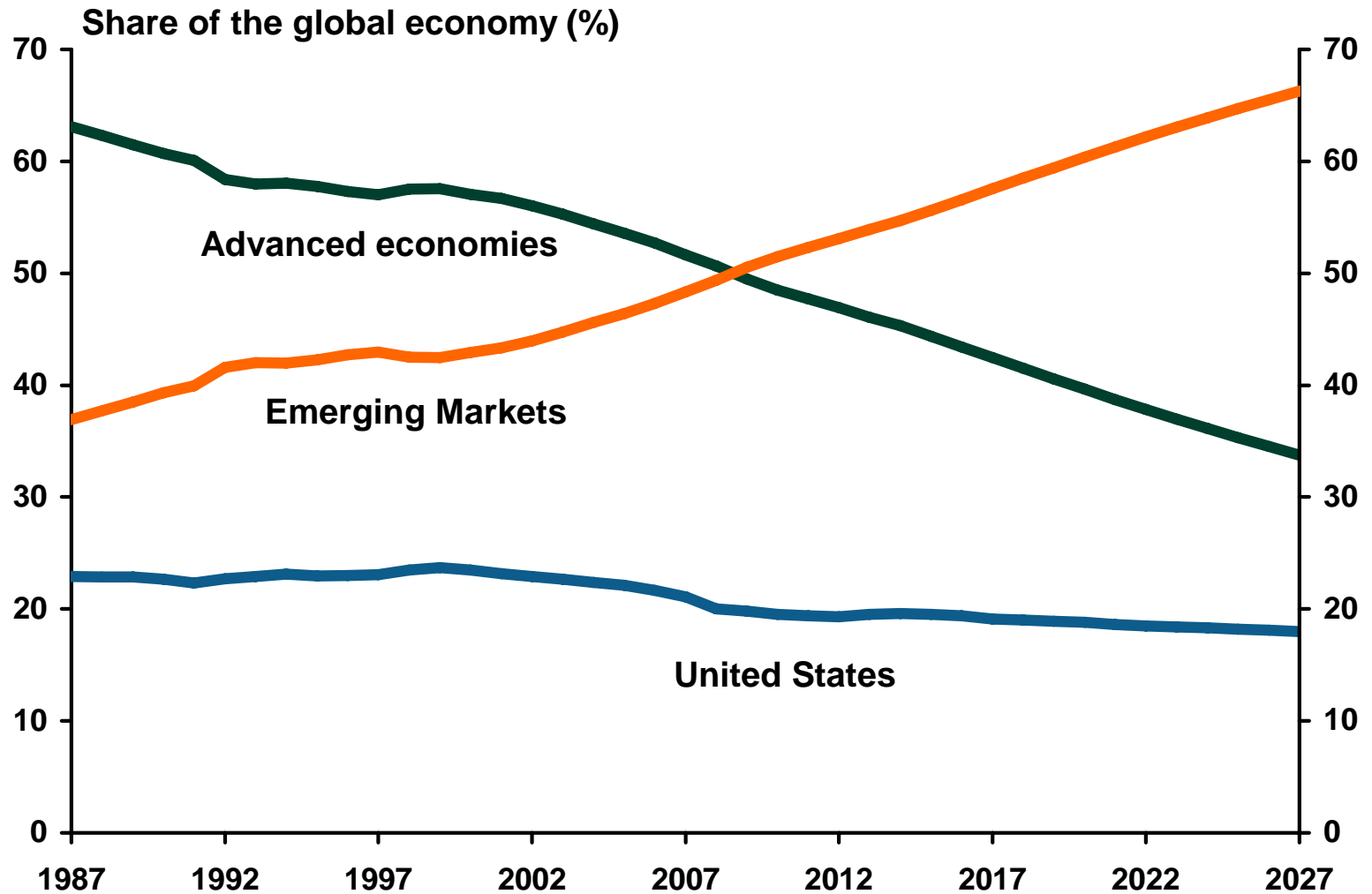
TD Economics provides analysis of economic performance and the implications for investors. The analysis covers the globe, with emphasis on Canada, the United States, Europe and Asia.

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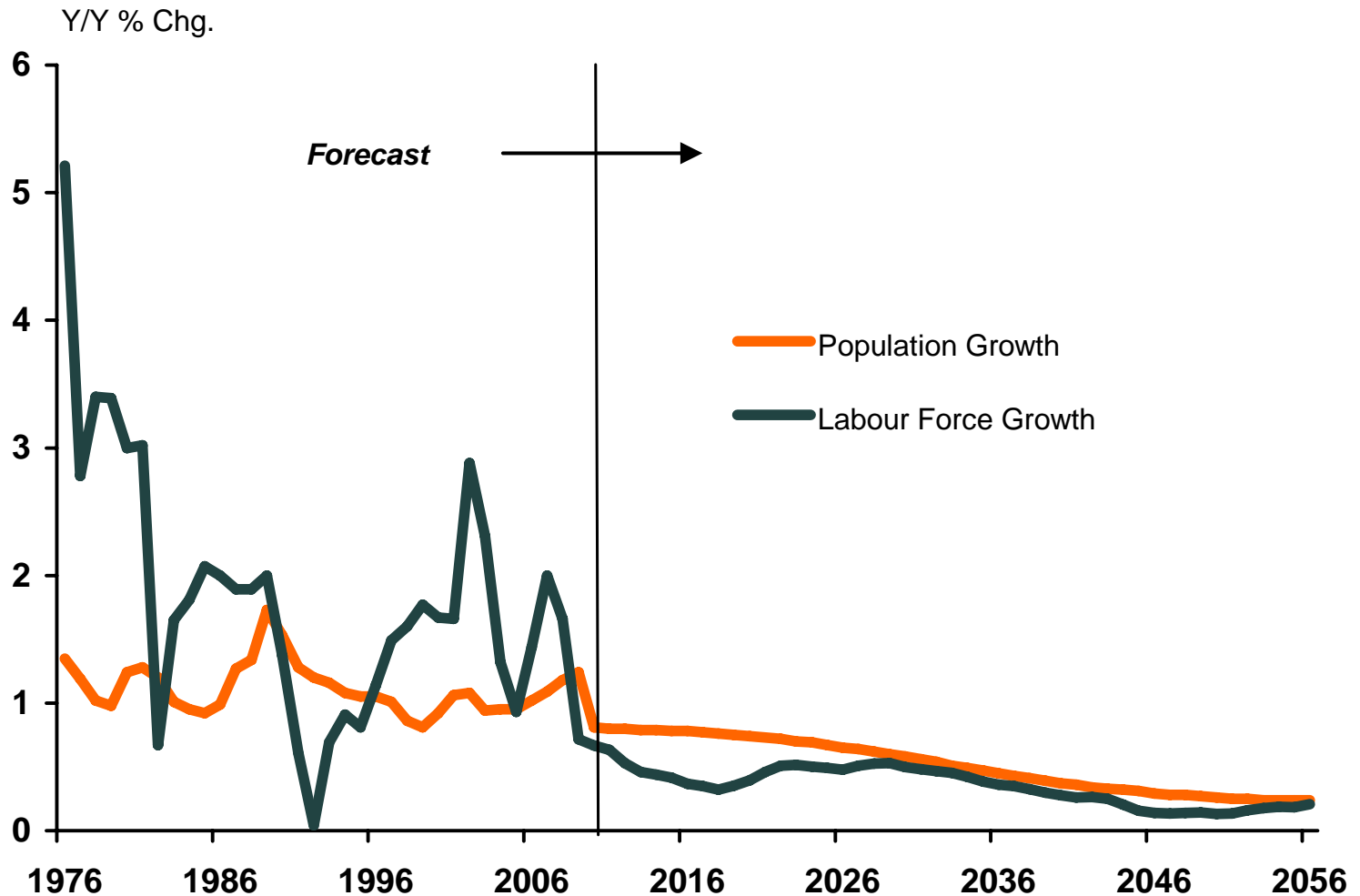
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GROWING SHARE OF WORLD ECONOMY COMING FROM EMERGING MARKETS



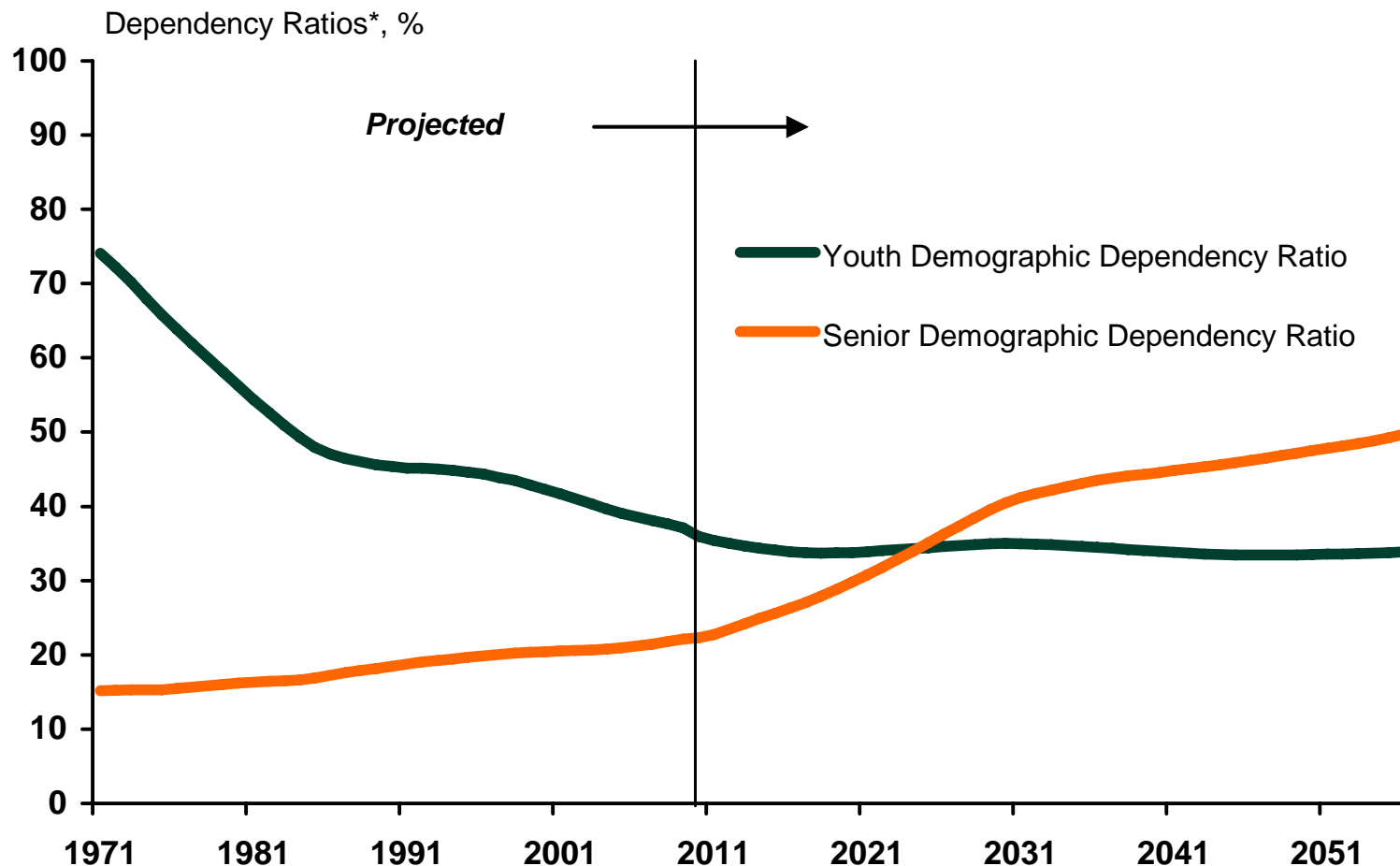
Source: Haver Analytics

DISMAL POPULATION AND LABOUR FORCE GROWTH CAN BE EXPECTED



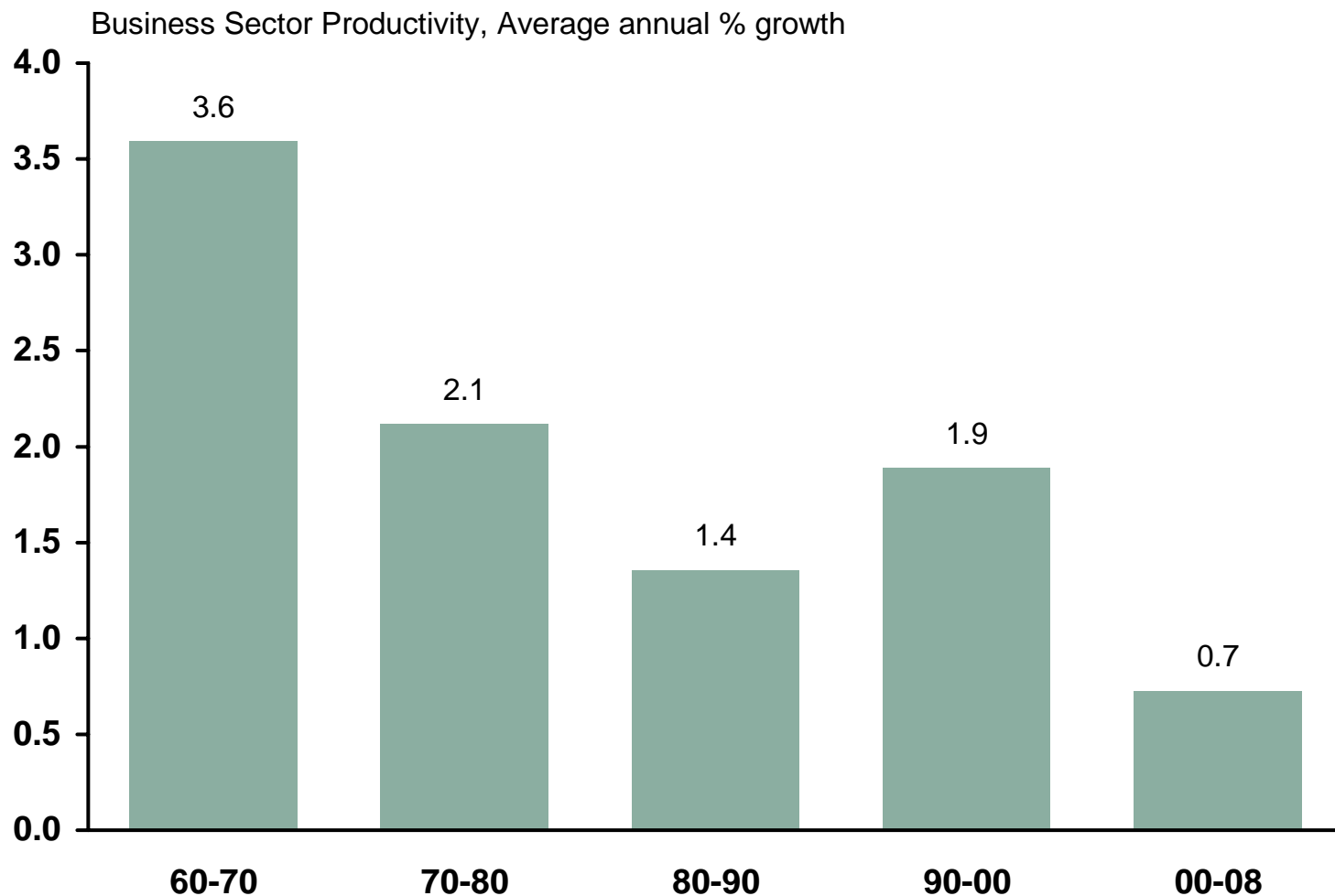
* Forecast under medium growth, medium migration trends assumptions.
Source: Statistics Canada, Haver Analytics and TD Economics.

COMBINED WITH AGEING OF POPULATION



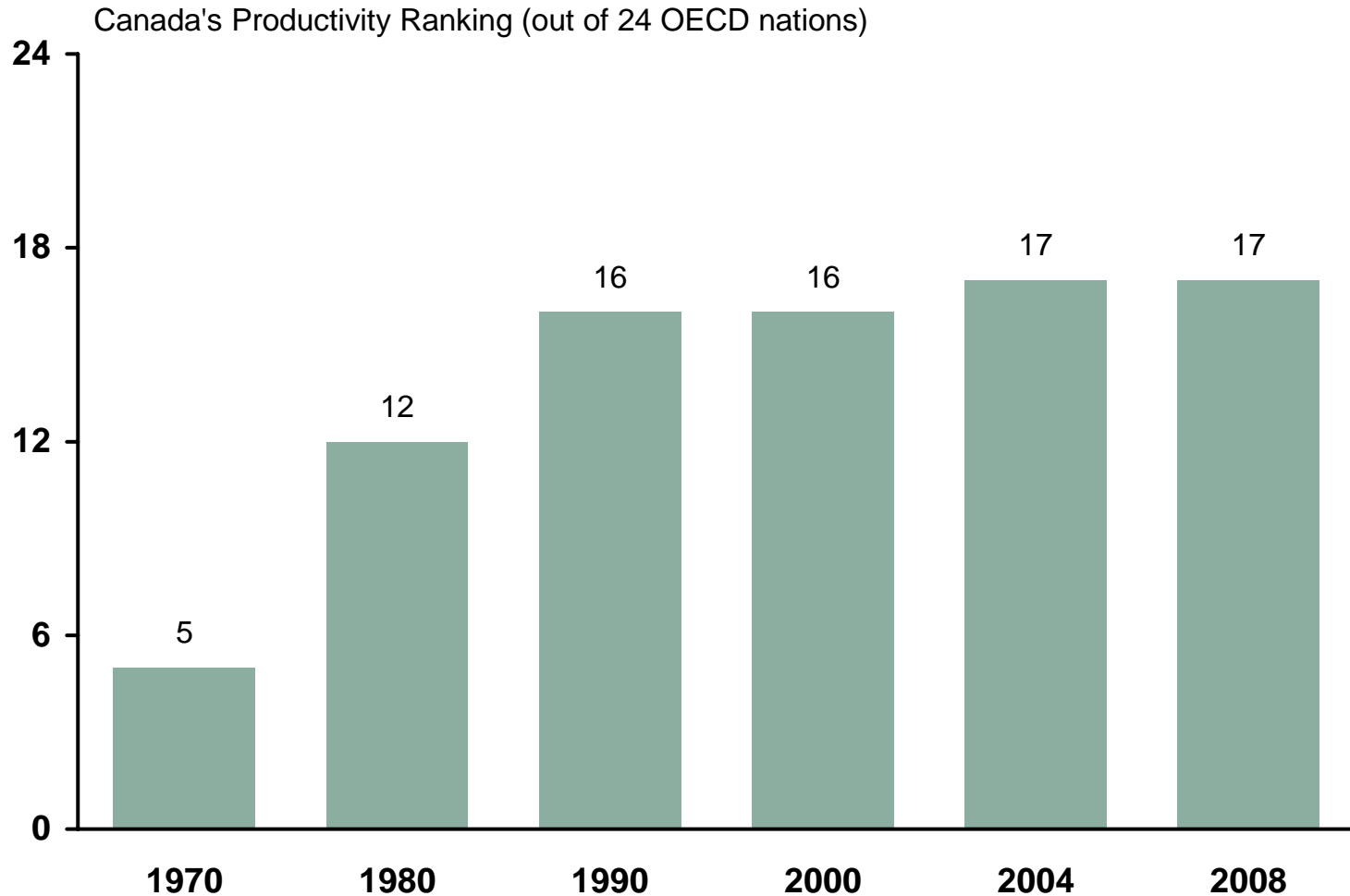
* The youth demographic dependency ratio is defined as the population between the ages of 0 and 19 relative to the working-age population characterized by the population between the ages of 20 and 64. The senior demographic dependency ratio is defined by the population aged 65 and over relative to the workind-age population; Source: Statistics Canada and Haver Analytics.

CANADA'S DECLINING PRODUCTIVITY GROWTH



Source: Centre for the Study of Living Standards

CAUSING CANADA'S PRODUCTIVITY RANKING TO FALL



Note: Lower number is better relative level of productivity; 1990 rank is out of 25 nations

Source: Groningen Growth & Development Centre & The Conference Board, Total Economy Database, August 2005 & January 2010, <http://www.ggdc.net>

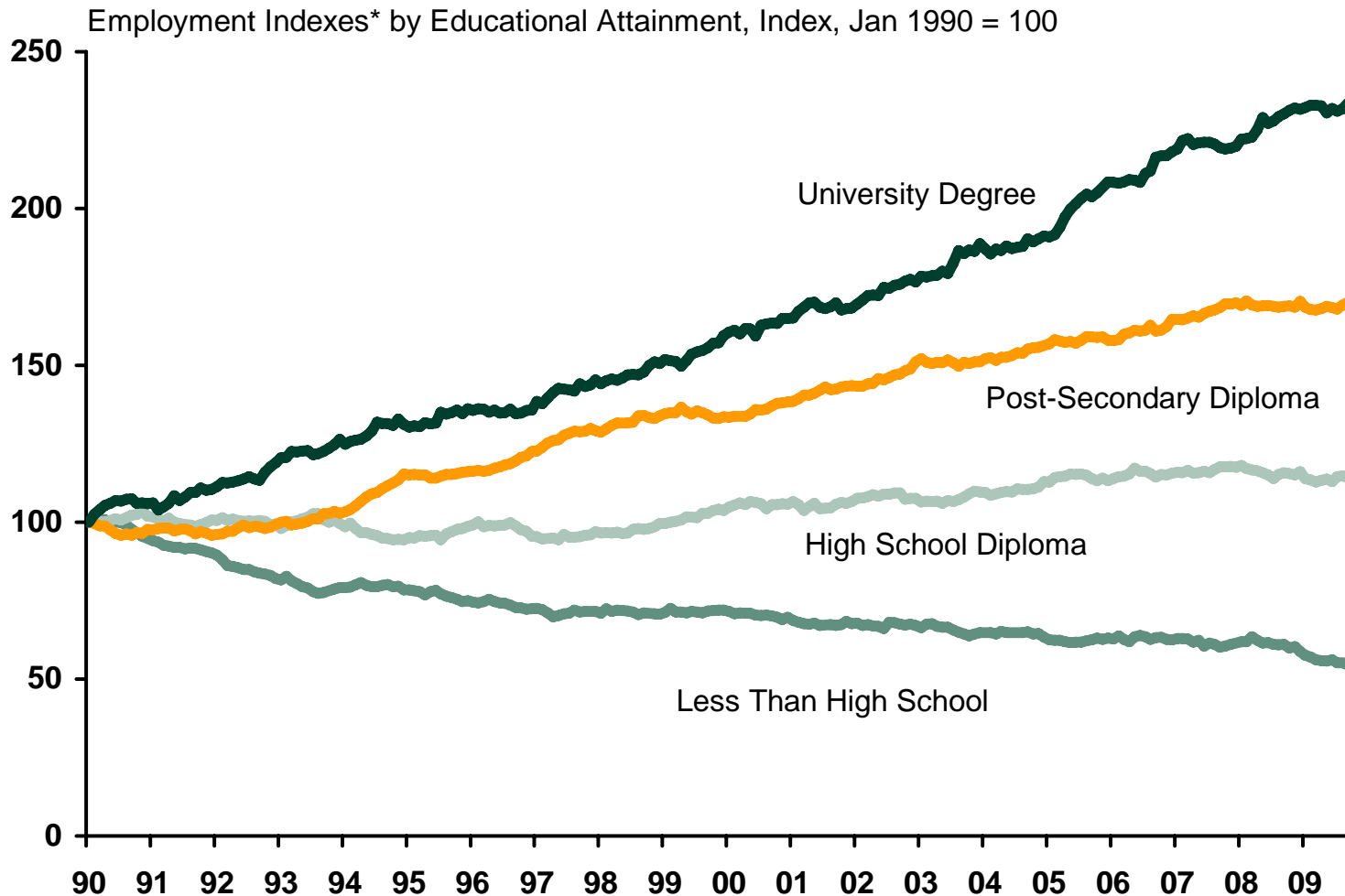


- Top quality labour force
- Effective integration of immigrants into the workforce
- World-class infrastructure, including transit
- Reliable electricity system
- A leader in the environment
- Competitive tax system
- Enhanced trade
- Shift from dependence (welfare) to workforce participation
- Return to budget balance

HIGH-SKILL JOBS HAVE BEEN IN HIGH DEMAND



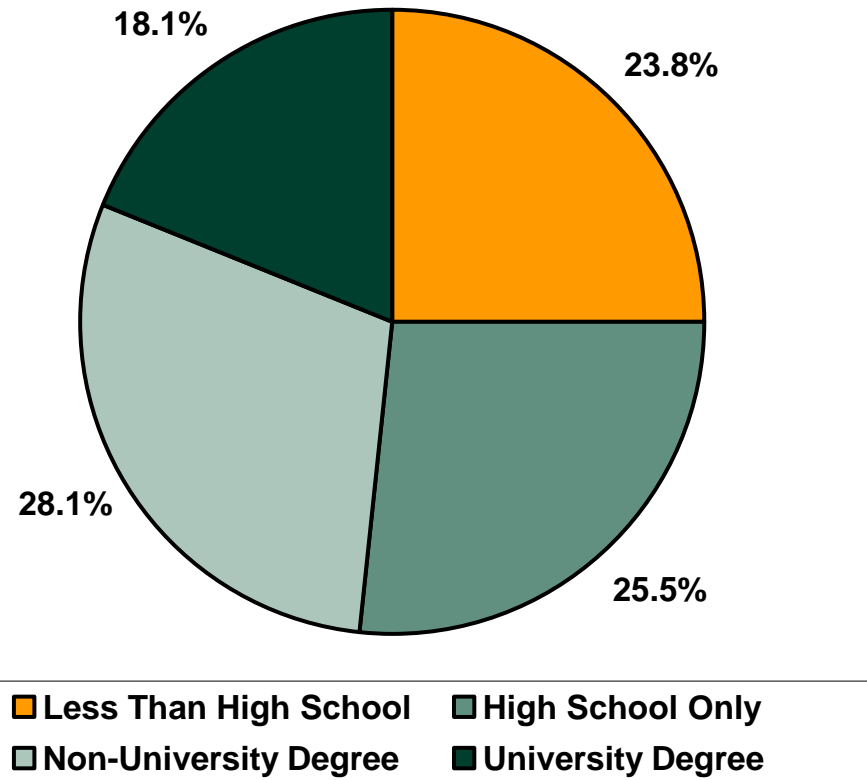
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*Index of employment levels; Source: Statistics Canada, Service Canada: Job Futures

CONSEQUENTLY, SOME 46% OF CANADIANS NOW HAVE A POST-SECONDARY EDUCATION

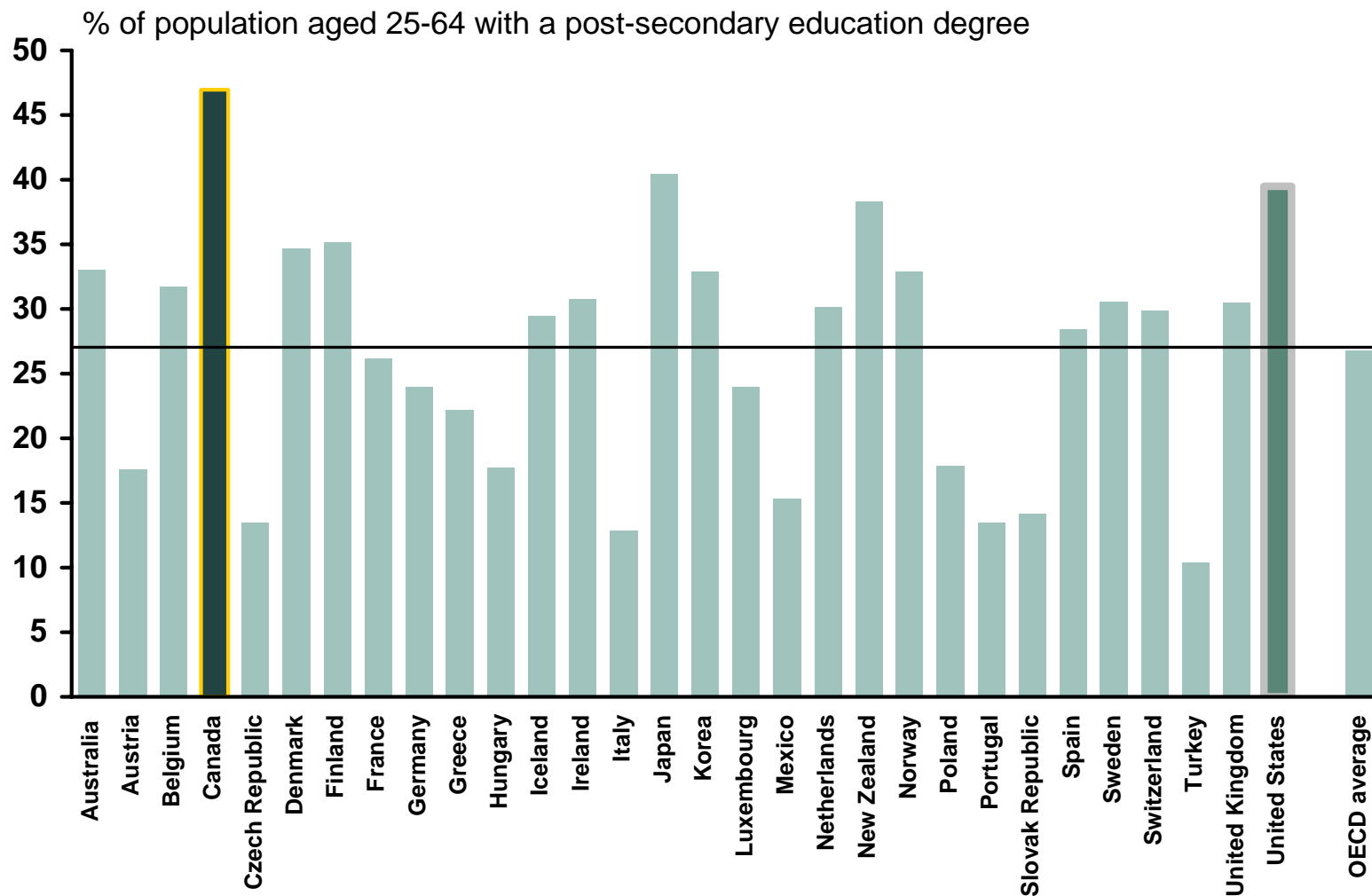
EDUCATIONAL ATTAINMENT OF CANADIANS*, 2006



*Ages 15 and over; Source: Statistics Canada, Census of Population

CANADIAN PSE PARTICIPATION RATES VS. OECD COUNTERPARTS

CANADA VS. OECD



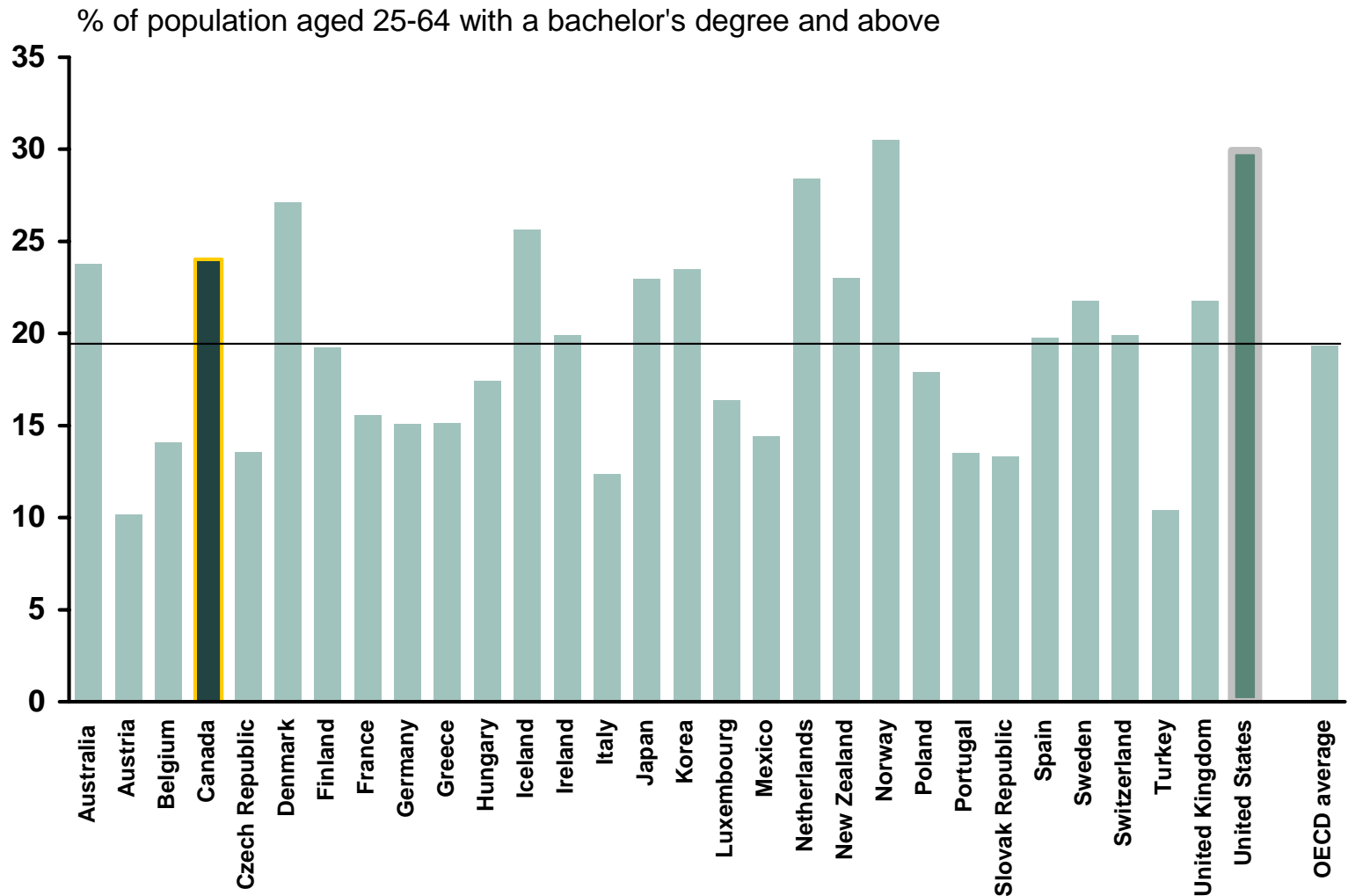
Source: OECD "Education at a Glance 2008"

CANADIAN UNIVERSITY PARTICIPATION RATES VS. OECD COUNTERPARTS



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CANADA VS. OECD



Source: OECD "Education at a Glance 2008"

EDUCATIONAL REQUIREMENTS OF JOBS ARE RISING

JOB OPENINGS BY BROAD SKILL LEVEL, 2006-2015

Skill Level (Occupation)	Expansion demand (non-student)		Retirements		Share
	Level (000s)	Rate (AAGR ¹)	Level (000s)	Rate (AAR ²)	
Total	1,697	1.1%	3,801	2.4%	100.0%
Skill Level³					
Management	170	1.2%	433	2.8%	11.0%
Occupations usually requiring:					
university education	445	1.6%	726	2.5%	21.3%
college education or apprenticeship training	560	1.1%	1,288	2.4%	33.6%
high school diploma	425	0.9%	1,035	2.2%	26.5%
only on-the-job training	97	0.6%	320	2.1%	7.6%

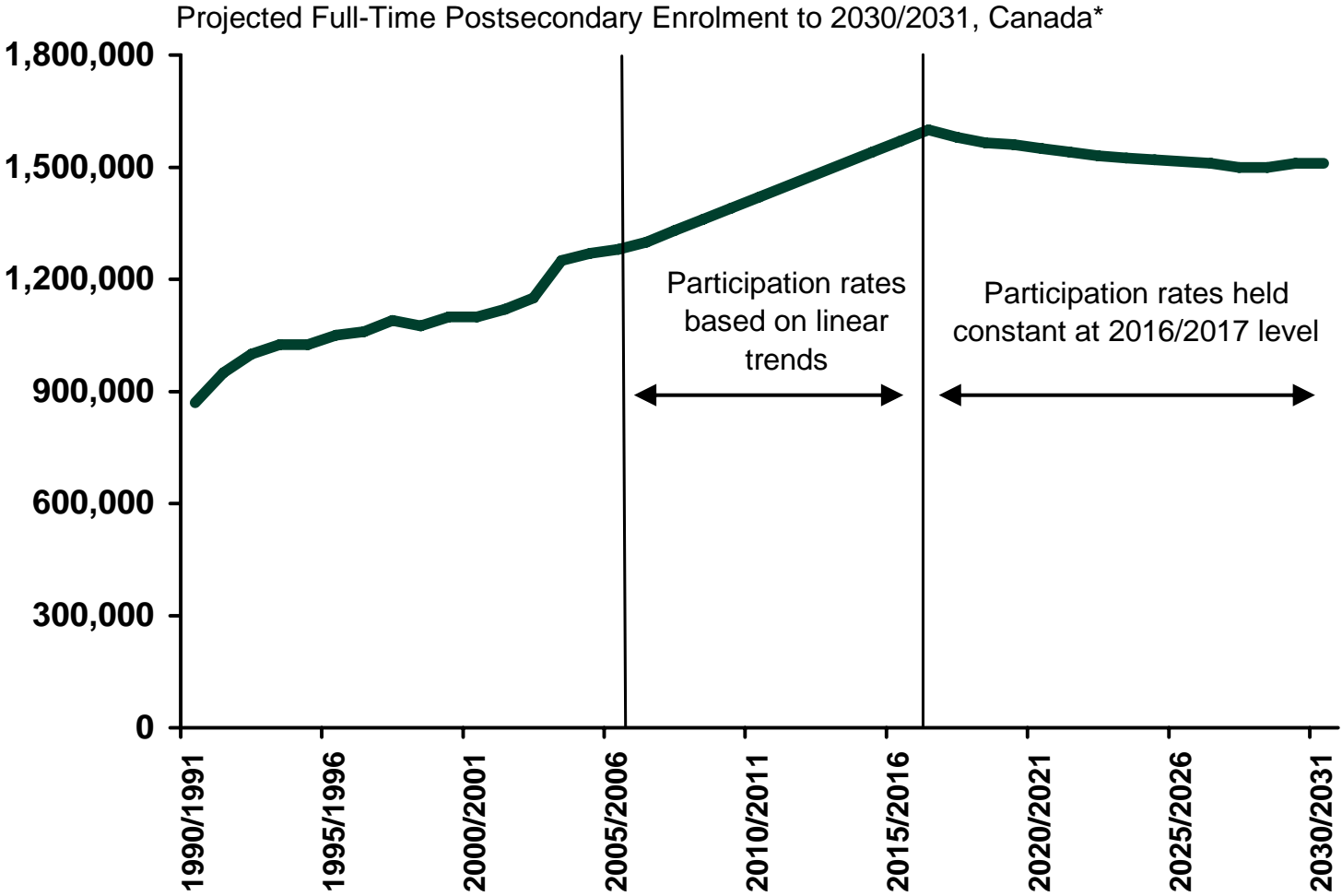
¹ AAGR: average annual growth rate.

² AAR: annual average retirement rates, which correspond to the ratio of retirement level to employment level for each forecast year.

³ Skill levels are based on the 2001 NOC Matrix, in which occupations are grouped according to the education and training normally required.

Source: Statistics Canada and HRSDC, Strategic Policy Research Directorate (Looking-Ahead: A 10-Year Outlook for the Canadian Labour Market, 2006-2015, October 2006)

POST-SECONDARY ENROLMENT IN CANADA WILL CONTINUE RISING FOR SEVERAL YEARS IF RECENT TRENDS ARE MAINTAINED

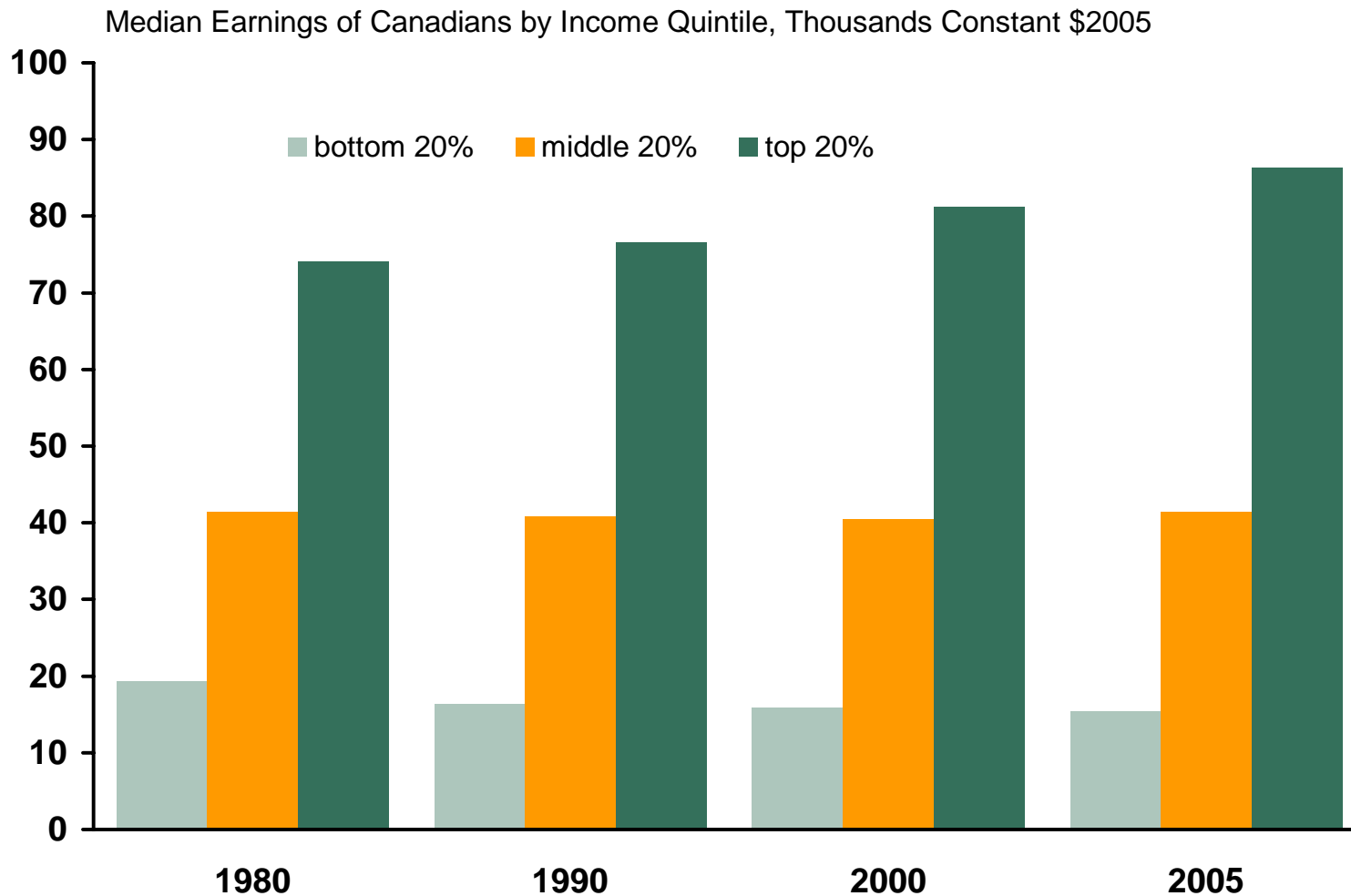


* Under scenario 2 which assumes that the participation rate will continue to rise through 2016-17 at the pace observed between 1990-91 to 2005-06 and will flatten at that level thereafter.
Source: Statistics Canada.

EDUCATION: INCREASINGLY THE DIVIDING LINE



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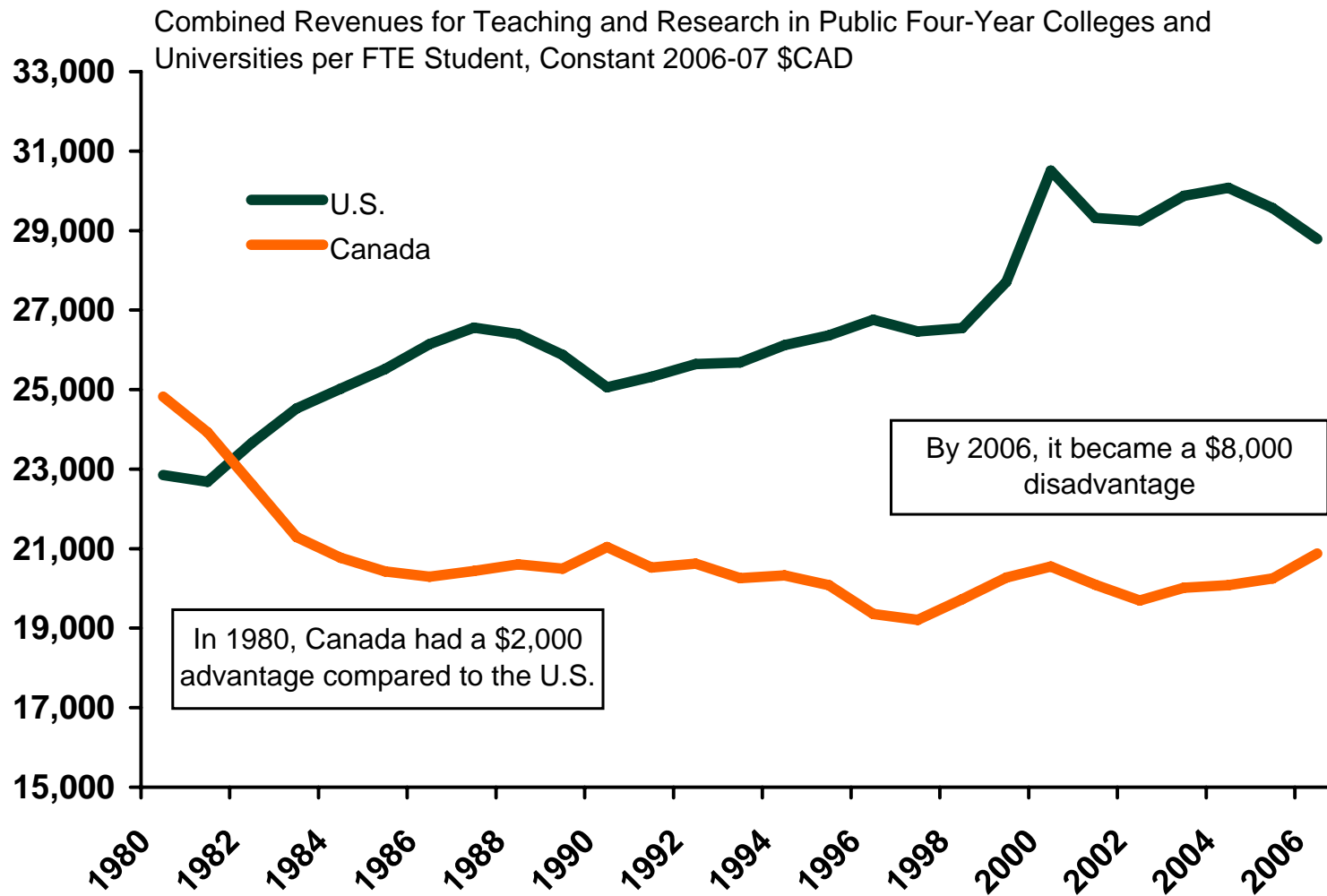
*Full-time, full-year earners; Source: Statistics Canada, Censuses of Population

PSE EXPECTATIONS HAVE BEEN HEIGHTENED



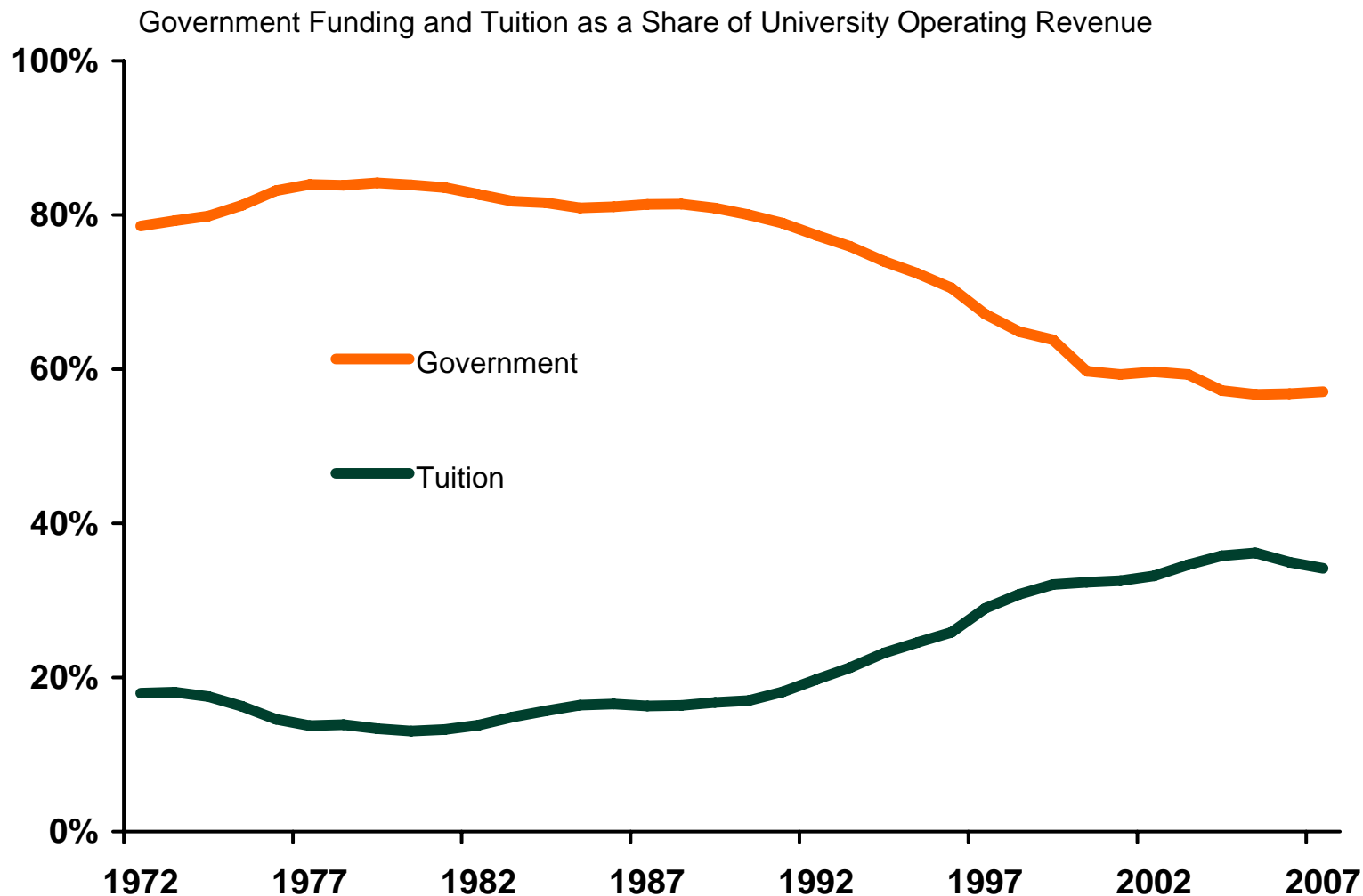
- PSE System is expected:
 - Educate an ever-increasing percentage of the population;
 - Help equalize economic and social outcomes;
 - Provide an important component of lifelong learning;
 - Be an engine of innovation; and
 - Deliver against expectations with quality and efficiency.

CANADA IS TRAILING BEHIND THE U.S. IN FUNDING FOR PSE BY A SIGNIFICANT MARGIN



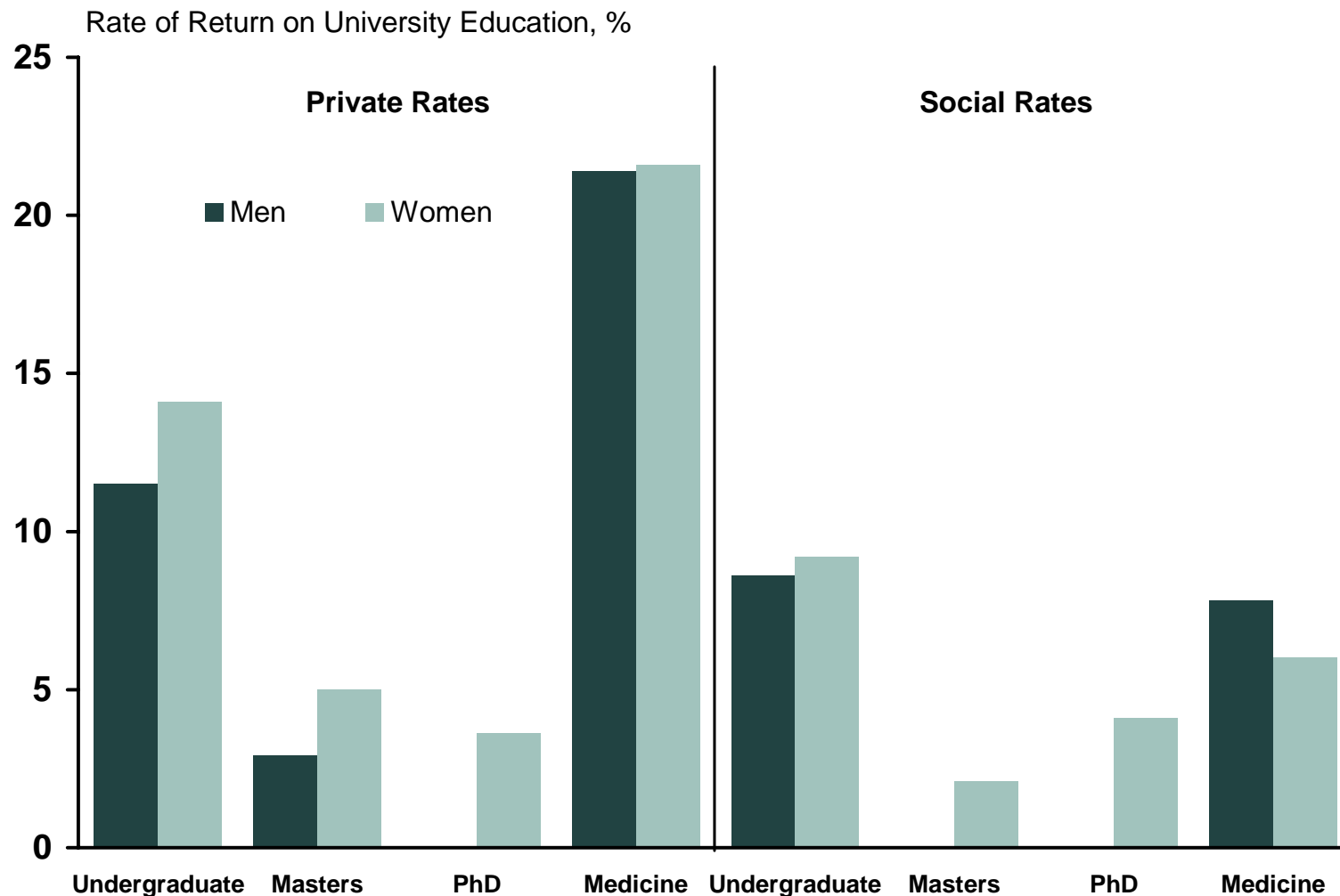
Source: Association of Universities and Colleges of Canada.

SHIFT FROM PUBLIC TO PRIVATE FUNDING OF PSE



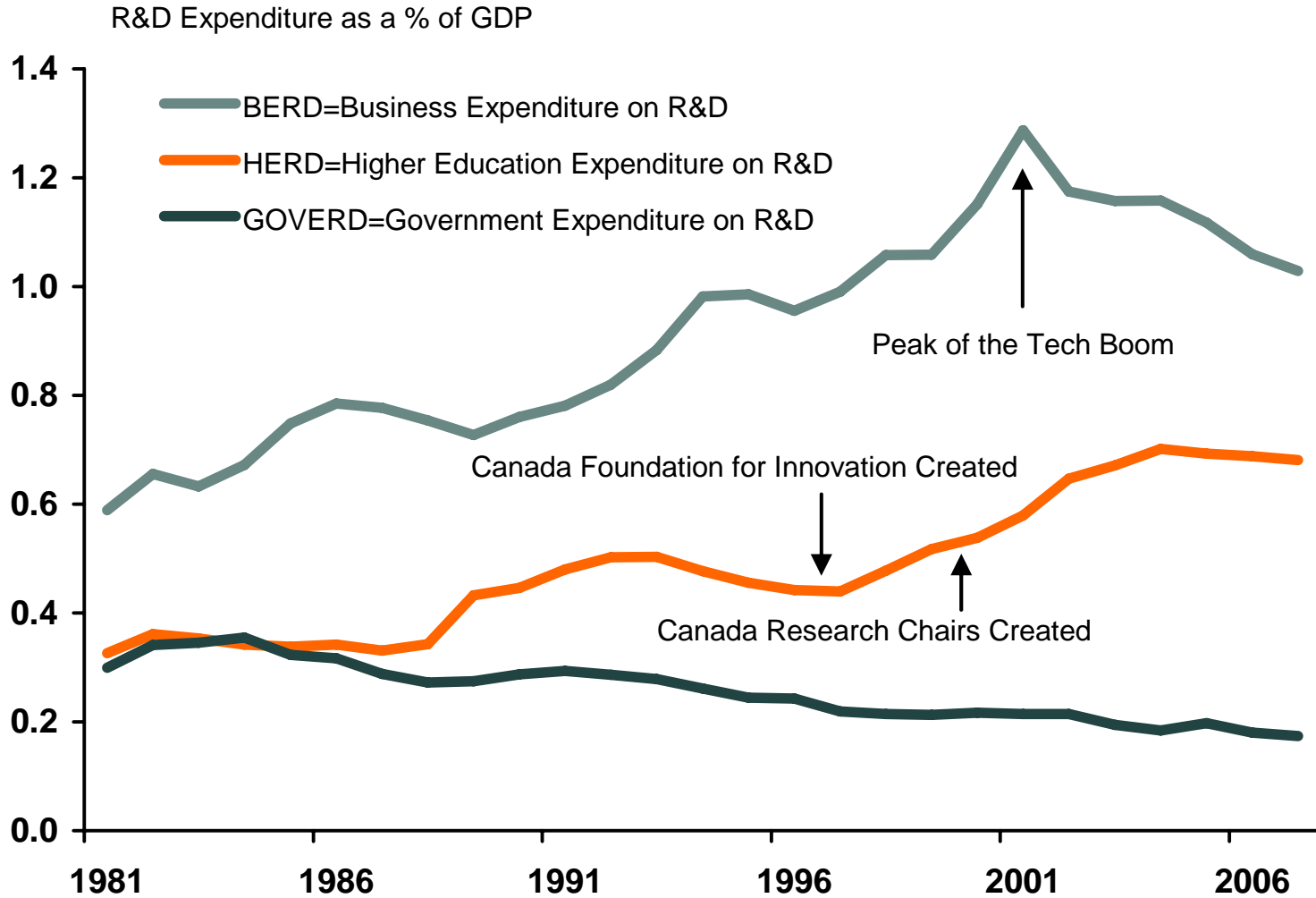
Source: Canadian Association of University Teachers.

PRIVATE AND SOCIAL RETURNS TO POST-SECONDARY EDUCATION



Source: Moussaly-Sergieh, 2005, table 16.

RESEARCH ROLE OF UNIVERSITIES HAS BEEN EXPANDING

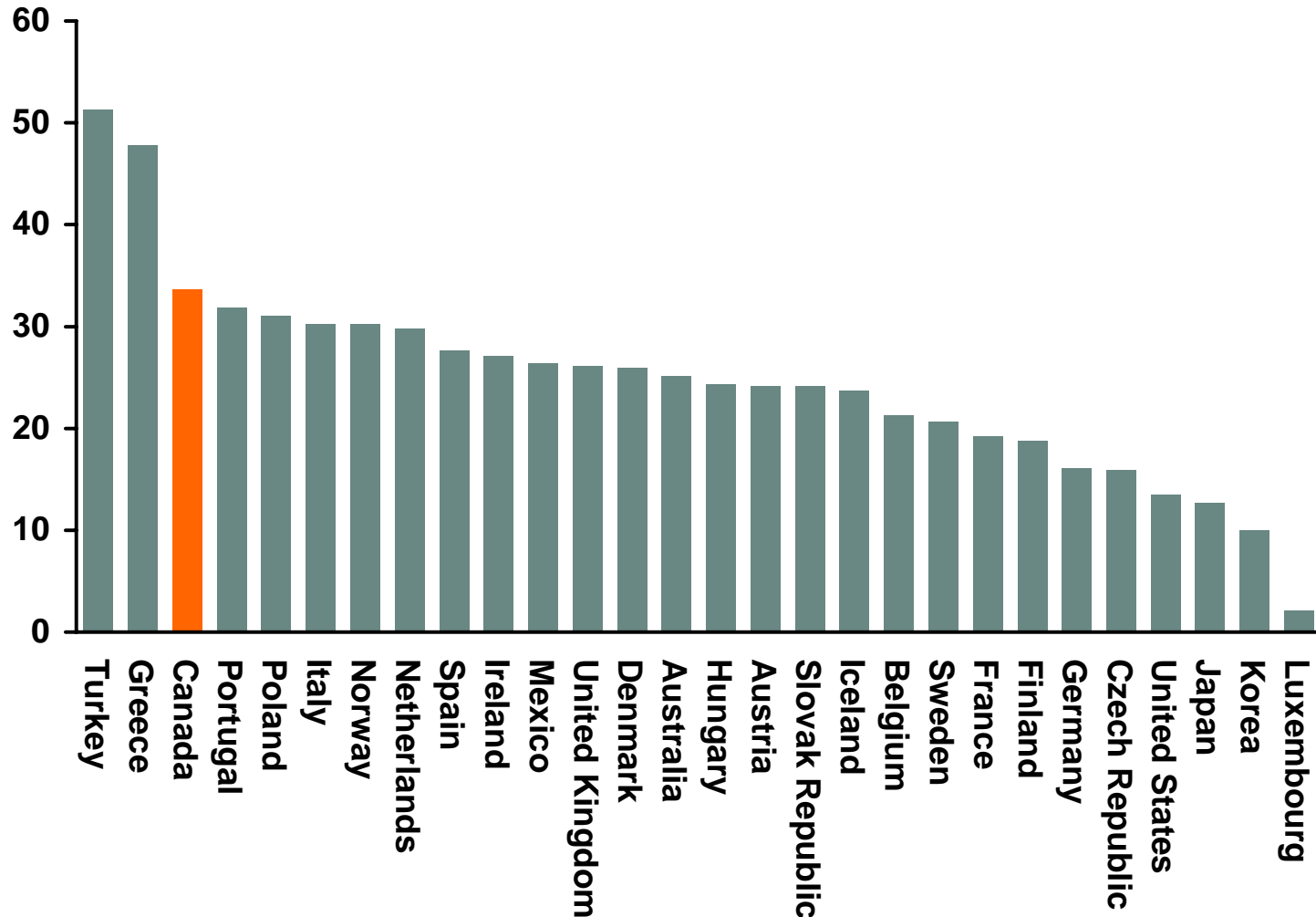


Source: OECD.

CANADIAN UNIVERSITY EXPENDITURE ON R&D RELATIVE TO TOTAL R&D EXPENDITURE - ONE OF THE HIGHEST



Higher Education Expenditure on R&D as a % of Total R&D Expenditure, 2006

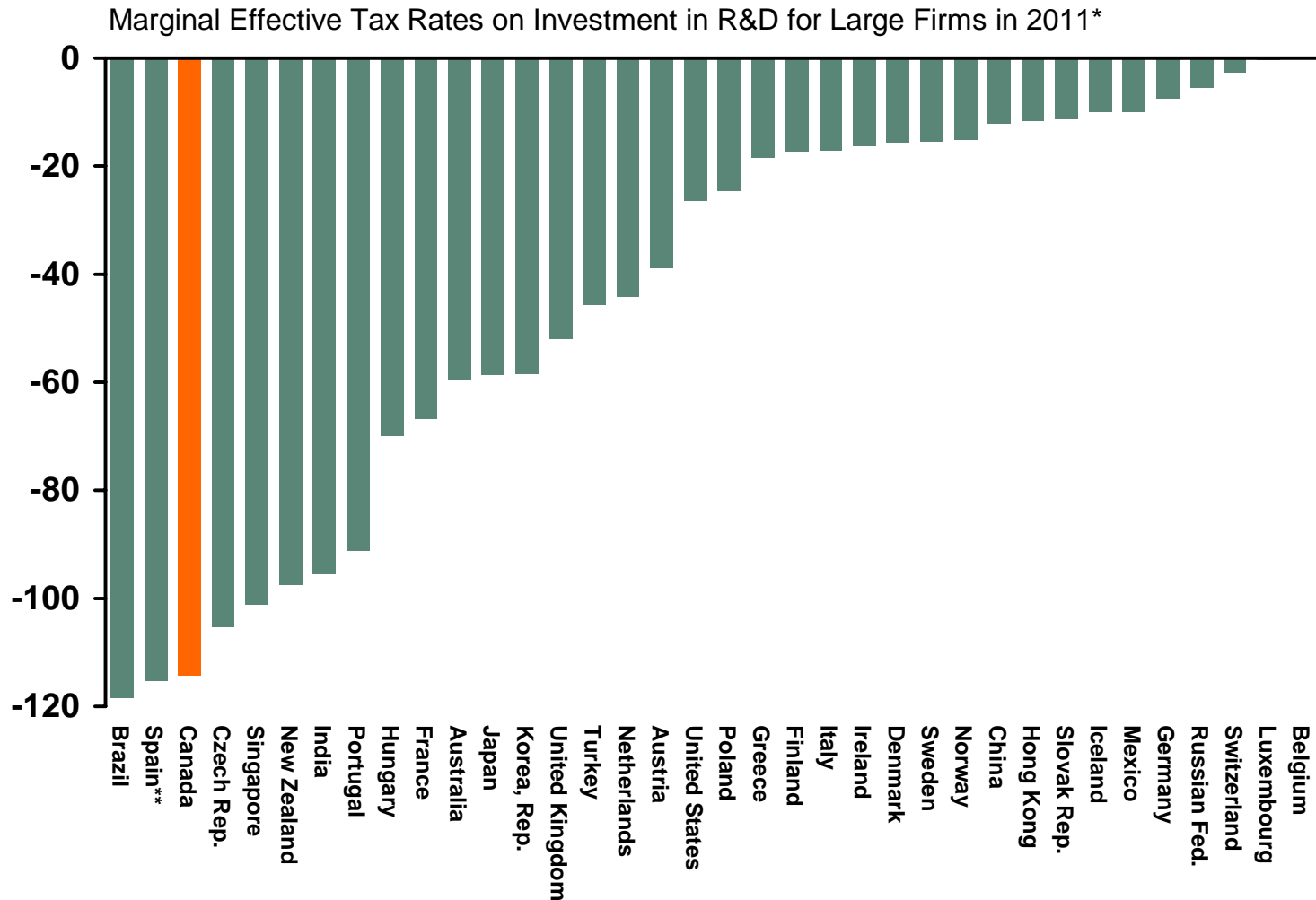


Source: OECD.

PERFORMANCE OF BUSINESS EXPENDITURE ON R&D REMAINS WEAK DESPITE HIGHLY NEGATIVE METR



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* Includes tax incentives offered by sub-national governments in Canada and the U.S.; ** Spain will eliminate the investment tax credit in 2012 causing the METR to increase from 2nd lowest to the 19th position; Source: Department of Finance.

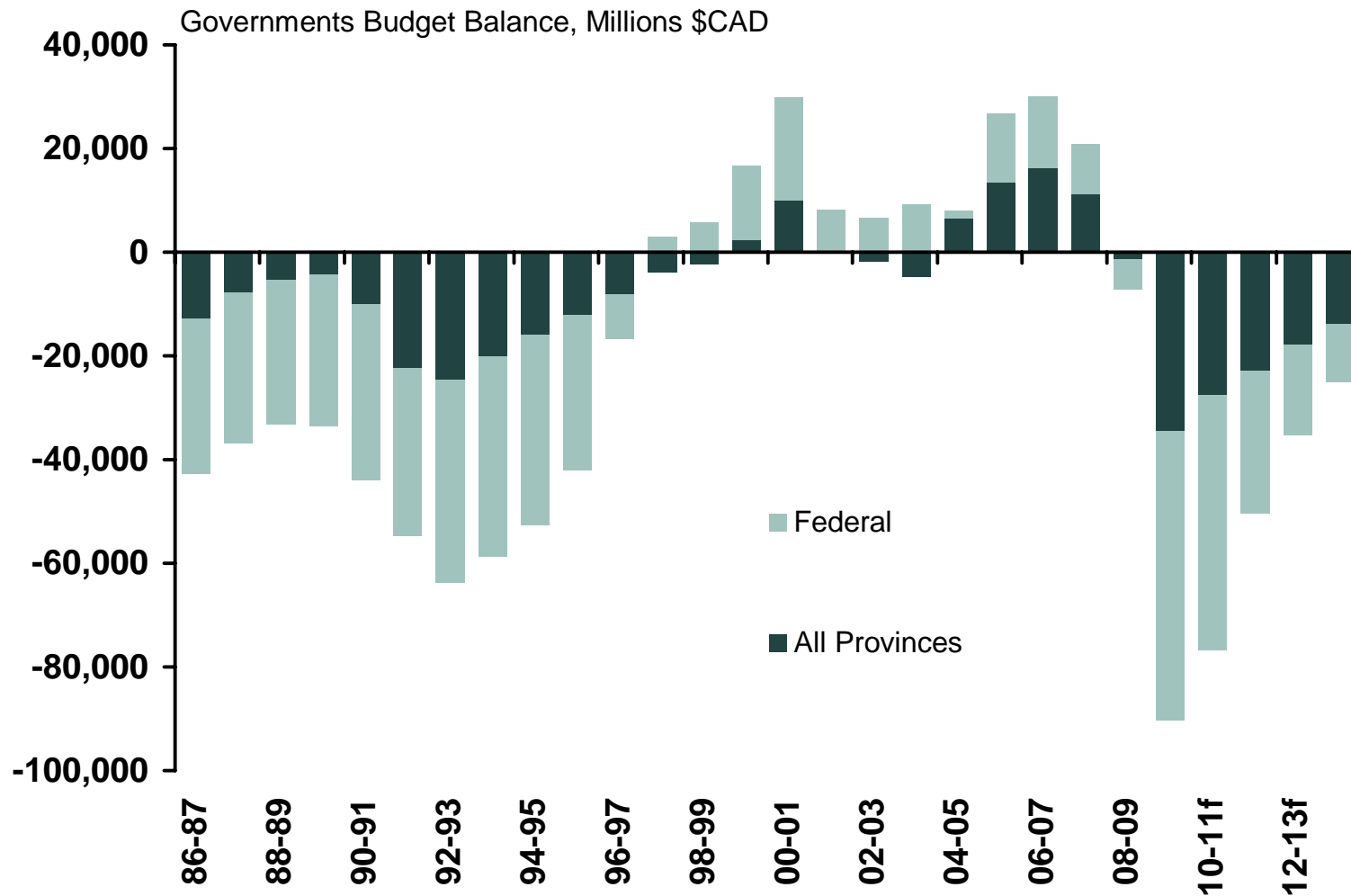
UNIVERSITIES' ABILITY TO COMMERCIALIZE R&D INITIATIVES NEEDS TO BE EXPANDED



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- Universities represent a \$30 billion enterprise in Canada.
- In 2008, Canadian universities conducted over \$10 billion of R&D for public, private and not-for-profit sectors.
- In contrast, U.S. universities perform about 14 times as much research as Canadian universities, but receive 49 times as much licensing income — a key indicator of the value of innovations.
- According to the Conference Board of Canada, “(d)espite a decade or so of innovation agendas and prosperity reports, Canada remains near the bottom of its peer groups on innovation, ranking 14th among the 17 peer countries”.

THE ERA OF BUDGETARY SURPLUSES IS OVER



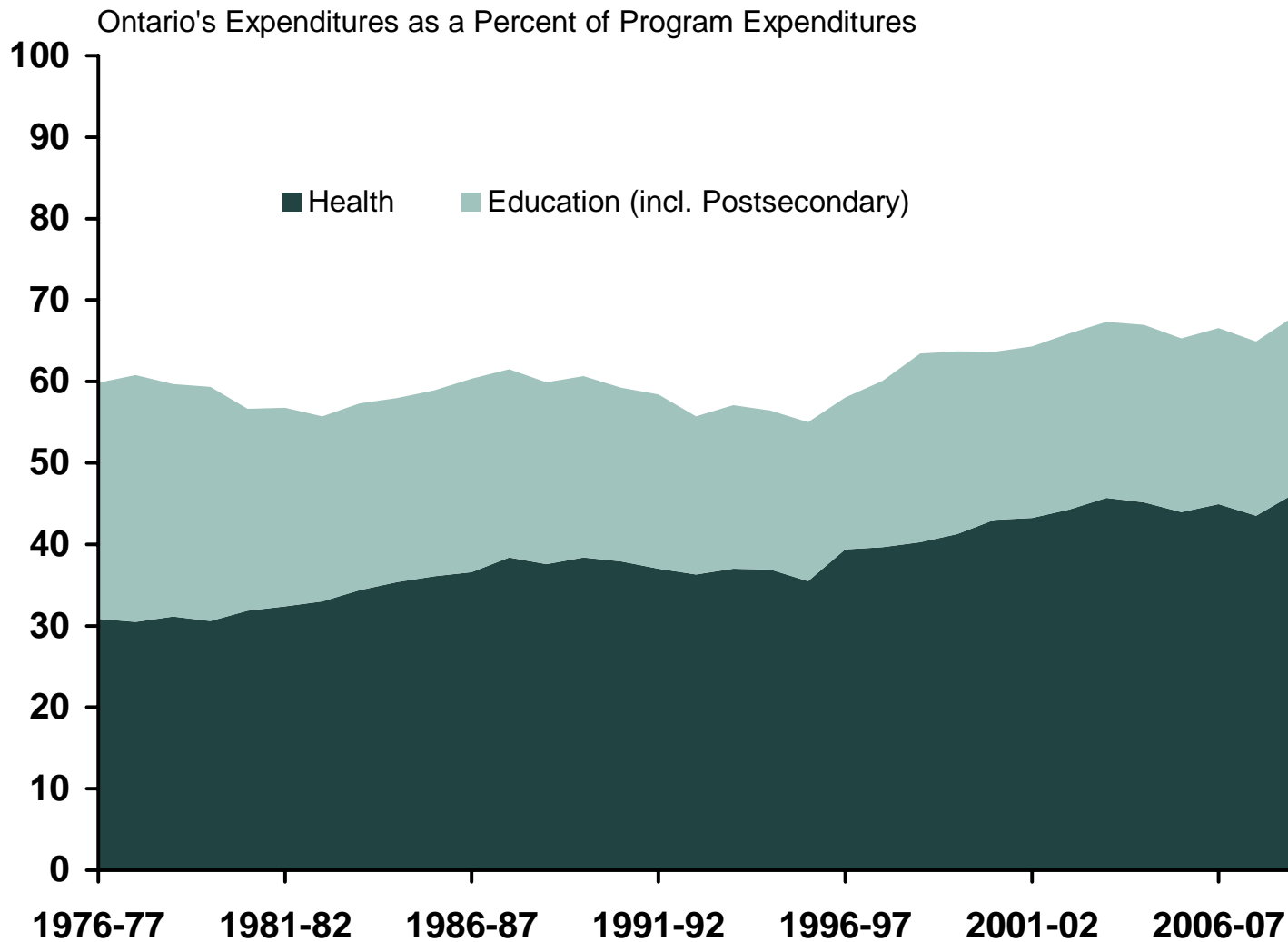
Source: Federal and provincial budgets.

HEALTH EXPENDITURES ARE INCREASING TO THE DETRIMENT OF EDUCATION EXPENDITURES



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ONTARIO

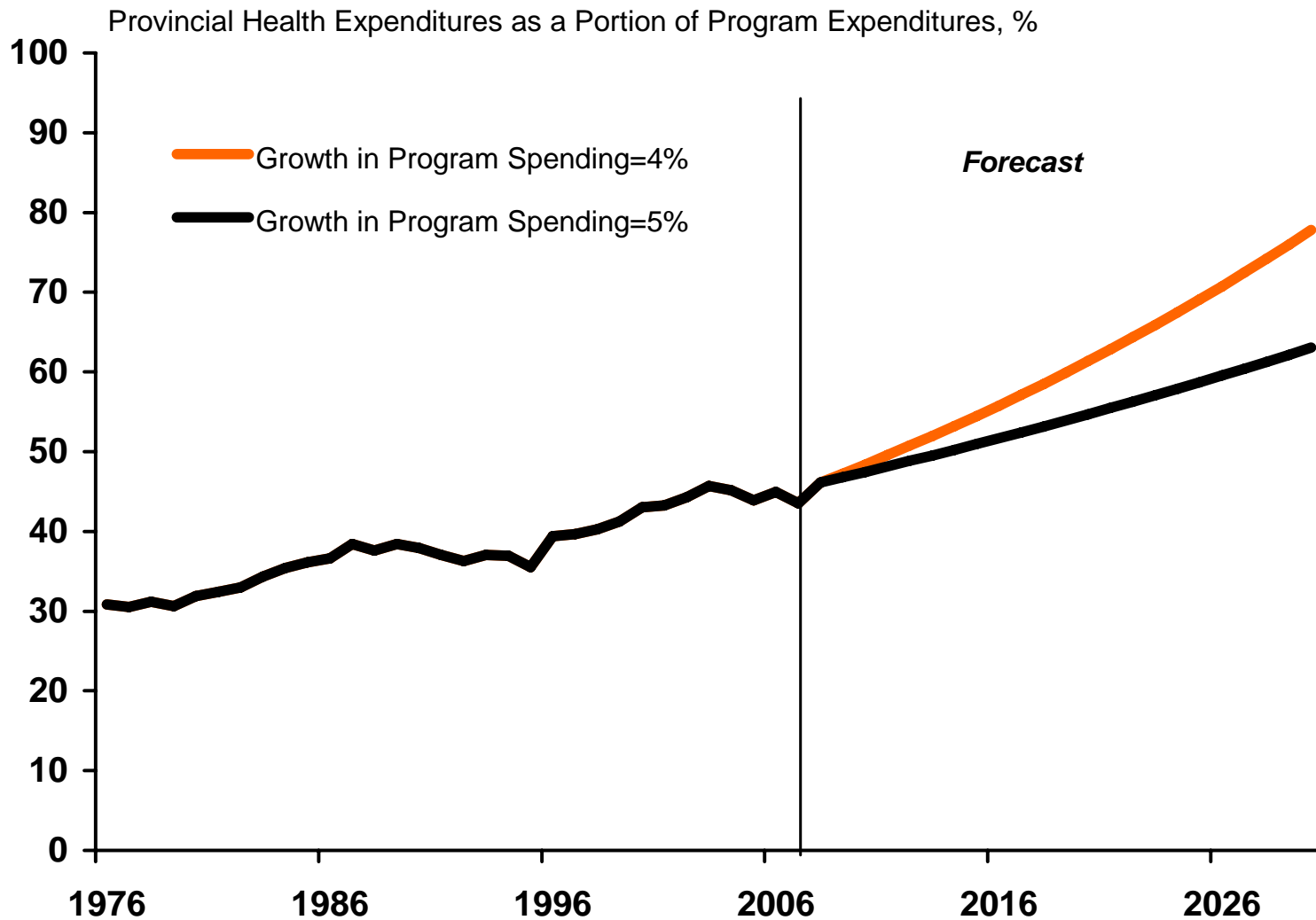


Source: Ontario Ministry of Finance.

ONTARIO'S HEALTH EXPENDITURES ARE EXPECTED TO SURGE



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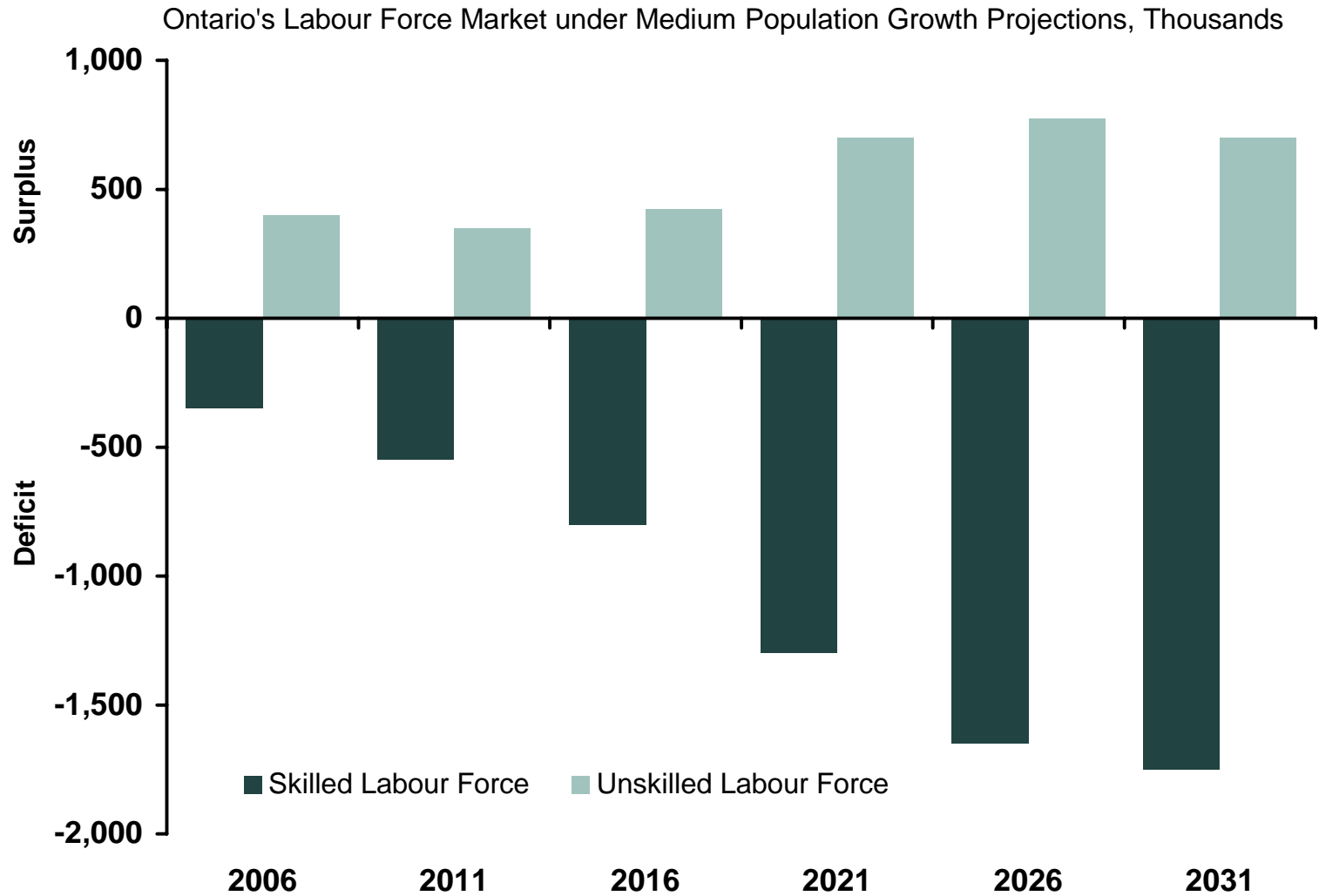


Source: Ontario Ministry of Finance; Forecast by TD Economics.

PREDICTIONS OF "JOBS WITHOUT PEOPLE AND PEOPLE WITHOUT JOBS"



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Source: Miner Management Consultants.

NO: demand and supply will adjust

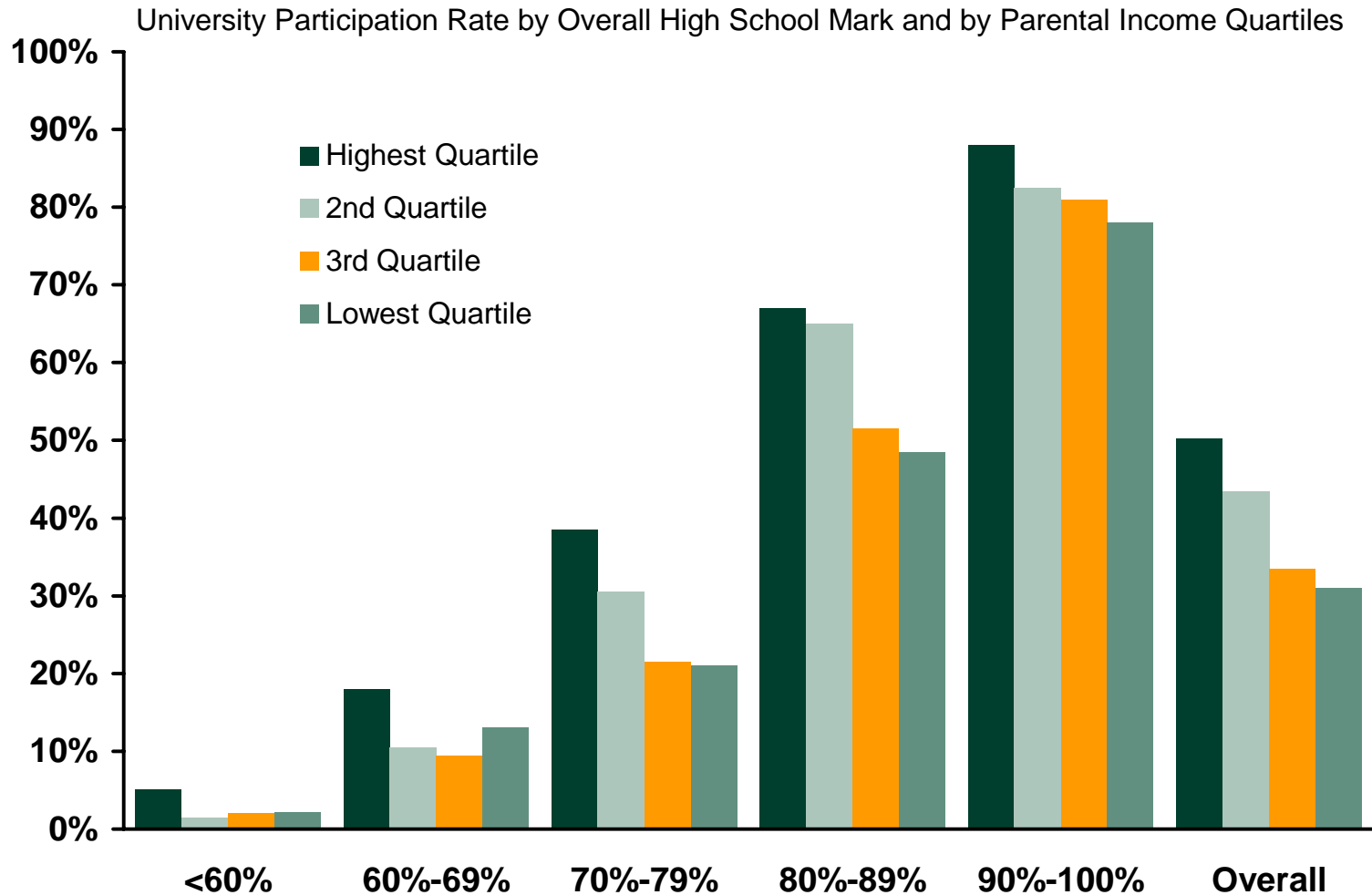
But: takes time and money

- Wages will rise
- Capital substituted for labour
- Production shifted to other markets
- Recruitment from non-traditional pools (more training)
- Retention of older workers
- Better use of under-represented workers
- PSE educates more people, more effectively
- If all else fails, growth will be slower

UNIVERSITY PARTICIPATION RATES IN LOWER INCOME HOUSEHOLDS CAN BE SIGNIFICANTLY IMPROVED



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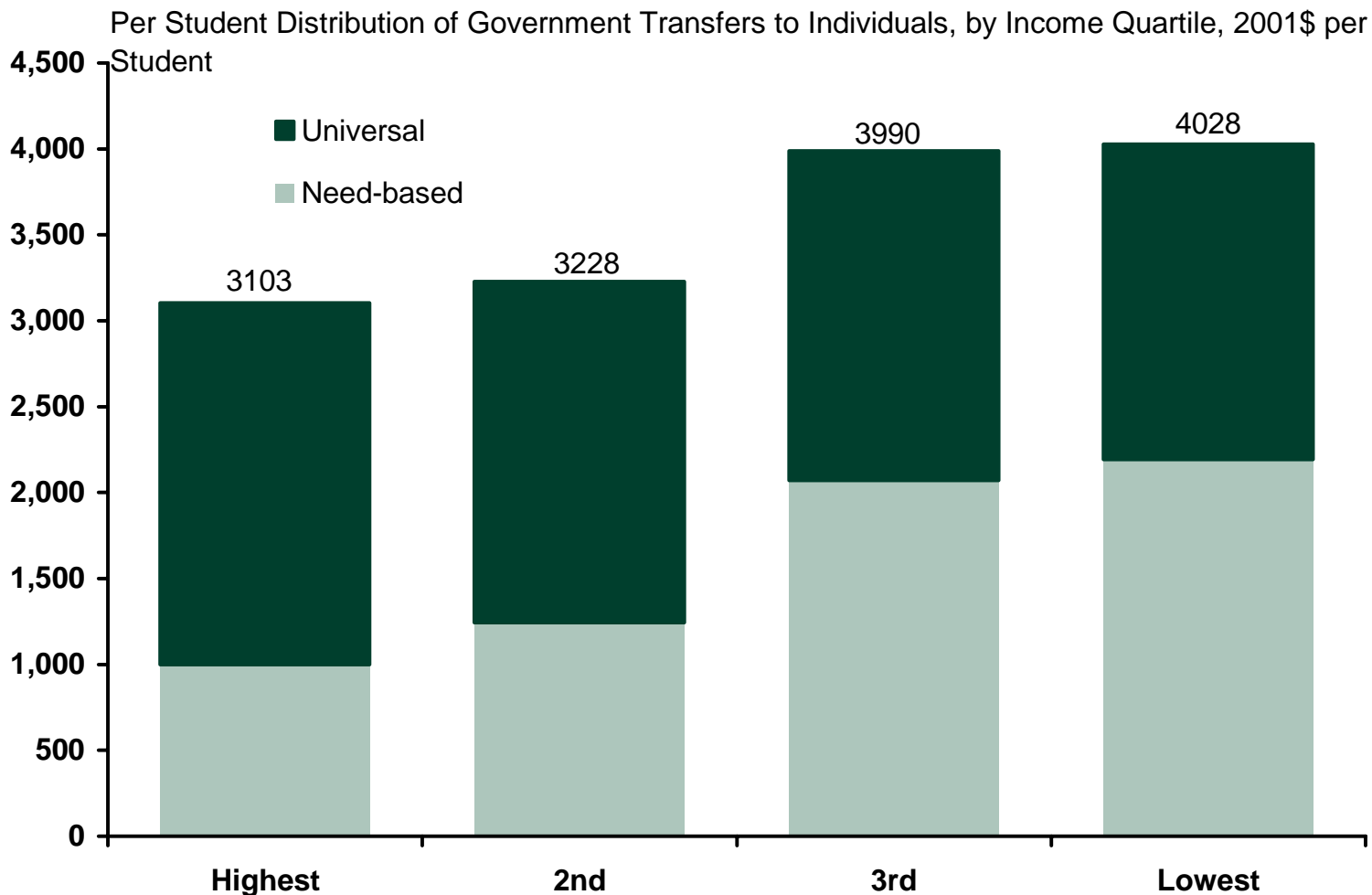
*By age 19; Source: Statistics Canada

Overall Mark

ACCESS TO POST-SECONDARY EDUCATION FOR LOWER-INCOME HOUSEHOLDS NEEDS TO IMPROVE



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Student loans, loan remission, and grants/bursaries constitute need-based transfers; tax credits, RESP's/CESG's, and summer employment subsidies constitute Universal transfers;
Source: Educational Policy Institute

STATISTICS CANADA'S EDUCATIONAL SURVEYS SHOULD BE FINANCED THROUGH CORE FUNDING



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- Threatened educational surveys include: National Graduate Survey, Programme for International Student Assessment (PISA), Youth in Transition Survey (YITS), Access and Support to Education and Training Survey (ASETS), Postsecondary Student Information System (PSIS), Registered Apprenticeship Information System (RAIS), National Apprenticeship Survey (NAS), and Survey of Earned Doctorates (SED) and Programme for the International Assessment of Adult Competencies (PIAAC).
- Cost of retaining these surveys: \$15 million per annum
- Loss of the Canadian Council of Learning and the CMSF will threaten data and analysis.

- Canada's post-secondary educational system is undergoing a transition as a result of:
 - Increased participation rates;
 - Increased supply of educational services to account for rising participation rates and growing foreign students intake; and
 - Transition to research.
- Many individuals believe that the quality of Canada's post-secondary educational system is deteriorating
- Shift to part-time teachers and large classes
- What should be done?
- What is the balance across: quality, quantity and research?



- Colleges a key to PSE access
- Credit recognition the burning issue
- Relative roles in undergraduate teaching?
- Relative roles in training?
- “Technical” universities could help transition



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