

2022

WORLD HIGHER EDUCATION: INSTITUTIONS, STUDENTS AND FUNDING





Higher Education Strategy Associates (HESA) is a Toronto-based firm providing strategic insight and guidance to governments, postsecondary institutions, and agencies through excellence and expertise in policy analysis, monitoring and evaluation, and strategic consulting services. Through these activities, HESA strives to improve the quality, efficacy, and fairness of higher education systems in Canada and worldwide.

Authors: Jonathan Williams and Alex Usher

Contact:

Higher Education Strategy Associates Suite 207, 20 Maud Street, Toronto ON, M5V 2M5, Canada +1 (416) 848-0215 info@higheredstrategy.com www.higheredstrategy.com

© Higher Education Strategy Associates, 2022

Acknowledgements

Many collaborators helped make this project possible over the course of almost four years of initial work. We must thank the following people, who contributed to our data collection:

- Kristina Adhikari
- Aidana Izhanova
- Vania Bañuelos
- Ingrid Clément
- Summer Cowley
- Lydia Freeman
- Nadiia Kachynska
- Juan Kaplan
- Aida Kazemi
- Tiffany MacLennan
- Magdalena Martínez
- Nadia Mohammad

- Georgina Hermida Montoya
- Maïca Murphy
- Naomi Nishimura
- Rutuparna Oiha
- Sarah Owocki
- Aytaj Pashayeva
- Guilherme Ramos
- Marcos Ramos
- Michael Savage
- You (Yoyo) Zhang

A number of colleagues from around the world kindly provided us with comments on an early draft. Our thanks to Bryan Alexander, Andres Bernasconi, Claire Callendar, Hamish Coates, Ben Jongbloed, Robert Kelchen, Dan Levy, Enora Pruvot, Creso Sa, Dante Salto and Jamil Salmi for their assistance and encouragement.

We must also thank Kürşat Yalın for his patience and assistance in converting our data into clear figures, and Samantha Pufek for her terrific support with the design of this report.

Finally, this work would not be possible if not for the many people around the world who gather and communicate data on higher education. That we were able to find as much data as we did, and in many cases more than we anticipated, is a tribute to the hard work of countless people. We must acknowledge and thank especially the many representatives of higher education and student financial agencies, researchers and other parties around the world who provided data, helped to steer us towards data, or verified our data over the course of the project.

Table of Contents

READER'S GUIDE 6 Defining Higher Education and Classifying Providers 7 Counting Enrolments and Institutions 9 Measures of Student Fees 10 Measures of Student Fees 10 Measures of Student Fees 10 Measures of Student Financing 9 Measures of Student Fees 10 Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 17 Global North 17 Global North 22 Global North 23 Global North 32 Global North 33 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION	INTRODUCTION	
Defining Higher Education and Classifying Providers 7 Counting Enrolments and Institutions 9 Measures of Student Fies 10 Measures of Student Fies 10 Measures of Student Fies 10 Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global North 23 Global North 23 Global North 23 Global North 33 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 57 Private Higher Education Institutions 57	READER'S GUIDE	6
Counting Enrolments and Institutions 9 Measures of Higher Education Financing 9 Measures of Student Fees 10 Measures of Student Fees 10 Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global North 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global North 32 Global North 32 <tr< td=""><td>Defining Higher Education and Classifying Providers</td><td>7</td></tr<>	Defining Higher Education and Classifying Providers	7
Measures of Higher Education Financing. 9 Measures of Student Fees 10 Measures of Government Student Financial Aid. 10 Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 17 Global North 17 Global North 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global South 23 Global South 32 Global South 32 Global South 32 Global South 35 Global South 35 Global South 36 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spe	Counting Enrolments and Institutions.	9
Measures of Student Fees 10 Measures of Government Student Financial Aid. 10 Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global North 32 Global North <td>Measures of Higher Education Financing</td> <td>9</td>	Measures of Higher Education Financing	9
Measures of Government Student Financial Aid. 10 Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global North 23 Global South 23 Global North 23 Global North 23 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education Institutions 57 Private Higher Education Institutions 57 Private Higher Education Institutions 57 <t< td=""><td>Measures of Student Fees</td><td></td></t<>	Measures of Student Fees	
Geographic Classifications 11 Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 17 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 23 Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 21 World 32 Global North 35 Global North 36 Global North 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education Institutions 49 Chapter 5: Finance	Measures of Government Student Financial Aid	
Aligning Currencies and Years 11 Estimation and Interpolation 11 PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global South 23 Global South 23 Global South 23 Global South 23 Global South 32 Global South 35 Global So	Geographic Classifications	11
PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global South 27 Chapter 2: Trends by Types of Higher Education 21 World 22 Global South 23 Global South 23 Global South 32 Global South 33 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education Institutions 54 Public Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions	Aligning Currencies and Years Estimation and Interpolation	
PART 1: ENROLMENTS AND INSTITUTIONS 13 Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global South 23 Global South 23 Global South 23 Global North 23 Global South 23 Global North 32 Global North 32 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 67 Tuition Fee Levels at Public Universities 69		
Chapter 1: Aggregate Trends in Higher Education 14 World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education Institutions 49 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 76 <td>PART 1: ENROLMENTS AND INSTITUTIONS</td> <td> 13</td>	PART 1: ENROLMENTS AND INSTITUTIONS	13
World 15 Global North 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 67 Public Higher Education Institutions 73 Fees at Public Hybrid and Short-Cycle Institutions 76 Prees at Public Hybrid and Short-Cycle Institutions 76 Prees at Public Hybrid and Short-Cycle Institut	Chapter 1: Aggregate Trends in Higher Education	
Global South 17 Global South 19 Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 32 Global North 32 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Public Higher Education Institutions 57 Private Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Public Higher Education Institutions 76 Chapter 7: Student Financial Aid 78	WORIG	I5 17
Chapter 2: Trends by Types of Higher Education Providers 21 World 22 Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 32 Global North 32 Global North 32 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 41 Total Public Spending on Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements 71 Trends in Recipients and Coverage 84 <td>Global South</td> <td></td>	Global South	
World 22 Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Higher Education Institutions 73 Fees at Private Higher Education Institutions 76 Frends in Disbursements. 71 Trends in Recipients and Coverage 84	Chapter 2: Trends by Types of Higher Education Providers	21
Global North 23 Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 35 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 <t< td=""><td>World</td><td></td></t<>	World	
Global South 27 Chapter 3: Public and Private Higher Education 31 World 32 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Private Higher Education Institutions 73 Fees at Private Higher Education Institutions 74 Trends in Disbursements 76 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 88 Loans 97 Appendix A </td <td>Global North</td> <td></td>	Global North	
Chapter 3: Public and Private Higher Education 31 World 32 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements. 81 Trends in Disbursements. 81 Appendix A. 95 Appendix A. 95 Appendix B. 97	Global South	27
World 32 Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY. 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements. 81 Trends in Disbursements. 81 Appendix A. 95 Appendix A. 95 Appendix B. 97	Chapter 3: Public and Private Higher Education	31
Global North 35 Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Public Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 91 Appendix A. 95 Appendix B. 97	World	32
Global South 37 PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 84 Loans 91 Appendix A 95 Appendix B 97	Global North	35
PART 2: FINANCES OF HIGHER EDUCATION DELIVERY 40 Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 88 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97		
Chapter 4: Public Spending on Higher Education 41 Total Public Spending on Higher Education 42 Government Transfers to Public Higher Education Institutions 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 88 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	PART 2: FINANCES OF HIGHER EDUCATION DELIVERY	40
Total Public Spending on Higher Education. 42 Government Transfers to Public Higher Education Institutions. 49 Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 89 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	Chapter 4: Public Spending on Higher Education	
Chapter 5: Finances of Higher Education Institutions 54 Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Higher Education Institutions 73 Fees at Public Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 88 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	Iotal Public Spending on Higher Education Government Transfers to Public Higher Education Institutions	
Public Higher Education Institutions 57 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 88 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	Chapter 5: Finances of Higher Education Institutions	54
Private Higher Education Institutions 67 Private Higher Education Institutions 61 PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	Public Higher Education Institutions	57
PART 3: FINANCES OF HIGHER EDUCATION DEMAND 65 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 81 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	Private Higher Education Institutions	
PART 3: FINANCES OF HIGHER EDUCATION DEMAND 63 Chapter 6: What Students Pay to Participate in higher education 66 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 81 Loans 91 APPENDICES 94 Appendix A 95 Appendix B 97	DART 3. FINANCES OF HIGHER EDUCATION DEMAND	65
Approaches to Students Pay to Participate in higher education 60 Approaches to Student Fees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 81 Loans 91 APPENDICES 94 Appendix A. 95 Appendix B. 97	PART 3: FINANCES OF HIGHER EDUCATION DEMAND	
Approaches to Student Pees in Public Higher Education 67 Tuition Fee Levels at Public Universities 69 Fees at Public Hybrid and Short-Cycle Institutions 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid 78 Trends in Disbursements 81 Trends in Recipients and Coverage 84 Grants 91 APPENDICES 94 Appendix A 95 Appendix B 97	Chapter 6: what Students Pay to Participate in higher education	00
Fees at Public Hybrid and Short-Cycle Institutions. 73 Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements. 81 Trends in Recipients and Coverage 84 Grants. 88 Loans. 91 APPENDICES 94 Appendix A. 95 Appendix B. 97	Approaches to Student Fees in Public Higher Education	
Fees at Private Higher Education Institutions 76 Chapter 7: Student Financial Aid. 78 Trends in Disbursements. 81 Trends in Recipients and Coverage 84 Grants. 88 Loans. 91 APPENDICES 94 Appendix A. 95 Appendix B. 97	Fees at Public Hybrid and Short-Cycle Institutions	
Chapter 7: Student Financial Aid. 78 Trends in Disbursements. 81 Trends in Recipients and Coverage 84 Grants. 88 Loans. 91 APPENDICES 94 Appendix A. 95 Appendix B. 97	Fees at Private Higher Education Institutions	
Trends in Disbursements	Chapter 7: Student Financial Aid	
Trends in Recipients and Coverage	Trends in Disbursements	81
Grants	Trends in Recipients and Coverage	
APPENDICES	Grants	88
APPENDICES	Loans	91
Appendix A	APPENDICES	
Appendix A	Annendix A	05
	Appendix B	

List of Figures

TABLE RG1	Regional classifications of countries 1	1
FIGURE 1.1	Total number of higher education institutions by super-region, 2006-2018 (thousands) 1	5
FIGURE 1.2	Total number of students by super-region, 2006-2018 (millions)1	5
FIGURE 1.3	Gross enrolment rate in higher education in total and by super-region, 2006-2018 1	6
FIGURE 1.4	Average number of students per institution in total and by super-region, 2006-2018 1	6
FIGURE B1.1	Total enrolments in the "Big Three" countries plus the rest of the super-regions, 2006-2018 (millions)	6
FIGURE 1.5	Total higher education institutions by region in the Global North, 2006-2018 1	7
FIGURE 1.6	Total students by region in the Global North, 2006-2018 (millions)1	7
FIGURE 1.7	Gross enrolment rates by region in the Global North, 2006-2018 1	7
FIGURE 1.8	Gross enrolment rates by country in the Global North, 2006 and 2018 1	8
FIGURE 1.9	Average number of students per higher education institution by region in the Global North, 2006-2018	8
FIGURE 1.10	Total higher education institutions by region in the Global South, 2006-2018 (thousands) 1	9
FIGURE 1.11	Total students by region in the Global South, 2006-2018 (millions) 1	9
FIGURE 1.12	Gross enrolment rates by region in the Global South, 2006-2018 1	9
FIGURE 1.13	Gross enrolment rates in the Global South by country, 2006 and 2018 1	9
FIGURE 1.14	Average number of students per higher education institution by region in the Global South, 2006-2018	20
FIGURE 2.1	Total higher education institutions by type in the World, 2006-2018 (thousands)	2
FIGURE 2.2	Total enrolments by type of higher education institution in the World, 2006-2018 (millions)	2
FIGURE 2.3	Share of total enrolments by type of higher education provider, in the World and by super-region, 2006 and 2018	23
FIGURE 2.4	Average enrolments per higher education institution by type in the World, 2006-2018	3
FIGURE 2.5	Total higher education institutions by type in the Global North, 2006-2018 (thousands)	3
FIGURE 2.6	Total enrolments by type of higher education provider in the Global North, 2006-2018 (millions) 2	4
FIGURE 2.7	Share of total enrolments by type of higher education provider and by region in the Global North, 2006 and 2018	<u>2</u> 4
FIGURE 2.8	Share of total enrolments by type of higher education provider and by country in the Global North, 2018	25
FIGURE 2.9	Average enrolments per higher education institution by type in the Global North, 2006-2018	27
FIGURE 2.10	Total higher education institutions by type in the Global South, 2006-2018 (thousands)	7
FIGURE 2.11	Total enrolments by type of higher education provider in the Global South, 2006-2018 (millions) 2	8
FIGURE 2.12	Share of total enrolments by type of higher education provider and by region in the Global South, 2006 and 2018	28
FIGURE 2.13	Share of total enrolments by type of higher education provider and by country in the Global South, 2018	28
FIGURE 2.14	Average enrolments per higher education institution by type in the Global South, 2006-2018 (thousands)	<u>29</u>

FIGURE 3.1	Total public and private higher education institutions by super-region, 2006-2018 (thousands) 32
FIGURE 3.2	Total enrolments in public and private higher education by super-region, 2006-2018 (millions) 32
FIGURE 3.3	Average size of public and private higher education institutions by super-region, 2006-2018
FIGURE 3.4	Composition of public and private higher education enrolments by institution type in the World and by super-region, 2006 and 2018
FIGURE B3.2	Total higher education enrolments in India for public, private-aided and private-unaided providers, 2006-2018 (millions)
FIGURE 3.5	Share of enrolments in public and private higher education providers by type, in the World and by super-region, 2006 and 2018
FIGURE 3.6	Average enrolments in public and private higher education institutions by institution type and super-region, 2018 (thousands)
FIGURE 3.7	Total private higher education institutions by region in the Global North, 2006-2018
FIGURE 3.8	Share of enrolments in public higher education by region in the Global North, 2006-2018
FIGURE 3.9	Share of enrolments in public higher education by country in the Global North, 2006 and 2018 36
FIGURE 3.10	Share of enrolments in public and private institutions by type and region in the Global North, 2006 and 2018
FIGURE 3.11	Total public higher education institutions by region in the Global South, 2006-2018 (thousands) 37
FIGURE 3.12	Total private higher education institutions by region in the Global South, 2006-2018 (thousands) 37
FIGURE 3.13	Share of enrolments in public higher education by region in the Global South, 2006-2018
FIGURE 3.14	Share of enrolments in public higher education by country in the Global South, 2006 and 2018 39
FIGURE 3.15	Share of enrolments in public and private institutions by type and region in the Global South, 2006 and 2018
FIGURE 4.1	Total public spending on higher education by super-region, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 4.2	Total public spending on higher education per student in the World and by super-region, 2006-2018 (in 2018 USD at PPP)
FIGURE 4.3	Total public spending on higher education as a percentage of gross domestic product in the World and by super-region, 2006-2018
FIGURE 4.4	Total public spending on higher education by region in the Global North, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 4.5	Total public spending on higher education per student by region in the Global North, 2006-2018 (in 2018 USD at PPP)
FIGURE 4.6	Total public spending on higher education per student by country in the Global North, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 4.7	Total public spending on higher education relative to gross domestic product by region in the Global North, 2006-2018
FIGURE 4.8	Total public spending on higher education relative to gross domestic product by country in the Global North, 2006 and 2018
FIGURE 4.9	Total public spending on higher education by region in the Global South, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 4.10	Total public spending on higher education per student by region in the Global South, 2006-2018 (in 2018 USD at PPP)

FIGURE 4.11	Total public spending on higher education per student by country in the Global South, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 4.12	Total public spending on higher education relative to gross domestic product by region in the Global South, 2006-2018
FIGURE 4.13	Total public spending on higher education relative to GDP by country in the Global South, 2006 and 2018
FIGURE B4.1	Standard deviations of annual percentage change in total enrolments and real total public spending by country, 2006-2018 (in 2018 USD at PPP)
FIGURE 4.14	Government transfers to public universities by super-region, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 4.15	Per-student government transfers to public universities in total and by super-region, 2006-2018 (in 2018 USD at PPP)
FIGURE 4.16	Per-student government transfers to public universities by region in the Global North, 2006-2018 (in thousands of 2018 USD at PPP)
FIGURE 4.17	Per-student government transfers to public universities by country in the Global North, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 4.18	Per-student government transfers to public universities in the Global South by region, 2006-2018 (in 2018 USD at PPP)
FIGURE 4.19	Per-student government transfers to public universities by country, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 4.20	Government transfers to public short-cycle higher education institutions, 2006 to 2018 (in billions of 2018 USD at PPP)
FIGURE 4.21	Per-student government transfers to public short-cycle higher education institutions by country, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 4.22	Per-student government transfers to short-cycle higher education institutions as a percentage of per-student government transfers to universities by country, 2006 and 2018
FIGURE 4.23	Government transfers to public hybrids by region, 2006-2018 (in billions of 2018 USD at PPP) 51
FIGURE 4.24	Per-student government transfers to public hybrids by country, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 4.25	Per-student government transfers to public hybrids as a percentage of per-student government transfers to universities by country, 2006 and 2018
FIGURE B4.2	Government funding to private universities as a percentage of total institutional spending, 2018 53
FIGURE B5.1A	Real change in public higher education institutions' revenues by source in the Global North, 2006-2018 (2006=100)
FIGURE B5.1B	Estimated total private expenditures in public universities by region in the Global North, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE B1.1C	Estimated total private expenditures in public universities in the Global South, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 5.1	Total expenditures of public universities in the World and by super-region, 2006-2018 (in billions of USD at PPP)
FIGURE 5.2	Total per-student expenditures of public universities in the World and by super-region, 2006-2018 (in thousands of USD at PPP)
FIGURE 5.3	Government transfers and student fee revenues relative to total expenditures of public universities by super-region, 2006-2018

FIGURE 5.4	Total expenditures of public universities in the Global North by region, 2006-2018 (in billions of USD at PPP)
FIGURE 5.5	Total per-student expenditures of public universities by country in the Global North, 2006 and 2018 (in thousands of USD at PPP)
FIGURE 5.6	Government transfers and student fee revenues relative to total institutional spending in public universities by country in the Global North, 2006 and 2018
FIGURE 5.7	Total expenditures of public universities in the Global South, 2006-2018 (in billions of USD at PPP)
FIGURE 5.8	Total per-student expenditures of public universities by country in the Global South reporting data, 2006 and 2018 (in thousands of USD at PPP)
FIGURE 5.9	Government transfers and student fee revenues relative to total institutional spending in public universities by country in the Global South, 2006 and 2018
FIGURE 5.10	Total per-student expenditures of public hybrids by country, 2006 and 2018 (in thousands of USD at PPP)
FIGURE 5.11	Total per-student expenditures of public hybrids relative to average per-student expenditures of public universities by country, 2006 and 2018
FIGURE 5.12	Government transfers and student fee revenues relative to total institutional spending in public universities and public hybrids by country, 2006 and 2018
FIGURE 5.13	Total per-student expenditures of public short-cycle higher education institutions by country, 2006 and 2018 (in thousands of USD at PPP)
FIGURE 5.14	Total per-student expenditures of public short-cycle higher education institutions relative to total per-student expenditures of public universities by country, 2006 and 2018
FIGURE 5.15	Government transfers and student fee revenues relative to total institutional spending in public universities and public short-cycle higher education institutions by country, 2006 and 2018
FIGURE 5.16	Total per-student expenditures of private universities by country, 2006 and 2018 (in thousands of USD at PPP)
FIGURE 5.17	Total per-student expenditures at private universities as a percentage of per-student expenditures at public universities by country, 2006 and 2018
FIGURE 5.18	Total student fee revenues as a percentage of total expenditures of private universities, by country, 2006 and 2018
FIGURE 5.19	Total per-student expenditures of private hybrids and short-cycle higher education institutions by country, 2006 and 2018 (in thousands of USD at PPP)
FIGURE 5.20	Total per-student expenditures at private hybrids and short-cycle higher education institutions as a percentage of total per-student expenditures at public universities by country, 2006 and 2018*63
FIGURE 5.21	Total student fee revenues and government transfers relative to total expenditures of private hybrids and short-cycle higher education institutions by country, 2006 and 2018*
FIGURE 6.1	Approximate share of students under each fee regimes worldwide and by super-region, 2006 and 2018
FIGURE 6.2	Approximate share of students under each fee regimes at public higher education institutions by country in the Global North, 2018
FIGURE 6.3	Approximate share of students under each fee regimes at public higher education institutions by country in the Global South, 2018
FIGURE 6.4	Average regular fees at public universities by country in the Global North, 2006 and 2018 (in thousands of 2018 USD at PPP)

FIGURE 6.5	Average regular fees at public universities as a percentage of gross domestic product per capita by country in the Global North, 2006 and 2018
FIGURE 6.6	Average regular fees at public universities by country in the Global South, 2006 and 2018 (in 2018 USD at PPP)
FIGURE 6.7	Average regular fees at public universities as a percentage of gross domestic product per capita by country in the Global South, 2006 and 2018
FIGURE B6.2	Average tuition costs for international students at public universities in countries in the Global North receiving substantial numbers of international students, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 6.8	Average regular fees at public hybrids and short-cycle higher education institutions by country, 2006 and 2018 (in 2018 USD at PPP)73
FIGURE 6.9	Average regular fees at public hybrids and short-cycle higher education institutions relative to public universities, 2006 and 201873
FIGURE 6.10	Average regular fees at private universities by country, 2006 and 2018 (in thousands of 2018 USD at PPP)
FIGURE 6.11	Average regular fees at private universities relative to regular fees at public universities by country, 2006 and 2018
FIGURE 6.12	Average regular fees at private hybrid and short-cycle higher education institutions relative to public institutions by country, 2006 and 2018
FIGURE B7.1A	Recipients of subsidised residency spaces as a share of total enrolments by country with available data, 2006, 2012, and 2018
FIGURE B7.1B	Average value of residence subsidies per recipient in countries with available data, 2006, 2012, and 2018 (in 2018 USD at PPP)
FIGURE 7.1	Total funds disbursed in student grants and loans worldwide, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 7.2	Funds disbursed in total direct student financial aid as a percentage of gross domestic product, 2006-2018
FIGURE 7.3	Total funds disbursed in student grants and loans in the Global North, 2006-2018 (in billions of 2018 USD at PPP)
FIGURE 7.4	Funds disbursed in total direct student financial aid as a percentage of gross domestic product by region in the Global North, 2006-2018
FIGURE 7.5	Funds disbursed in student grants and loans as a percentage of gross domestic product by country in the Global North, 2018
FIGURE 7.6	Total funds disbursed in student grants and loans in the Global South, 2006-2018 (in billions of USD at PPP)
FIGURE 7.7	Funds disbursed in total direct student financial aid relative to gross domestic product by region in the Global South, 2006-2018
FIGURE 7.8	Funds disbursed in student grants and loans relative to gross domestic product by country in the Global South, 2018
FIGURE 7.9	Total recipients of student grants and loans worldwide, 2006-2018 (millions)
FIGURE 7.10	Share of total students receiving grants and loans worldwide, 2006-2018
FIGURE 7.11	Share of total students receiving grants and loans in the Global North, 2006-2018
FIGURE 7.12	Shares of total students receiving grants and loans in the Global South, 2006-2018
FIGURE 7.13	Amounts received per recipient of student grants and loans, 2006-2018 (in 2018 USD at PPP) 85

FIGURE 7.14	Student grant amounts per recipient by super-region, 2006-2018 (in 2018 USD at PPP)	8
FIGURE 7.15	Share of students receiving grants by country in Global North, 2006, 2012, and 2018	8
FIGURE 7.16	Student grant amounts per recipient by country in the Global North, 2006, 2012, and 2018 (in 2018 USD at PPP)	8
FIGURE 7.17	Comparison of student grant coverage and grant amounts per recipient by country in the Global North, 2018	9
FIGURE 7.18	Share of students receiving grants by country in the Global South, 2006, 2012, and 2018	9
FIGURE 7.19	Student grant amounts per recipient by country in the Global South, 2006, 2012, and 2018 (in 2018 USD at PPP)	9
FIGURE 7.20	Comparison of student grant coverage and grant amounts per recipient by country in the Global South, 2018	0
FIGURE 7.21	Student loan amounts per recipient by super-region, 2006-2018 (in 2018 USD at PPP)	1
FIGURE 7.22	Share of students receiving student loans by country in the Global North, 2006, 2012, and 20189	1
FIGURE 7.23	Student loan amounts per recipient by country in the Global North, 2006, 2012, and 2018 (in thousands of 2018 USD at PPP)9	1
FIGURE 7.24	Comparison of student loan coverage and loan amounts per recipient by country in the Global North, 2018	1
FIGURE 7.25	Share of students receiving loans by country in the Global South, 2006, 2012, and 2018	2
FIGURE 7.26	Student loan amounts per recipient by country in the Global South, 2006, 2012, and 2018 (in thousands of 2018 USD at PPP)	2
FIGURE 7.27	Comparison of student loan coverage and loan amounts per recipient by country in the Global South, 2018	2

List of Maps

MAP 1	Higher education system models in the world, 2018	26
MAP 2	Categories of student fee regimes, 2018	71
MAP 3	Types of government student financial aid systems, 2018	87



Introduction



Introduction

Higher education (HE) is global in nature. So why is high-quality data on global HE so hard to obtain?

At one level, this is a technical question: nations organise their systems very differently, in terms of the types of providers, credentials awarded, and methods of financing, which makes the alignment and interpretation of data difficult even within allegedly harmonised post-Bologna Europe. There have been attempts to standardise reporting on education, mainly through the International Standard Classification of Education (ISCED), which has certainly aided in the counting of students. Still, no country actually organises its national HE systems along strict ISCED lines. There are other problems too, most obviously agency: someone has to have an interest in collecting such data and making it public. To date, that role has mainly fallen to the Organisation for Economic Co-operation and Development (OECD) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). However, since both are membership-based agencies, there are member-driven priorities which shape data collection. In the OECD's case, this means largely restricting data collection to "developed" economies; in UNESCO's case, it means keeping data collection somewhat restricted on account of the often limited statistical capabilities of its many small-nation members. The result is that the OECD provides reasonably detailed data on some issues but only for a small number of countries, while UNESCO covers a wider set of countries but on a more limited set of topics.

This report, *World Higher Education: Institutions, Students and Funding*, is an attempt to make something new and better. It is based on three key insights.

The first is that in order to understand what is happening in HE globally, it is not necessary to examine statistics from all 200 or so territories across the globe. Roughly half the world's students are in just five jurisdictions (China, India, the US, Russia and Brazil), while the top 40 or so jurisdictions make up over 85% of global enrolments. Thus, one can obtain a reasonably good picture of global HE by focusing on a subset of the world's systems. This edition of *World Higher Education* examines trends in 56 countries, which we believe account for over 90% of total global enrolments and over 95% of global scientific output - providing an excellent encapsulation of overall global trends while limiting the workload to a manageable level.

The second key insight is that most countries actually produce and publish a great deal more data on their own HE systems than they report to international institutions like UNESCO, the OECD, etc. Obtaining this data is not necessarily easy — quite apart from the challenges of finding information across the 56 countries included in this report, the data are published in over a dozen languages. With persistence, however, it is possible to present largely



complete global summaries on a much wider variety of issues, as well as to provide much more nuanced comparisons of countries when it comes to public spending by the different types of institutions supported.

The third insight is that while ISCED is an invaluable tool for analyzing issues in international education, it is also insufficient at least for benchmarking and policy purposes. ISCED levels do not teach students or collect data: institutions do. So there is a need to focus specifically on the number and types of higher education institutions (HEIs) in each country and group them into comparable types, rather than trying to make the data "speak" ISCED. This approach, tied to the increasing tendency of both institutions and national governments to put data on the Internet, permits the collection and publication of data on a scale never before attempted.

The result is the document you have before you: a new basis for world HE statistical analysis, far broader and more detailed than any ever previously produced. At a minimum, it marries the depth of the OECD's annual Education at a Glance report, which is admirable but far from global in reach, with the UNESCO Institute for Statistics' educational database, which is global in reach but much less detailed. However, this document goes much further than that. It does not merely count students and financial commitments globally, it also counts and classifies institutions on an unprecedented scale (see map on page 26). This allows us to examine national HE systems not just as undifferentiated blobs but in a disaggregated form that allows comparisons of participation and public financing across different institution types, at a level of detail that has never previously been possible.

That is not all. This report also contains the largest and most detailed aggregate data on private funding of HE around the world. It contains the widest-ever survey of compulsory student fees worldwide, incidentally creating new typologies of student fee regimes (see map on page 71). And it contains the first truly global look at student financial assistance, including loans, grants, and other non-monetary benefits provided to students.

University Of Science And Technology, Houari Boumediene, Algeria

The resulting conclusions include the following:

- The global number of HEIs was approaching 90,000 in 2018, with over three-quarters of these in the Global South.
- Student enrolments worldwide were over 200 million in 2018, with roughly 70% of these in the Global South. However, growth slowed significantly over time and outright declined in the Global North after 2011.
- The biggest single driver of HE growth in the decade up to 2018, in terms of both student and institution numbers, was the university college sector in India.
- Private HE has made up a growing share of global academia, in terms of both institution and student numbers. However, its growth is incremental rather than explosive.
- The comprehensive university have remained the dominant form of HE around the world, but other institution types mainly university colleges in India have been eroding its dominance.
- Public funding for HE in the Global North was essentially stagnant for nearly a decade up to 2018. Growth in funding in the Global South, driven mainly by China, was explosive prior to the Great Financial Crisis but eased off substantially since.
- In those countries where data are available, private funding for HE grew about three times more quickly than public funding from 2012 to 2018. This is a major reason why institutional expenditures per student continued rising in most of the Global North even though public support stagnated.
- In 2018, roughly 90% of HE students worldwide paid some kind of tuition fee, even if in some cases the amounts were quite small. This figure did not change from 2006.
- Globally, student loans were a more important source of revenue to students and institutions than student grants; however, more students received grants than loans.

Finally, in addition to providing all of this information on a global scale in the main report, data for each of the 56 countries is also presented individually in a series of national appendices. These profiles each include up to 25 figures comparing the country in question against both regional and global comparators (see the Reader's Guide for more on how comparison groups are constructed). We hope that these chapters will be of special use to country-level analysts, particularly in the Global South, as a resource to inform policymaking.

No doubt, this report contains some errors and omissions – an inevitable problem when bringing together data from so many national sources. The responsibility for any such errors lies with the authors alone, and we would be very grateful for any reader feedback that helps us improve our sources, and thus our data accuracy, for future editions.

Thank you for reading *World Higher Education*; we hope it will be both of interest and of practical use.

University of Lagos, Nigeria



University of Buenos Aires, Argentina



Reader's Guide

Reader's Guide

There are a number of challenges in generating globally comparable data on higher education. This Reader's Guide outlines how we defined terms and categories and processed our data for comparability.

DEFINING HIGHER EDUCATION AND CLASSIFYING PROVIDERS

For the purposes of this project, our **definition of higher education** (sometimes called tertiary education and often abbreviated as HE) corresponds to International Standard Classification of Education (ISCED) 2011 levels 5, 6, 7, and 8. In general, ISCED 5 refers to short-cycle tertiary education, ISCED 6 to bachelor's level or equivalent, ISCED 7 to master's level or equivalent, and ISCED 8 to doctoral level or equivalent. ISCED 4 — which is known as "post-secondary" but not tertiary — is excluded from our analysis. This has a significant effect on student counts in countries like New Zealand and Canada, where the institutions known respectively as polytechnics and community colleges offer predominantly a mix of ISCED level 4 and 5 programs.

Universidad de Antioquia, Colombia

One of this publication's goals is to present data in terms which are legible to readers in every country without relying too much on abstractions like ISCED levels. Wherever possible, that means portraying data by institution type. However, HE providers look very different from one country to another, and even when institutions do look similar, they are not always categorised as such by their national governments. This creates problems since national reporting conventions necessarily condition the available data. For the purposes of counting institutions and students, we have therefore grouped institutions around the globe into seven categories. These include **five categories of higher education institutions** (HEIs):

- Comprehensive universities: These institutions deliver predominantly programs at ISCED level 6 or higher in four or more discrete fields of study. These fields of study should include both hard sciences (e.g. biology, chemistry, engineering) and arts or social sciences. This tends to be the default category for institutions classified as universities in cases where national systems do not separate their institutions into comprehensive and specialised universities. All 56 countries in this survey possess these institutions.
- **Specialised universities:** These institutions offer programs at ISCED level 6 or higher and award their own degrees in a narrow set of disciplines. These disciplines are usually concentrated on a certain theme, such as education, religion, engineering, agriculture, fine arts, or business. We identify such institutions in 31 countries in this survey.
- **University colleges:** These institutions deliver education programs at ISCED level 6 or higher but do not award their own degrees. Instead, their degrees are awarded by an affiliated university. International branch campuses are included in this category. In total, 17 countries in this survey are considered to have such institutions.
- **Hybrids:** Hybrids are a diverse group of vocationally oriented institutions, which may offer programs at

multiple ISCED levels. Most hybrid students in most countries enroll at ISCED level 6, essentially pursuing long-cycle vocational programs. Thirty-four countries in this survey are considered to have such institutions, which are known variously as universities of applied sciences in Western Europe, university institutions and technological schools in Colombia, private HE providers in a number of countries in Sub-Saharan Africa, etc.

• Short-cycle institutions: These institutions predominantly offer programs at ISCED level 5 and generally not above ISCED level 6. A substantial minority share of their enrolments are often below ISCED level 5. Thirty-two countries in this survey are considered to have such institutions, which have names such as community colleges or two-year colleges in the US, junior colleges in a number of Asian countries, polytechnics or polytechnic institutes in a few jurisdictions, etc.

As well, **two categories of institutions/organisations provide HE programs to students without primarily being HEIs themselves:**

- Semi-higher education institutions (Semi-HEIs): Most of these providers are educational institutions that enroll a mix of students at different ISCED levels, but where fewer than 60% are enrolled in either ISCED 2 and 3 or ISCED 5 and higher when weighted for full- and part-time status.¹ Others are institutions which are not predominantly educational institutions at all but deliver some HE programs, such as hospitals, certain research organisations, and training units within companies or other industrial entities. There are 15 countries in our survey with semi-HEIs.
- **Secondary schools:** Secondary schools enroll most of their students at ISCED level 3 or even 2 but deliver some modest programming at ISCED level 5 or higher. Thirteen countries in our survey have secondary schools delivering HE programs.

In our country profiles, we indicate the local wording for the types of providers classified under these categories in each country.

For our reporting on finances in Parts 2 and 3, we use the "universities" category to cover comprehensive universities, university colleges, and specialised universities together. The reason for this is simply that most countries do not break out HE financing data in such a way as to permit a more granular approach. We do not track financing data for secondary schools and semi-HEIs except where they cannot be separated out in total public spending figures.

This survey also distinguishes between public and **private HE providers.** As with institution types, assigning institutions and students to each category is complicated by the fact that each country has a different way of defining public (also called government, national²/federal, or state/municipal/local/communal) and private (also called non-government, non-public, foundation, or sometimes religious). In some countries, the dividing line is ownership; in others, it is receipt of public funds. Wherever possible, we follow the national definition – while recognising that an institution with a certain level of autonomy might be classified as "public" in one country but considered "private" in another. In a few cases, in order to generate more complete data, it was necessary to include institutions with a claim to being private (and which indeed might be considered private in national data) as public. Most significantly, we record private-aided institutions in India as public because this is necessary to generate a time series for the full period and allow our analysis of financing. Private-aided institutions in India are commonly classified as privately owned but publicly funded. In Chile, non-state universities which are members of the Conseio de Rectores de las Universidades Chilenas (CRUCH) are considered public, and in Switzerland, we count private (subsidised) providers as public institutions, since the government finances over 50% of their costs.

Université Félix Houphouët-Boigny, Cote-d'Ivoire

¹ Where possible, we conducted some analysis of full- and part-time status to inform these classifications.

² As an exception, in Saudi Arabia, "national" institutions are actually private institutions.

COUNTING ENROLMENTS AND INSTITUTIONS

Our **counts of HEIs** cover only stand-alone discrete entities, not the number of campuses or faculties. We count only HEIs, not the number of secondary schools or semi-HEIs.

Our **enrolment counts** report total headcounts without distinguishing between full- and part-time students. Our figures also do not distinguish between domestic and international enrolments, though in some countries — no-tably Australia — international students make up a significant portion of the student body. We count total enrolments in HEIs, which include enrolments at ISCED levels 4 and below provided they are at HEIs. It is only for secondary schools and semi-HEIs that we limit enrolment counts to just students at ISCED level 5 or higher. Therefore, our total enrolment figures should be taken as representing the total size of HE systems, but not enrolments in HE as defined strictly based on students at ISCED level 5 and higher. The two figures are close but not quite identical in many countries.

This study calculates **gross enrolment rates (GERs) for each country,** which are calculated by dividing total enrolments by the population aged 20-24. This should not be understood as a participation rate, because: a) we count students outside the 20-24 age range, b) enrolments at HEIs include some students who are not in ISCED level 5+ programs (see above), and c) international students are included in the total enrolment figures. Our GER figures are still helpful as an indication of the size of the system relative to the size of the youth population and for measuring system growth over time.

MEASURES OF HIGHER EDUCATION FINANCING

Total government spending reports the spending on HE by governments as reported by governments themselves. This may include funding transferred to HEIs, funding spent within ministries or on other central agencies that provide steering or oversight to HE providers, and funds directly transferred to HE students. There is a scattering of countries where the data do not perfectly fit this definition. The Governments of Algeria and Morocco do not distinguish spending in HEIs and within ministries, so total public spending figures cover total spending in HEIs and in all other government agencies, government and in public HEIs, while in Hong Kong, Kazakhstan, and Ukraine, we only have figures on government transfers to HEIs.

Government transfers to institutions represent government funding granted to HEIs. These funds may be for operations/current spending or capital. We include government moneys provided to institutions in lieu of student fees when we associate these with a form of fee exemption or reduction rather than a grant to the student - a delicate distinction. One challenge is that the notion of transfers to institutions implicitly assumes that institutions have financial autonomy vis-à-vis government. This is not always the case, most notably in countries where payroll for university employees is not separate from government payroll. Our estimates always treat salary expenditures as being part of institutional expenditures even where this is strictly speaking not the case.

Total institutional spending reports the total expenditures of HEIs for both current operations and capital. In some cases, based on data availability, total institutional revenues are reported rather than expenditures. Strictly speaking, these two are not identical, but in the long run they rarely diverge by much.

Student fee revenues refer to compulsory fees paid by students to enroll at an HE provider, which are not strictly limited to "tuition." Wherever possible, these fees exclude non-compulsory student charges for additional services associated with their studies, such as charges for student housing or food services.

University of Douala, Cameroon

MEASURES OF STUDENT FEES

All of our figures derive from our definition of student fee revenues above. This report distinguishes the numbers of students falling under four discrete fee regimes dictated by government policy, by type of HE provider. The fee regimes are:

- Free fees: Students are not required to pay any fees.³
- **Regular fees:** These are the fees paid by the majority of students, or at least the "typical" student, in the jurisdiction. The only case where this does not represent the plurality of fee-paying students is in Wales, where regular fee-payers are neither partially exempt from fees nor required to pay an elevated differential fee.
- **Reduced fees:** Students pay a reduced fee relative to the regular fees.
- **Elevated differential fees:** These are higher fees paid by a certain share of the student population, often students who are not government-subsidised. These often comprise international students and sometimes part-time students or students who are repeating a degree level or taking longer than expected to complete their studies.

Where it was clear accurate breakdowns were unavailable but that students generally pay at least a token fee, we recorded all students as paying regular fees. For each of the three regimes in which students pay fees, we generated data on the total fees paid by students of this type so that we could generate average fee amounts per student.

MEASURES OF GOVERNMENT STUDENT FINANCIAL AID

The analysis of student financial aid focuses on **government financial aid programs that provide direct support to students.** We do not capture financial aid provided to students by HEIs, except where that financial aid is entirely directed by government policy, with institutions holding essentially an administrative role only. We also do not capture financial aid from private foundations, unless these are funded by government.

Our student financial aid analysis excludes programs that specifically focus on graduate studies. This decision

is based on the premise that funding for graduate studies is more about supporting research than about access to HE and is also a practical response to the difficulties in tracking dispersed financial aid programs for graduate studies. However, it nevertheless causes us to systematically under-represent the total number of students receiving government student financial aid.

Our student financial aid analysis focuses on students attending domestic institutions. We cover financial aid for study in other countries only where there is no distinction between the financial aid program for students at domestic institutions and those studying abroad.

We distinguish four types of student financial aid:

- **Grants:** Financial transfers to students that they are generally not required to repay.
- **Loans:** Financial transfers to students that they are generally required to repay.⁴
- **Residence subsidies:** Subsidies toward rooms/beds in student residences that students are generally not required to repay. Subsidy recipients may be recorded as the number of students who receive reduced-price or free housing in student residences or all students living in residences where it appears that residences overall are government-subsidised.
- **Other:** A number of governments sponsor other forms of assistance to students, including meals and transportation, which have direct or indirect monetary value. We do not track data on such programs — except where the supports can be recorded as other forms of student financial aid — but we note their existence.

We note in the country profiles where student financial aid is provided to all students or based on need, merit, or a mix of both. Need-based financial aid is accorded based on the economic circumstances of students or their families or other challenges (e.g., disability, suffering from hardships such as armed conflict). Merit-based financial aid is accorded based on students' previous academic performance. There are also cases of student financial aid provided to support continuing education for specific groups, such as teachers, or to support the transition of veterans into civilian life.

³ In practice, we would suggest that it is unlikely that many jurisdictions have students who truly are required to pay absolutely nothing, but where there is no reporting of students paying any fees, we record these as free.

⁴ We generally do not account for repayment conditions in our analysis, aside from whether aid is generally repayable (and therefore a loan) or non-repayable (and therefore a grant). For instance, we do not record interest rates on student loans, loan forgiveness schemes, or requirements for students to repay their grants if they do not successfully complete their program within a certain length of time. Only in Canada and the Netherlands did we have to consider such elements in our calculations.

GEOGRAPHIC CLASSIFICATIONS

For much of this analysis, the world is divided geographically into two super-regions, "the Global North" and "the Global South," then further subdivided into various regions. Because HE is usually a lagging indicator of economic development, it made sense not to group countries by current economic conditions or GDP but rather by historical ones. For that reason, the Global South and Global North categories more or less line up with what used to be called the "developing world" or "Third World" on the one hand and the "developed world" or "First/Second World" on the other. The Global North is essentially those countries which were part of what was known as the Warsaw Pact (including Kazakhstan, which is usually considered part of the South) plus those countries which were OECD members in 1992 (minus Turkey, which was placed in the Global South, in the MENA) and South Korea, Taiwan, and Singapore. The geographical subdivisions to those broad areas are mostly self-explanatory. Classifications are detailed in Table RG1. For more details, please see Appendix B.

ALIGNING CURRENCIES AND YEARS

All financial figures are reported in 2018 United States Dollars (USD). For currency conversion, we used purchasing power parity (PPP). Figures are from the International Monetary Fund (IMF) and report the PPP values as of January 1 of the academic year in question – i.e., January 1 of academic year 2018. To adjust for inflation, we used annual data on the consumer price index in the US, obtained from the Federal Reserve Bank of St. Louis. The PPP currency conversion allows us to account for inflation in other currencies where different from USD. This alters our data substantially for certain countries where the gap between the exchange rate with USD and differences in PPP are wider, such as Malaysia. It is certainly debatable whether PPP or simple currency conversion would be more appropriate. The answer depends in part on the extent to which you think of HE as operating in a single global marketplace or in an array of separate local markets.

Academic years and fiscal years rarely line up exactly, even in the same country. As far as **academic years** are concerned, in the southern hemisphere academic years usually line up with the calendar year, while in the northern hemisphere they tend to cross over two calendar years. In order to standardise this, our rule here is that where data cross calendar years, we record the second of the two years. Hence, 2017-2018 is recorded as 2018.

Fiscal or financial years often do not correspond to academic years — although some financial data may be reported based on academic years, allowing for easier translation. In this document, fiscal year data are adjusted to align with academic years based on which fiscal year TABLE RG1 – Regional classifications of countries

GLOBAL NORTH		
	CANZAUS	Australia, Canada, New Zealand, the United States
	Advanced Asia	Hong Kong, Israel, Japan, Singapore, South Korea, Taiwan
	Western Europe	Finland, France, Germany, Ireland, Italy, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom
	Eastern Europe and Central Asia (EECA)	Kazakhstan, Poland, Romania, Russia, Ukraine

GLOBAL SOUTH			
	Latin America	Argentina, Brazil, Chile, Colombia, Mexico, Peru	
	East Asia	China, Indonesia, Malaysia, Philippines, Thailand, Vietnam	
	MENA	Algeria, Egypt, Iran, Morocco, Saudi Arabia, Turkey	
	South Asia	Bangladesh, India, Pakistan	
	Sub-Saharan Africa	Bénin, Burkina Faso, Cameroon, Côte-d'Ivoire, Ethiopia, Ghana, Kenya, Nigeria, South Africa, Tanzania	

was under way when the academic year began (with only very rare exceptions, where the fiscal year begins within one to two months of the start of the academic year). Hence, for an academic year running from September 2017 to August 2018 and a fiscal year running from January to December 2017, the latter is recorded as being "2018" even though no part of the fiscal year in fact crossed into 2018.

ESTIMATION AND INTERPOLATION

This report relies on data obtained from public sources which are not always perfectly complete. In some instances we have had to generate estimates to obtain figures that allow our full analysis. Most estimations rely simply on some form of interpolation. We have documented all cases where we have generated estimates for figures and provide an assessment of the data quality in the country profiles. Please see <u>Appendix B</u> for more details.

Part 1

ENROLMENTS AND INSTITUTIONS

TAAT

Â

CHAPTER

One

INSTITUTIONS AND STUDENTS

Chapter One

INSTITUTIONS AND STUDENTS

Global higher education (HE) grew enormously from 2006 to 2018, both in terms of student numbers, which passed 200 million, and institutional numbers, which rose to almost 90,000. There are two important caveats to this story, however. The first is that growth was highly uneven: in some countries, enrolments grew explosively, while in a significant number of countries in the Global North, enrolments actually declined. The second is that overall growth slowed significantly. We have not yet reached the point where global enrolments have peaked, but such a point is becoming at least conceivable.

WORLD

The number of higher education institutions (HEIs) grew rapidly after 2006, due mainly to expansion in the Global South. In 2018, there were nearly 90,000 institutions around the world, with well over three-quarters of these located in the Global South. As shown in Figure 1.1, the number of HEIs increased by 51%, with the change almost entirely due to the 78% increase in the number of HEIs in the Global South. HEI counts in the Global North held very steady, especially after 2011.

Worldwide, total enrolments across our 56 countries of interest were 208.6 million in 2018, a rise of 52% since 2006. Effectively, all of this growth came in the Global South, where the number of students increased by 91%, from 78.6 million to 150.2 million. Meanwhile, in the Global North, total enrolments peaked in 2011, then fell by about 7% to 58.3 million, slightly below where they were in 2006. As a result of these trends, the Global South went from hosting a little over half of world enrolments in 2006 to almost three-quarters in 2018. In other words, global HE is no longer dominated by wealthy countries, and global academia's centre of gravity has decisively shifted toward Asia.

FIGURE 1.2 – Total number of students by super-region, 2006-2018 (millions)

Even in the Global South, however, growth slowed in the latter annual part of our period of interest. From 2006 to 2011, average enrolment growth equaled 7.7% in the Global South, but from 2014 to 2018, it fell to 2.8%. Similarly, global growth in enrolments slowed from 5.2% from 2006 to 2011 to just 1.7% from 2014 to 2018.

The world gross enrolment rate (GER) in HE rose from 28% to 42% during our period of interest, with the fastest growth occurring between 2010 and 2014. Once again, this change was driven by countries in the Global South, where the GER increased from just under 20% to roughly 36%. In the Global North, the GER rose at a similar pace to the Global South from 2006 to 2011, due primarily to rising enrolments and secondarily to declining youth populations. Subsequently, though, the Global North GER actually fell for several years – likely for the first time since World War II – before starting to rise again in 2016, reaching 79% in 2018.

FIGURE 1.3 – Gross enrolment rate in higher education in total and by super-region, 2006-2018

The average enrolment of HEIs globally remained roughly steady after 2006 at approximately 2,300. HEIs in the Global North tend be larger than in the Global South, but after 2011, there was some modest convergence, as the average size of HEIs in the Global North declined from roughly 3,056 students to 2,830, while in the Global South, average enrolments increased from 1,989 students to 2,219.

FIGURE 1.4 – Average number of students per institution in total and by super-region, 2006-2018

BOX 1.1: THE BIG THREE: CHINA, INDIA AND THE UNITED STATES

Although this report looks at 56 countries to establish a global picture based on a sample of over 90% of the global HE system, it is possible to make generalisations about global trends based on much smaller samples. In particular, just three countries — China, the US, and India — together accounted for 47.7% of our full sample's 208.6 million students in 2018. These countries also contained 54% of the world's HEIs, though this is mostly due to India, which on its own accounts for 46%.

China and India together drove much of the worldwide growth in HE enrolments from 2006 to 2018. India's enrolments rose by almost exactly 20 million over this period, while China's enrolments rose by 18.4 million, together accounting for 54% of the Global South's rise in enrolments. India was also the key driver of growth in HEI counts, with its expansion from 17,973 to 40,222 accounting for 74% of global growth in institutions.¹ In contrast, China's institution counts remained relatively unchanged.

Recent history in the US, now the world's third-largest HE system, has been quite different. Enrolments rose modestly in the years up to 2011 but subsequently declined by 6%, from 21 million to 19.8 million. Similarly, the US added 450 HEIs from 2006 to 2013, but subsequently reduced its total count by 413 – the largest aggregate reduction of HEIs in any country during our period of interest.

¹ Note that a methodology change on the part of the Government of India likely contributed to the significant growth in the country's HEI numbers.

GLOBAL NORTH

A closer look at the Global North reveals that its four sub-regions had distinctive patterns. Enrolments in Western Europe and CANZAUS countries grew somewhat, while in Advanced Asia countries they remained relatively constant, and in Eastern Europe and Central Asia (EECA) they dropped substantially.

Advanced Asia and EECA both experienced overall declines in their HEI numbers. The countries with the greatest reductions in overall HEI numbers were Poland, Taiwan, and Hong Kong, which saw their HEI numbers decrease by 29%, 20%, and 19% respectively; the only countries in these regions where institutional numbers increased were Russia, Singapore, and South Korea. Meanwhile, HEI counts grew overall in Western Europe and very slightly in CANZAUS, with the greatest increases in Switzerland (up 92%), Italy (up 61%), and Australia (up 48%).

FIGURE 1.5 – Total higher education institutions by region in the Global North, 2006-2018

Yonsei University, South Korea

The CANZAUS region experienced the most dramatic growth in enrolments in the late 2000s, but after 2011 they flatlined or even fell because of developments in the US. Western Europe saw highly uneven patterns between countries: between 2006 and 2018 enrolment growth exceeded 30% in Switzerland, Germany, Ireland, and the Netherlands, while enrolments actually fell somewhat in the UK and Finland. There was similar unevenness in Advanced Asia, with overall declines driven by the three larger countries (Japan, South Korea, and Taiwan), while the smaller countries all experienced growth in excess of 18%. Finally, every country in the EECA experienced double-digit enrolment declines, which exceeded 30% except in Kazakhstan. Overall, enrolments across this region fell from 17 million in 2008 to 11 million in 2018.

In the Global North, GERs were highest in the CANZAUS region and lowest in Western Europe. Rates rose in both Western Europe and the EECA from 2006 to 2018, while in Advanced Asia and CANZAUS countries they fell somewhat after 2011, but recovered slightly in the latter region after 2016. This finding suggests that demographics have been the primary driver of enrolment declines in the EECA.

FIGURE 1.7 – Gross enrolment rates by region in the Global North, 2006-2018

There are considerable differences in enrolment rates between countries of the Global North. CANZAUS countries consistently had among the highest rates, whereas countries from the other regions were distributed quite widely. In terms of changes in enrolment rates from 2006 to 2018, four countries experienced increases of over 20 percentage points during the period in question (Ireland, Australia, Germany, and Hong Kong), while five others experienced outright declines (Kazakhstan, Romania, the UK, Finland, and Ukraine).

FIGURE 1.8 – Gross enrolment rates by country in the Global North, 2006 and 2018

Figure 1.9 shows average HEI size by region over time. HEIs in CANZAUS — particularly outside of the US — are on average considerably larger than in the other regions of the Global North, and the size of HEIs also grew during the period in question. HEI size remained relatively constant in Advanced Asia and Western Europe, while in the EECA, average HEI size decreased substantially due to falls in overall enrolments. The countries that experienced the greatest increases in average HEI size from 2006 to 2018 were Ireland (+56%), Hong Kong (+52%), the Netherlands (+46%), and Germany (+32%), while Italy (-37%), Ukraine (-37%), Russia (-33%), Romania (-30%), and Kazakhstan (-23%) had the greatest decreases.

FIGURE 1.9 – Average number of students per higher education institution by region in the Global North, 2006-2018

BOX 1.2: COUNTRIES EXPERIENCING ENROLMENT DECLINES

From 2006 to 2018 total enrolments fell in eleven countries, all of which except Thailand were in the Global North. For the most part, these declines were more pronounced after 2011. Between 2006 and 2011, only eight countries saw enrolment declines and in only two cases was the decline more than 5%. After 2011, 15 countries experienced enrolment declines of 5% or greater.

Comparing enrolment trends since 2011 with those of GERs and populations aged 20-24 indicates to what extent demographics or participation drove declines. A handful of countries Russia, Kazakhstan, Iran, and Sweden – actually increased their GERs even as total enrolments fell, meaning that participation increases partly mitigated the effects of demographic changes. Meanwhile, enrolments fell in South Korea, Thailand, the US, and New Zealand even as their populations aged 20-24 grew, meaning that declines resulted entirely from GER reductions. Among the other countries in decline, demographics and participation patterns both played a role. Demographics were relatively more important in Romania, Ukraine, Poland, the UK, and Italy, while participation rates were more important in Finland and Taiwan.

Most countries where enrolments fell from 2011 to 2018 also reduced their HEI counts. The greatest HEI consolidations in relative terms equaled 27% in Poland and 22% in Taiwan, followed by Sweden, Ukraine, Romania, and New Zealand with reductions of 11% to 13%. Institution counts actually fell faster than enrolments in Taiwan, Sweden, and New Zealand. Five countries with falling enrolments nevertheless increased their institution counts, by 57% in Italy, 17% in the UK and Iran, and 2% in Russia and Thailand.²

² Conversely, five countries actually reduced their HEI counts by 4% or more from 2011 to 2018 while increasing enrolments by at least 11%: Hong Kong, the Netherlands, Chile, Ireland, and Morocco.

GLOBAL SOUTH

The overriding narrative of HE over the past decade or more is the unrelenting growth in the Global South. Growth occurred across all five regions, albeit not at identical rates. Yet despite remarkable growth in absolute terms, those regions with the least-developed HE systems (South Asia and Sub-Saharan Africa) actually fell further behind other parts of the Global South during our period of interest.

Figure 1.10 makes it clear how developments in South Asia, especially India, largely drove the growth in HEI numbers in the Global South (see Box 1.1). The number of HEIs in South Asia more than doubled from 2006 to 2018, accounting for 78% of all growth in institution counts globally. Sub-Saharan Africa had the highest rates of growth at 153% over 12 years. Looking at specific countries, in addition to India, the number of HEIs more than doubled in Cameroon, Burkina Faso, Nigeria, Kenya, Ethiopia, Ghana, Vietnam, Turkey, and Nigeria.

FIGURE 1.10 — Total higher education institutions by region in the Global South, 2006-2018 (thousands)

In terms of enrolments, every region grew from 2006 to 2018, but the greatest growth in absolute terms was in East Asia, where enrolments increased from 37.4 million to 62.1 million. South Asia experienced similar absolute growth from 16.4 million to 40.5 million, or 140% in

FIGURE 1.11 — Total students by region in the Global South, 2006-2018 (millions)

relative terms. Over the same time period, enrolments increased in Latin America by 73%, in the Middle East and North Africa (MENA) by 103%, and in Sub-Saharan Africa by 124%. At the national level, enrolments more than doubled in 14 countries and more than tripled in six: Ethiopia, Kenya, Burkina Faso, Tanzania, Bangladesh, and Turkey. Thailand was the only country in the Global South to experience a decline in total enrolments.

It is apparent that the rapid relative growth in enrolments in South Asia and Sub-Saharan Africa largely reflected these region's low baseline enrolment rates. Despite considerable enrolment increases, these regions in fact lost ground, proportionately, compared to other regions in the Global South. The GER rose by 34 percentage points in the MENA and by approximately 22 percentage points in Latin America and East Asia, whereas in South Asia and Sub-Saharan Africa it rose by only 14 and five percentage points respectively.

Examining GERs by country in 2018, there is even greater diversity among countries in the Global South than in the Global North. In particular, a number of MENA and Latin American countries had GERs more comparable to countries in the Global North than many of the other countries in the Global South. In fact, Turkey and Argenti-

na's GERs were among the very highest in the world.³ On the other hand, countries in South Asia and Sub-Saharan Africa had uniformly lower GERs than anywhere else in the world.

Looking at changes in enrolment rates from 2006 to 2018, Turkey stands out for its remarkable 78 percentage point increase, up to a world high of 114%. Six other countries also achieved increases of more than 25 percentage points: Peru, Saudi Arabia, Iran, Chile, Algeria, and China. In relative terms, 16 countries more than doubled their enrolment rate, most notably Kenya (up 3.6-fold), Bangladesh (up 3.3-fold), Turkey and Ethiopia (up 3.1-fold), and Morocco (up 2.8-fold). The worst performers in the Global South in aggregate and relative terms were Thailand and the Philippines, which both experienced declines in their GERs, followed by Côte-d'Ivoire and Egypt, which had only very modest increases of three percentage points or less.

There are some obvious differences between regions of the Global South in terms of average HEI size. MENA HEIs were by far the largest, while HEIs were smallest in South Asia. The fastest growth in HEI size was also in the MENA, followed by East Asia and Latin America, whereas HEIs in Sub-Saharan Africa actually grew smaller over the period in question.

FIGURE 1.14 – Average number of students per higher education institution by region in the Global South, 2006-2018

Turning to data on individual countries, Turkey had by far the largest HEIs in the world, with an average of 42,714 students, in 2018. China had the fourth-largest average institution size (15,377 students) and Algeria the sixth (13,761). The countries with the smallest average institution size were Côte-d'Ivoire (800), India (858), Burkina Faso (1,143), Pakistan (1,187), Kenya (1,255), and Cameroon (1,264). From 2006 to 2018, institutions on average more than doubled in size in Saudi Arabia, Tanzania, and Chile, while they became smaller in nine countries: Cameroon, Vietnam, Egypt, Iran, Burkina Faso, Thailand, Ghana, Nigeria, and Côte-d'Ivoire.

BOX 1.3: MEGA-HIGHER EDUCATION INSTITUTIONS

Mega-HEIs — which we define as HEIs with enrolments in excess of 250,000 — play a critical role in many countries, particularly in the Global South. In Turkey, Anadolou University had nearly 3.2 million (mainly online) students in 2018, followed by Atatürk University and Istanbul University respectively with 338,000 and 274,000 students. These three HEIs obviously do much to explain why Turkey's average HEI size was the world's largest. The mega-HEIs accounted for 40% of national enrolments in 2006 but 55% of enrolment growth in the next 12 years. This relatively higher growth at mega-HEIs translated into 780,300 (10.3%) more national enrolments in 2018.

Elsewhere, Iran is arguably the most top-heavy HE system in the world. There, just three universities – Islamic Azad University, Payame Noor University, and the University of Applied Science and Technology – together educated 2.56 million students, or 62.8% of Iran's enrolments, in 2018.

In general, many of the world's mega-HEIs are, like Anadolou University, principally open education providers, which have considerable potential for economies of scale.

Universidad de Chile, Chile

³ See Box 1.3 for more discussion of mega-institutions in Turkey and their role in raising the GER.

CHAPTER

Two

TRENDS BY TYPE OF HIGHER EDUCATION PROVIDER

Chapter Two

TRENDS BY TYPE OF HIGHER EDUCATION PROVIDER

Global higher education (HE) encompasses many different forms of providers. The most important of these are comprehensive universities, which host the majority of global HE enrolments. They are followed by short-cycle HEIs and university colleges, which host the fastest-growing type of provider over our period of interest. Comprehensive universities and short-cycle HEIs are especially predominant in the Global North, whereas in the Global South the structures of Indian and Chinese HE dictate that significant shares of students are in university colleges and specialised universities. Readers wishing to understand the technical distinctions between institution types may consult the Reader's Guide.

WORLD

Figure 2.1 shows the total number of higher education institutions (HEIs) by type in our 56 countries from 2006 to 2018. The largest group of HEIs were university colleges, which accounted for 47% of all HEIs in the world in 2018. University colleges were also the fastest-growing institutional category, up by 113% relative to 2006. The overwhelming majority of these institutions (99%) were in South Asia and specifically India (96%). Short-cycle HEIs were the next most common type, with 16,388 institutions in 2018. Specialised universities increased in number from 10,348 to 13,027, while the number of comprehensive universities rose from 7,480 to 9,726 and the number of hybrids from 6,058 to 7,666.

Comprehensive universities educated over 50% of students globally throughout our period of interest. In 2018, 105 million students studied at comprehensive universities, up 52% relative to 2006. University colleges were the fastest-growing type of provider in proportional terms, with student numbers increasing by 118% over 12 years to 32.1 million. Short-cycle HEIs had enrolments of 33.3 million in 2018 (up 27% since 2006), while specialised universities had 27.7 million students (up 34%). Just over seven million students enrolled in hybrids in 2018, while a little over three million HE students in total studied at secondary schools and semi-HE providers.

Figure 2.3 shows that the distribution of enrolments by provider type is very different in the Global North than in the Global South. In particular, specialised universities

FIGURE 2.1 – Total higher education institutions by type in the World, 2006-2018 (thousands)

FIGURE 2.2 – Total enrolments by type of higher education institution in the World, 2006-2018 (millions)

and university colleges are of increasingly marginal significance in the Global North, accounting for just 6% of enrolments in 2018, down from 11% in 2006. By contrast, these institutions are very common in the Global South, accounting for 38% of enrolments in 2018. The share of enrolments in university colleges in the Global South actually increased by three percentage points from 2006, though the share in specialised universities fell, albeit more slowly than in the Global North. Short-cycle HEIs and comprehensive universities are more important in the Global North than in the Global South, with the gap growing after 2006 as short-cycle HEIs lost importance in the Global South. The share of enrolments in the other types of providers was modest, totaling just 4% in the Global South and 7% in the Global North in 2018, with the bulk of these students attending Hybrids.

FIGURE 2.3 – Share of total enrolments by type of higher education provider, in the World and by super-region, 2006 and 2018

Comprehensive universities are by far the largest type of HEI, with a global average enrolment of 10,855 students in 2018. Specialised universities and short-cycle HEIs were both of a similar, smaller size (2,119 and 2,030 students on average, respectively), while hybrids (938

FIGURE 2.4 – Average enrolments per higher education institution by type in the World, 2006-2018

PAGE **23**

students) and university colleges (773 students) were smaller still. All HEI types grew in average size over our period of interest, by between 2% (university colleges) and 28% (hybrids). Yet the average size of all HEIs actually increased by just 0.5%, as the composition of world HE shifted toward university colleges, the smallest of all institution types.

GLOBAL NORTH

Although the total number of HEIs in the Global North did not change much from 2006 to 2018, there were some shifts between institutional categories. The number of specialised universities and university colleges both fell slightly, while the number of comprehensive universities and hybrids both increased. The number of comprehensive universities actually peaked in 2013 at 5,139, then subsequently fell by 6%. The number of short-cycle HEIs has remained relatively steady overall.¹

Hong Kong Polytechnic University, Hong Kong

¹ The pattern we have described of initial growth followed by decline in enrolments and institution counts for comprehensive universities and short-cycle institutions relates largely to patterns in the US, as described in Box 2.1 of Chapter 2, given that the US has by far the largest HE system in the Global North and concentrates its enrolments in these types of institutions.

In terms of enrolments, comprehensive universities are by far the most important HE providers in the Global North, hosting two-thirds of all students in 2018. Their enrolments rose by 10% from 2006 to 2011, but declined by 5% thereafter, falling to 38.9 million in 2018. The pattern is similar for short-cycle institutions, with enrolments rising by 9% from 2006 to 2011, then falling back by a similar amount to 12 million in 2018. Enrolments in specialised universities (3.1 million in 2018) and university colleges (239,774 in 2018) both declined by nearly half over the 2006-2018 period. Hybrids were the only institution type to experience enrolment growth every year throughout our period of interest, with enrolments rising by 39% overall to 2.8 million students in 2018. HE enrolments in secondary schools also increased by 16% to 1.1 million, whereas enrolments in semi-HE providers fluctuated considerably, ultimately declining by just over 2% from 2006 to 2018.

The distribution of enrolments by type of HE provider varies considerably between regions, as shown in Figure 2.7. Western Europe is the only region where the significance of comprehensive universities declined from 2006 to 2018 (by three percentage points), whereas in all other regions it increased. Hybrids accounted for a growing share of enrolments in all four regions, especially in Western Europe, where they came to account for 15% of

enrolments — up from 12% in 2006. The share of specialised universities declined most of all in the EECA region due to deliberate policy decisions including Russia's 2013 reclassification of its remaining specialised universities as comprehensive (merging specialised universities into comprehensive universities is seen as offering economies of scale, benefits for rankings, and potential advantages from greater interdisciplinary collaboration). Whereas specialised universities also declined in importance in Advanced Asia, they actually increased in importance marginally in CANZAUS and Western Europe, albeit from low baselines. Meanwhile, short-cycle institutions declined in importance in both CANZAUS and Advanced Asia by three percentage points but increased in importance in the EECA by seven percentage points.

Figure 2.8 shows enrolments by type of HE provider in each country in the Global North. Variation in the importance of institution types is apparent within regions, especially in Western Europe. In almost all cases, however, comprehensive universities are the most important single institution type, except in Ireland, Israel, Kazakhstan, Poland, and the Netherlands.

BOX 2.1: MODELS OF HIGHER EDUCATION SYSTEMS

Based on the distribution of institution types within countries, several models of HE system exist globally. As shown in the figures below, countries may follow these models strictly or loosely, or they may combine a couple of different models in some fashion. The models are as follows:

- The **Unitary model** enrolls the great majority of students in comprehensive universities, while other providers play at best a marginal role.
- The **South Asian model** emphasises comprehensive universities with affiliated university colleges, with vocational education otherwise limited and mostly delivered by non-HEIs.
- The **North American model** is predominantly binary, based on comprehensive universities and vocational institutions that usually focus on short-cycle ISCED level 5 or even level 4 programs.
- The Northern European model is predominantly binary, based on comprehensive universities and hybrids.
- The **Former Eastern Bloc model** has three main pillars: comprehensive universities, specialised universities, and short-cycle institutions.
- The French model features comprehensive universities, a substantial number of specialised universities (which in some jurisdictions might be classified as hybrids), and often academic or vocational offerings in secondary schools.
- The Latin American model combines substantial enrolments in comprehensive universities with moderate enrolments in a mix of vocational HEIs, which may be hybrids and/or short-cycle HEIs.

The map overleaf shows how each of these models is present around the world.

MAP 1 — Higher education system models in the world, 2018

- Former Eastern Bloc Model North American Model Northern European Model French Model South Asian Model Unitary Model Latin American Model
- Mixed Model

Note: Darker colours indicate that a country strictly follows the model in question, while faded colours indicate that the country follows the model more loosely. For mixed models, the country best matches the model indicated by the general colour of the country's territory on the map, but it also has some characteristics of the secondary model signalled by the colour of the dot.



Finally, examining data on the average size of HEIs, comprehensive universities stand out as much larger than the other types of HEI, with an average of 8,142 students in 2018. The other types of institutions are similar in size, with average enrolments between 899 (specialised universities) and 1,220 (hybrids) in 2018. Average enrolments in comprehensive universities and short-cycle institutions followed a similar pattern, initially rising until 2010 then falling thereafter. By contrast, enrolments per hybrid institution rose consistently throughout the period of

FIGURE 2.9 – Average enrolments per higher education institution by type in the Global North, 2006-2018



2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 — Comprehensive Universities — University Colleges — Specialised Universities — Hybrids — Short-cycle HEIs interest, while average enrolments at specialised universities and university colleges fell.

GLOBAL SOUTH

University colleges are by far the most numerous type of HEI in the Global South, due again mostly to their overwhelming presence in South Asia. The number of these institutions more than doubled from 19,181 in 2006 to



FIGURE 2.10 — Total higher education institutions by type in the Global South, 2006-2018 (thousands)

41,231 in 2018. Specialised universities are the next most common form of HEI in the Global South, with 9,663 operating in 2018, up 40% from 2006. There were 6,481 short-cycle HEIs and 5,408 hybrids in the Global South in 2018, up by 27% and 37% respectively relative to 2006. Finally, comprehensive universities are the least common form of HEI in the Global South, with only 4,918 operating in 2018, although their count increased by 67% relative to 2006.

Despite their small numbers, comprehensive universities account for the largest share of enrolments in the Global South. Sixty-six million students across the region studied at comprehensive universities in 2018, more than double the total in 2006. University colleges were the next most important study destination, with 31.8 million students in 2018, up 123% since 2006. In 2018, specialised universities and short-cycle HEIs accounted for 24.6 million and 21.2 million students respectively, while 4.4 million students pursued HE programs at semi-HE providers, while 726,829 did so at secondary schools. Enrolments grew the least in secondary schools (by 37%) and the most in semi-HE providers (by 164%).

FIGURE 2.11 — Total enrolments by type of higher education provider in the Global South, 2006-2018 (millions)



The diversity in HE system structures is greater in the Global South than in the Global North, as shown in Figure 2.12. University colleges are clearly a predominantly South Asian phenomenon, as they accounted for 72% of the region's enrolments in 2018 while being negligible elsewhere. East Asia is also guite distinctive, with enrolments split somewhat evenly in 2018 between comprehensive universities (31%), specialised universities (35%), and short-cycle HEIs (29%), with a shift in emphasis under way from short-cycle HEIs toward comprehensive universities. Enrolments were highly concentrated in comprehensive universities in Latin America (68%), Sub-Saharan Africa (73%), and especially the MENA region (92%). This focus on comprehensive universities increased markedly in Sub-Saharan Africa and the MENA region, by nine and six percentage points respectively, cutting into the relative significance of all other institution types.





Figure 2.13 shows that, as in the Global North, comprehensive universities account for the greatest share of enrolments in most countries of the Global South. There are some important exceptions to this rule, however: China had far more students in specialised universities and short-cycle HEIs than in comprehensive universities, while more Indian and Bangladeshi students were in university colleges.



Comprehensive universities are usually the largest HEIs in the Global South, with average 2018 enrolments of 13,496, up from 10,861 in 2006. This means comprehensive universities are almost two-thirds larger in the Global South than in the Global North. Short-cycle HEIs and specialised universities are also much larger than their counterparts in the Global North, with average enrolments

FIGURE 2.13 — Share of total enrolments by type of higher education provider and by country in the Global South, 2018

of 3,274 and 2,549 in 2018. Still, HEIs in the Global South are smaller on average than in the Global North, due to a lower overall share of students being enrolled in comprehensive universities in particular and the very small size of university colleges and hybrids, which together make up roughly two-thirds of all HEIs in Asia. In the Global South in 2018, there were only 773 students on average in university colleges and just 938 in hybrids.

FIGURE 2.14 – Average enrolments per higher education institution by type in the Global South, 2006-2018 (thousands)





BOX 2.2: THE FUZZY BOUNDARIES OF HIGHER EDUCATION

Not all countries sharply separate their HE systems from other types of educational provision. In a number of countries, some HE is delivered through secondary schools, while in others it is delivered in semi-HEIs which mix HE with post-secondary non-tertiary and other forms of education or even in institutions with mostly non-educational mandates such as healthcare delivery.

Bangladesh may have the world's least clearly delineated HE system. Various forms of colleges in Bangladesh provide a mix of secondary and HE programs, and a varying share of these qualify as university colleges. In addition, the National Open University, with over half a million enrolments in 2018, has historically enrolled a mix of HE and (until recently) mostly continuing education students. Finally, Bangladeshi madrasas are predominantly secondary schools but also deliver some HE programming.

Some countries manage systems of post-secondary education rather than of higher education per se. These countries tend to have larger semi-HE sectors which occupy the place that in other countries would be taken up by short-cycle institutions. The most notable country in that respect is Canada. While Canadian community colleges are often portrayed as a single institution type, upon closer inspection they vary considerably in their program profile. Quebec's CEGEPs are the most distinctive, clearly classifying as semi-HE providers given their focus on ISCED level 4 programs bridging secondary school and university education. In other provinces, colleges may be a mix of semi-HE institutions, short-cycle institutions, and even hybrids, with all delivering some secondary adult education programming. We classify an increasing share of Canadian colleges as HEIs over the course of our time period, based on the increasing share of enrolments at ISCED levels 5 and 6.

Finally, certain countries in the Global North, such as Australia and the UK, have vocational educational institutions that deliver mostly secondary-level programs (ISCED level 3) outside of the traditional secondary school system. These institutions speak to the close connections between HE and adult education in certain contexts.

Senate House of the University of London, United Kingdom





CHAPTER Three

PUBLIC AND PRIVATE HIGHER EDUCATION



Chapter Three

PUBLIC AND PRIVATE HIGHER EDUCATION

In most of the world, higher education (HE) includes a mix of public and private provision. Whereas public providers are generally larger and more stable, private providers can offer some flexibility, since they can open and close, or increase and decrease enrolments, with greater ease. This flexibility is arguably more valuable in the Global South, where HE systems are still developing and can change dramatically in size from year to year. For greater clarity on how we define public and private institutions, readers may wish to consult the Reader's Guide.

Public provision accounted for 70% of global HE enrolments in 2018, though its share has been slowly declining. This slow shift is entirely due to the rising importance of private provision in the Global South, as changes in the Global North have been modest.

WORLD

Private higher education institutions (HEIs) are considerably more numerous than public HEIs, and the gap between the two grew dramatically from 2006 to 2018. In 2018, there were 48,370 private HEIs in the Global South, up 134% since 2006. By contrast, the number of public HEIs in the Global South increased just 12% in the same time period, to 19,406. In the Global North, changes in institution counts have been more modest and also consistent across public and private institutions. There were 10,826 private HEIs and 9,761 public institutions in 2018, both up only slightly since 2006.

FIGURE 3.1 — Total public and private higher education institutions by super-region, 2006-2018 (thousands)



Public HE provision remains predominant in terms of enrolments. Public institutions hosted 146.3 million students globally in 2018, or 70% of total HE enrolments. This percentage is down slightly from 73% in 2006. There were 62.1 million students attending private HE providers in 2018 globally. From 2006 to 2018, public enrolments globally increased by 45% while private enrolments increased by 70%. Notwithstanding these trends, public providers still accounted for almost two-thirds (64%) of growth in global HE from 2006 to 2018.



FIGURE 3.2 — Total enrolments in public and private higher education by super-region, 2006-2018 (millions)

In 2018, 103.3 million students studied at public providers in the Global South, up 80% relative to 2006. In contrast, just 46.9 million studied at private providers in the Global South, up 121% from 2006. In the Global North, 43 million students attended public providers in 2018 and 15.1 million attended private providers, both figures down very slightly from 2006. The proportion of enrolments in public providers remained basically constant throughout our period of interest in the Global North, at 74%, whereas in the Global South public providers' share fell from 73% in 2006 to 69% in 2014 and stayed constant thereafter.

BOX 3.1: UNDERCOUNTING OF PRIVATE HIGHER EDUCATION GLOBALLY

With rare exceptions, data on private HE providers are of much lower quality than data for public providers. A number of countries did not systematically track the number of private HE providers and their enrolments over our period of interest, including Canada, the Netherlands, Singapore, and the UK. It is therefore a significant possibility that data on private institutions and enrolments represent an undercount compared to the true state of affairs.

This does not alter the general conclusion that public HE provision predominates in the world. Where private provision is undercounted, this is usually a function of its limited role. Still, improved tracking of private enrolments should be a priority in the relevant countries, in order to achieve a more complete picture of their HE systems. And there are almost certainly jurisdictions where uncounted private provision is substantial, such as in the UK, where some estimates have suggested over 100,000 students go uncounted in official tallies.

Public HEIs are considerably larger on average than private HEIs in both the Global North and Global South. In the Global North, enrolments at public HEIs averaged 4,303 in 2018, while private HEIs' enrolments were just 1,371. Both public and private HEIs in the Global North grew from 2006 to 2011, then declined thereafter because the number of HEIs did not contract as fast as enrolments did. In the Global South, the gap in average size between public and private HEIs is even larger and has grown markedly over time. Average enrolments in public HEIs increased by 61% between 2006 and 2018 to 5,264. Meanwhile, private HEIs in the Global South declined in average size by 5% to 954. This may convey the impression that in the Global South public sectors have tended to grow by making existing institutions larger, whereas private sectors have tended to grow by opening more institutions – but this impression is entirely due to patterns in India, as elsewhere in the Global South institution size rose on average by 43% at private institutions and just 24% at public institutions.





University Library of Humboldt, Germany



BOX 3.2: INDIA IS THE WORLD'S MOST CRITICAL PRIVATE HIGHER EDUCATION MARKET

The story of private HE's global growth trajectory since 2006 depends to a significant extent on India, which alone accounted for 39.8% of global private enrolment growth. Unfortunately, our data on enrolments and institution counts in India are highly unreliable prior to the introduction of the All India Survey on Higher Education in 2011, as data on enrolments were only available from intermittent surveys without controls for non-response bias.

Another challenge with respect to India is how to classify those private institutions that receive significant public subsidies to operate. This situation is relatively uncommon internationally: in most countries, private institutions may benefit from public student aid programs or be eligible for research funding, but they tend not receive significant operating funds. It is not unique, however: the non-state CRUCH universities in Chile are one example of legally private institutions receiving public funds, as are some Canadian universities which were founded prior to confederation. In keeping with these other examples, as well as for practical reasons, this report classifies Indian private-aided institutions as "public" and leaves only private-unaided institutions as "private." The figure at right presents estimates of total Indian HE enrolments broken down as public, private-aided, and private-unaided.

The public and private HE sectors have very different distributions of institution types, as shown in Figure 3.4. In public HE, comprehensive universities accounted for the majority of enrolments throughout our period of interest, particularly because they educate almost twothirds of public students in the Global North. Short-cycle institutions are the second most important category of public HEI, accounting for 19% of public enrolments in 2018. Among private HEIs, comprehensive universities

FIGURE 3.4 – Composition of public and private higher education enrolments by institution type in the World and by super-region, 2006 and 2018



FIGURE B3.2 – Total higher education enrolments in India for public, private-aided and private-unaided providers, 2006-2018 (millions)



Portraying data this way has a significant effect on the global narrative around private HE. Classifying India's private-aided institutions as public reduces global private HE enrolments by 5.9 million or 9% in 2018 and reduces the global proportion of private enrolments by three percentage points. Arguably, we are therefore understating private HE globally. However, this classification also considerably alters the picture with respect to the changing importance of private HE, because enrolments in Indian private-aided institutions only rose by 23% over our 12 years of interest, in contrast to total HE growth in India of 137%. If private-aided providers were counted as private, then global growth in private enrolments would fall by five percentage points.

are also the most important institution type, but as of 2018 they no longer accounted for the majority of enrolments. In the Global South, university colleges accounted for almost an equal share of enrolments as comprehensive universities did -33% versus 37%. Specialised universities and short-cycle institutions together accounted for almost one-quarter of private enrolments in both the Global North and Global South in 2018.

Figure 3.5 examines the same data from a different angle to separate out provider types by public and private ownership. Short-cycle institutions and comprehensive universities are the most predominantly public, especially in the Global South. Patterns vary sharply with regard to specialised universities and hybrids in the Global North and Global South: specialised universities' enrolments are only 52% public in the Global North but 71% public in the Global South, while conversely, hybrid enrolments are 73% public in the Global North but just 48% public in the Global South.

The proportion of public enrolments was roughly stable in short-cycle HEIs and comprehensive universities over the course of our period of interest. For almost all other institution types, the share of enrolments in public providers fell. In general, these shifts toward private provision were more dramatic in the Global North than in the Global South.¹

FIGURE 3.5 — Share of enrolments in public and private higher education providers by type, in the World and by super-region, 2006 and 2018



Figure 3.6 indicates the average size of public and private HEIs by type and how these differ between the Global North and Global South. For all institution types, public providers are larger than private providers. In general, the largest difference in size is between public and private comprehensive universities. The gap is especially large for specialised universities in the Global South, due mostly to China, where specialised universities average over 30,000 students, dwarfing their counterparts in any other country.

FIGURE 3.6 – Average enrolments in public and private higher education institutions by institution type and super-region, 2018 (thousands)



GLOBAL NORTH

Public institution counts were relatively stable in most regions of the Global North from 2006 to 2018. Only in the EECA region was there marked changes, with a decline of 6% in the number of public institutions between just 2012 and 2014, followed by an increase of 9% over the following four years. In contrast, counts of private HEIs were more variable. In CANZAUS in particular, the private HEI count increased by 21% in the years until 2013, before falling by 13% between 2013 and 2018. Nearly all of this change was concentrated in the United States. A similar pattern occurred in the EECA, as institution counts initially rose by 13% to a peak of 1,800 in 2013, before falling 25% by 2018. Private HEI counts rose more consistently in Western Europe after 2007 — increasing by 36% to 2,448 over the full 12-year period — while declining in Advanced Asia.





Figure 3.8 shows the sharp differences in the share of enrolments at public providers between regions of the Global North. Advanced Asia has the smallest public sector, with only 30% of students enrolled in public HEIs. CANZAUS has the next most privatised systems, with only 77% public enrolments, predominantly due to substantial private HE in the US. In the EECA, the public sector increased its share of enrolments from 81% to 85% as the private sector bore the greater share of demographically driven enrolment declines, while the importance of public HE is greatest in Western Europe, even though the sector's share of total enrolments fell from 93% in 2006 to 88% in 2018.



FIGURE 3.8 – Share of enrolments in public higher education by region in the Global North, 2006-2018

¹ The most unusual case is semi-HE providers, which were experiencing the most dramatic shift toward private provision of any institution type in our sample until 2017, when enrolments flipped by 15 percentage points back toward public provision. The most important driver of enrolment patterns for this type of provider is Bangladesh, which shifted or reclassified approximately 230,000 students from private to public provision that year.



The extent of private HE can also vary considerably within regions. In particular, the three largest countries in Advanced Asia were the only ones in the Global North to have a majority of private enrolments in 2018, in contrast, just 3% of students in Singapore were enrolled at private institutions. The sharpest changes over our period of interest took place in Romania and Ukraine, where the proportion of public enrolments increased by 14 and eight percentage points respectively, and in Australia, Spain, and Italy, where the share of public enrolments fell substantially. All Western European jurisdictions that have a private sector reported that it educated a growing proportion of students between 2006 and 2018.

FIGURE 3.9 – Share of enrolments in public higher education by country in the Global North, 2006 and 2018



Figure 3.10 shows the share of enrolments in public and private providers for the most important types of HE providers in each region of the Global North in 2018. Enrolment at short-cycle institutions show the greatest variation between regions, being 96% public in CANZAUS but 87% private in Advanced Asia. Meanwhile, specialised universities tend to be the institution type with the most private enrolments in their regions, particularly in Western Europe.

FIGURE 3.10 — Share of enrolments in public and private institutions by type and region in the Global North, 2006 and 2018



Bocconi University, Milan, Italy

GLOBAL SOUTH

Counts of public HEIs in the Global South were reasonably steady across most years and regions, apart from some volatility in South Asia in the middle years of our period, though this mostly appears to reflect measurement issues in India. South Asia is the only region of the Global South that reduced its recorded count of public institutions over the 12-year period, albeit only marginally. Increases in the other regions amounted to 22% in the MENA region, 27% in Latin America, 42% in East Asia, and 69% in Sub-Saharan Africa.

FIGURE 3.11 — Total public higher education institutions by region in the Global South, 2006-2018 (thousands)



University of Malaya, Malaysia

The number of private HEIs in the Global South grew so dramatically from 2006 to 2018 due to spectacular growth of 277% in South Asia. The number of private providers in Sub-Saharan Africa increased at a comparable rate (219%) but from a low base, while growth in the MENA region was 135% but reached a 2018 figure of just 869 institutions. Lastly, growth in Latin America and East Asia was approximately equivalent, at just over 20% over the 12 years.





As in the Global North, there is considerable variation in the share of students in public HE across regions of the Global South. At one end of the spectrum, 86% of students in Sub-Saharan Africa enrolled with public providers in 2018, while at the other extreme, only 45% of students in Latin America enrolled with public providers.

FIGURE 3.13 - Share of enrolments in public higher education by region



The share of enrolments in public HE declined in almost every region of the Global South during our period of interest. The greatest decline was in South Asia, amounting to ten percentage points, followed by Sub-Saharan Africa (six percentage points), Latin America (four), and East Asia (three). The MENA region was the only one where public institutions increased their share of enrolments, by four percentage points. It is noteworthy that the two regions with the fastest growth in total enrolment from 2006 to 2018, South Asia and Sub-Saharan Africa, also had the greatest shift toward private provision.



Turning to data on individual countries, we again find considerable diversity in the share of public provision within regions, especially in East Asia. In terms of change over time, the share of students attending public HE fell by a remarkable 24 percentage points in Tanzania, as well as by between nine and 13 percentage points in South Africa, Chile, Ghana, Malaysia, and India. Conversely, three countries increased their proportion of public provision from 2006 to 2018 by 12 percentage points each: Indonesia, the Philippines, and Bangladesh.

FIGURE 3.14 – Share of enrolments in public higher education by country in the Global South, 2006 and 2018



Figure 3.15 indicates the public-private breakdown of enrolments for the major institution types in each region in 2018. There is considerable variability between institution types within regions, except in East Asia, where all three of the primary institution types are similarly dominated by the public sector. Hybrids show the greatest variability between regions, as they are mostly public-oriented in Latin America but mostly private sector-focused in Sub-Saharan Africa and especially the MENA region — largely due to the importance and entirely private nature of these institutions in Iran. Short-cycle HEIs in the MENA region and short-cycle HEIs and comprehensive universities in Sub-Saharan Africa are the sectors in the Global South where provision is not highly concentrated in the public sector.



FIGURE 3.15 – Share of enrolments in public and private institutions by type and region in the Global South, 2006 and 2018



BOX 3.3: THE PRIVATE SECTOR AS A SOURCE OF FLEXIBILITY – ABSORBING SHARP ENROLMENT GROWTH AND DECLINE

HEIs are very durable institutions, with many universities having famously survived for centuries. Yet this durability can also be reframed as inflexibility. Public HEIs may have difficulty expanding enrolments when demand increases, either due to funding or regulatory constraints. Conversely, when demand is down, they can put political pressure on governments to insulate them from changes in the wider economic and social environment and maintain their size. In this context, despite a possible significant tradeoff in terms of education quality, a key benefit of having private providers is their greater flexibility to grow or downsize as market trends dictate.

The wider fluctuations in private HEI counts compared to public HEIs directly reflect this flexibility. In addition, in our data we find that in two-thirds of cases where countries experienced significant enrolment growth (at least 4% per year) over a sustained period of time, private universities absorbed a disproportionately high share of the increase. Meanwhile, private universities absorbed a disproportionate share of losses in all four cases where there was a consistent and significant decline in overall enrolments.

Kenyatta University, Kenya



	trada în înteratoria în
	<u> </u>

Part 2

FINANCES OF HIGHER EDUCATION DELIVERY

ìcậci



CHAPTER

Four

PUBLIC SPENDING ON HIGHER EDUCATION





Chapter Four

PUBLIC SPENDING ON HIGHER EDUCATION

Public spending on HE rose significantly from 2006 to reach nearly USD 1 trillion in 2018. Geographically, most of this growth occurred in the Global South, and temporally, most of it happened prior to 2013. Yet spending per student grew more in the Global North than in the Global South. In the Global South, governments tended to emphasise efficiency in spending, as they worked to massify their HE systems. Meanwhile, in the already massified HE systems of the Global North, public funding growth was largely absorbed by costs to approximate or advance the technological frontier, compensation gains for the HE workforce, and efforts to tackle complex inequities. The data confirm that despite remarkable advances in the Global South in recent years, the HE resource advantages of the Global North remain very much intact.

TOTAL PUBLIC SPENDING ON HIGHER EDUCATION

The broadest measure of financing for HE is total public spending on HE, which includes not just operating transfers to universities for education or other purposes (capital expenditures, research expenditures, and provision of hospital services are the main ones globally) but also government payments to students and spending on ministries or other steering agencies. This measure may therefore include different things in different countries.

The World

Globally, total public HE spending increased in real USD purchasing power parity (PPP) in every year covered by this study. The total reached USD 992.4 billion in 2018, up from USD 615.5 billion in 2006, representing an average annual growth rate of 4%. Most of this growth, however, occurred from 2006 to 2010, when growth averaged 6.8% per year. After 2010, growth averaged only 2.7% per year.

The Global North accounts for most total public spending on HE. However, its share of world public spending fell dramatically from 69% in 2006 to just 56% in 2018. Average annual growth in the intervening years was three times higher in the Global South (7.1%) than in the Global North (2.4%). Still, both super-regions experienced growth slowdowns. In the Global South, average annual growth





was 10.8% in the years until 2013, but then fell to just 2%. In the Global North, growth was over 4% per year until 2010, but after that was just 1.5% per year. In fact, real total public spending on HE in the Global North actually fell in three years during our time period.

Accounting for student enrolments alters the picture considerably, however. In the Global North, total public spending per student was approximately USD 9,500 in 2018, compared to just under USD 3,000 in the Global South. Even though aggregate spending increased faster in the Global South than in the Global North, the huge increase in enrolment in the South, combined with slow

enrolment growth in the North meant that public spending per student grew faster in the Global North than in the Global South. These trends caused the Global North's per student spending advantage relative to the Global South to increase from 2.9-to-1 in 2006 to 3.3-to-1 in 2018. Globally, total public spending per student actually decreased after 2010, largely due to the rising share of students in the Global South. **FIGURE 4.2** – Total public spending on higher education per student in the World and by super-region, 2006-2018 (in 2018 USD at PPP) 9,000 8,000 7.000 6 0 0 0 5.000 4 0 0 0 3,000 2,000 1,000 0 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 Global North
Global South - World Broadly speaking, lower-income countries of the Global

Stoadly speaking, lower-income countries of the Global South have chosen to emphasize economies of scale to raise access to HE — i.e. massifying their systems. Meanwhile, in the Global North, where massification was achieved decades ago, changes in HE spending over time have been driven by inflationary pressures as well as steps taken to enhance system quality at the margin, whether by supporting students who are more relatively disadvantaged with additional supports and services or by spending on skills and technologies required to operate at or close to the technological frontier.

Much of the reason why governments of the Global North spend more per student is because their economies are larger and wealthier, giving them greater capacity to pay.

FIGURE 4.3 – Total public spending on higher education as a percentage of gross domestic product in the World and by super-region, 2006-2018







This is why it is often useful to compare public spending on HE relative to gross domestic product (GDP). Governments of the Global North do spend a greater share of their countries' wealth on HE than do those in the South, but the gap is not large and has been narrowing in recent years. Figure 4.3 shows that the share of global GDP that governments invested in HE was largely stagnant after 2006 and indeed declined slightly after 2010.

Global North

Trends in total public spending on HE in the Global North are largely determined by patterns in CANZAUS, since this region accounts for roughly half of the super-region's total expenditures. This is also the region where public spending increased the most, growing by an annual average of 3%. The next most important region is Western Europe, which accounts for 30% of total public HE spending in the Global North. This is also the region where spending grew the least, with an average annual growth rate of just 1.8%. Advanced Asia and the EECA region are roughly comparable in terms of both total public spending and overall growth (2.7% and 2.3%, respectively). Spending in the EECA region was quite volatile, falling by 16.2% overall from its peak in 2014 — which coincided with the start of the war in Ukraine.

FIGURE 4.4 – Total public spending on higher education by region in the Global North, 2006-2018 (in billions of 2018 USD at PPP)



Higher public spending in CANZAUS is not simply a product of being the largest of the four regions but also of having among the highest per-student expenditures. As shown in Figure 4.5, these amounted to USD 12,025 in 2018, compared to USD 11,807 in Western Europe, USD 5,863 in Advanced Asia, and USD 4,489 in the EECA. From 2006, growth in per-student spending was fastest in the EECA, despite later declines in public expenditures, while in Western Europe spending was largely stable. This growth in per-student spending was not, however, predominantly driven by funding increases but rather by enrolment declines. Some of these differences also need to be contextualised by differences in the extent of public provision. As shall be shown later in this chapter, if these data were presented as "total expenditure per student at public institutions," Figure 4.5 would look quite different, with the Advanced Asia line in particular shifting upward significantly.

FIGURE 4.5 — Total public spending on higher education per student by region in the Global North, 2006-2018 (in 2018 USD at PPP)



Turning to national-level data on total public spending per student, the two biggest spenders in 2018 were Switzer-

University in Salamanca, Spain



land (USD 35,500) and Singapore (USD 26,526), followed by a string of northern continental European countries and Hong Kong. The EECA countries and Advanced Asian countries, aside from the two city-states, were all at the bottom in terms of spending per student, with figures of less than USD 6,100. Yet many of these countries had the highest growth since 2006, in particular South Korea (194%), Romania (129%), Kazakhstan (124%), Russia (100%), and Poland (82%). Only a few countries experienced negative growth over the 2006-2018 period: Italy (-33%), Ireland (-27%), Australia (-22%), Hong Kong (-7%), and Canada (-5%).¹

FIGURE 4.6 – Total public spending on higher education per student by country in the Global North, 2006 and 2018 (in thousands of 2018 USD at PPP)



With respect to spending on HE in the Global North as a percentage of GDP, the highest spending levels were again in CANZAUS (1.2% of GDP in 2018), followed by Western Europe (just under 1.0%). Every region apart from CANZAUS shows a pattern of growth until 2010, followed by stagnation or decline. The EECA countries in particular spent a substantially declining share of their wealth on HE after 2010. The pattern in CANZAUS was more volatile, due principally to the manner in which the US accounts for student loan costs.





Figure 4.8 shows spending as a percentage of GDP by country in the Global North. Clearly, there are dramatic differences in national approaches to public spending, as the highest spending government in the Global North (Switzerland) dedicated five times more of its country's wealth to HE than did the lowest-spending country (Japan) in 2018. Variation within regions was also considerable, although comparatively less so in CANZAUS than in the other regions. The most significant changes over our period of interest were in Switzerland and South Korea, where spending increased relative to GDP by 0.4%, and in Ireland and Ukraine, where spending fell relative to GDP by 0.4% and 0.5% respectively. The trend in Ukraine is in fact even more dramatic than it initially appears, as government HE spending actually peaked at 2.4% of GDP in 2010 - the highest level in the Global North at that time - before falling back after the outbreak of war in 2014.





Global South

Total public HE expenditures in the Global South more than doubled between 2006 and 2018, from USD 192.7 billion to USD 434.5 billion. Most of this growth occurred in the East Asia region, which accounted for 46% of super-regional public HE expenditures in 2018. Until 2013, East Asian governments increased their spending by a remarkable 15.5% per year, but afterwards growth fell back to a mere 1.6% per year. The next highest spending region was the MENA region, at USD 79.6 billion in 2018, followed by Latin America at USD 71.3 billion, South Asia at USD 63.7 billion, and finally Sub-Saharan Africa at USD 21.3 billion. Outside of East Asia, where growth over the full period totaled 194%, the highest growth was in South Asia (131%), though this growth was very choppy, with frequent annual rises in excess of 9% but also annual

¹ Canada's negative growth is largely an artifact of our methodology, as a much larger share of students in Canadian colleges were either in HEIs under our classification or studying in HE programs in 2018 relative to 2006. In effect, there was no shift in how the numerator was calculated but substantial change in what was measured for the denominator.

declines of as much as 16%.² Growth was somewhat less spectacular in Sub-Saharan Africa (116%) and the MENA (103%) and markedly slower in Latin America (47%).

FIGURE 4.9 – Total public spending on higher education by region in the Global South, 2006-2018 (in billions of 2018 USD at PPP)



On a per-student basis, the MENA region had the highest public spending on HE in the Global South at USD 4,324 in 2018. The next highest spending region was Latin America (USD 3,209), followed by East Asia (USD 3,198) and Sub-Saharan Africa (USD 3,030). South Asia was by far the lowest spending region per student at just USD 1,575 in 2018, or 46% below the average for the Global South as a whole. Ultimately, per-student government spending ended up only slightly below where it began in the MENA region, South Asia, and Sub-Saharan Africa while falling by about 15% in Latin America and rising by 76% in East Asia. However, in all regions, spending in 2018 was below the peak year in our period. Spending per student in 2018 was roughly one-quarter below the peak year of the time period in the MENA region and Latin America, 17% lower





in Sub-Saharan Africa, 14% lower in South Asia, and 4% lower in East Asia.

At the national level, Saudi Arabia is the obvious outlier when it comes to total public spending on HE, with its per-student spending of USD 19,593 ranking third in the world, behind only Switzerland and Singapore. The next highest spending country in the Global South, Tanzania, spent USD 5,635 per student, a figure substantially inflated by the costs of a very large student loan system. At the low end, Indonesia, Cameroon, and Bangladesh all spent less than USD 900 per student in 2018. In terms of change relative to 2006, the biggest increases were mainly in East Asia (the Philippines, Vietnam, China, and Thailand) and Chile. In contrast, the countries posting the biggest declines were much more dispersed: Pakistan (50%), Morocco (47%), and Turkey (41%).³ In total, 14 countries in the Global South increased spending per student between 2006 and 2018, while 17 countries reduced it.

FIGURE 4.11 — Total public spending on higher education per student by country in the Global South, 2006 and 2018 (in thousands of 2018 USD at PPP)



Governments of the MENA region spent considerably more on HE as a percentage of GDP than did their counterparts in other regions of the Global South, as shown in Figure 4.12. In fact, their spending was comparable to, and at times higher than, the CANZAUS region of the Global North, giving MENA a claim to being the highest investing region in the entire world. From 2006 to 2016, spending in the region grew from 0.8% to 1.3% of GDP before falling back again very slightly. Spending relative to GDP also increased in all other regions over the full 12 years, but more modestly. The main story seems to be one of "growth interrupted," with rising investments turning to stasis after 2010 in Latin America and South Asia and after 2013 in East Asia and Sub-Saharan Africa.

² In general, there is far greater volatility in HE finances in the Global South than in the Global North. This relates partly to the greater economic volatility in general of developing countries, but also to the relative significance of capital spending or different accounting approaches compared with countries of the Global North, as well as measurement errors, including potentially lower response rates to institutional surveys. One other source of possible errors is changes in the IMF's PPP measure used for our currency conversions.

³ As with all our figures, significant changes in how PPP is calculated can greatly affect patterns of change over time. Ethiopia in particular appears to be a case where PPP changes significantly magnified changes over time in public spending patterns.





The range of public HE expenditure levels relative to GDP is even broader in the Global South than in the Global North. The government of Saudi Arabia spent over eight times more of its country's wealth on HE than did the Indonesian government in 2018. Saudi spending relative to GDP is especially remarkable because it was the highest in the world in 2018 and almost triple the share it had been in 2006. Burkina Faso increased its HE spending relative to GDP by one full percentage point between 2006 and 2018, while Algeria, Iran, and Chile all increased their spending relative to GDP by 0.6 percentage points. Egypt stands out for having reduced its HE spending relative to GDP by half (0.7 percentage points).

FIGURE 4.13 — Total public spending on higher education relative to GDP by country in the Global South, 2006 and 2018



A point of note here is that a number of African governments — some in very poor countries such as Ethiopia, Burkina Faso, and Côte-d'Ivoire — are spending quite large proportions of national income on HE. In part, this reflects the need to pay very high salaries (in local terms) for professors who are globally mobile and to import basic scientific equipment, as well as relatively low participation rates. Conversely, Turkey manages to produce its world-leading participation rates with a relatively low level of public investment, in part due to the presence of mega-institutions like Anadolu University which use economies of scale to deliver savings.



BOX 4.1: VOLATILITY OF PUBLIC FINANCING OF HIGHER EDUCATION

HE in the Global South not only struggles with greater resource constraints but also greater financial unpredictability. The figure below compares the standard deviation of annual percentage changes in enrolments and in total public spending by country. Enrolments matter in terms of finances, both because they are the key driver of student fee revenues and because they reflect to a significant extent the financial demands on institutions.

Countries of the Global North are clustered toward the bottom-left corner of the figure, indicating more stability in terms of both enrolments and finances, while countries in the Global South are more dispersed, indicating greater volatility. There are some exceptions to this pattern: Latin American countries generally bear a closer resemblance to countries of the Global North, at least with respect to funding, while countries of the EECA region more closely resemble the Global South. HE systems in Sub-Saharan Africa generally face by far the greatest volatility, though South Africa is generally quite stable in terms of both enrolments and funding.

Numerous factors explain the higher levels of unpredictability of HE financing in the Global South. One reason is that since these HE systems are still massifying, they are naturally more prone to change than in the Global North and subject to spurts of rapid growth. Growing HE systems require substantial capital investment, which can boost transfers to institutions in individual years and thus heighten funding volatility. Also, countries in the Global South are somewhat more vulnerable than those in the Global North to economic and financial instability, which can significantly affect government operating revenue as well as PPP.

FIGURE B4.1 — Standard deviations of annual percentage change in total enrolments and real total public spending by country, 2006-2018 (in 2018 USD at PPP)



The figure excludes Côte-d'Ivoire because of its outlier status. With a standard deviation of annual changes of 36% in terms of total enrolments and 9% with regard to total public spending, it would lie some distance to the right of the chart's boundaries.

GOVERNMENT TRANSFERS TO PUBLIC HIGHER EDUCATION INSTITUTIONS

As noted earlier, public funding to HE is the broadest possible measure of public investment. A narrower one is direct funding to public institutions, which we will now explore by institution type. At the broadest level, the key takeaways from this section are that the growth in public expenditures is not quite mirrored at the institutional level and that patterns of growth differ significantly from one type of institution to another.

Universities

In 2013, government transfers to public universities in the Global South surpassed transfers to public universities in the Global North for the first time. Global funding to public universities equaled USD 654.3 billion in 2018, up 48% since 2006, with USD 341 billion being spent in the Global South and USD 313.3 billion in the Global North.⁴ The Global South accounted for 81.5% of growth over this period.





The year 2010 was a turning point in public funding to public universities in both the Global North and Global South. In the Global North, after growing by 4% per year since 2006, this is the year government funding peaked and began to fall back. In the Global South, average annual growth fell from 12% in the 2006-2010 period to about 6% for the three years until 2013, then down to a little under 2% thereafter.

In terms of government transfers per student, public universities in the Global North were actually better resourced relative to the Global South in 2018 than in 2006. Governments provided on average USD 10,403 per student to public universities in the Global North in 2018, up by 19% relative to 2006. In the Global South, public universities received just USD 4,173 per student in 2018, up 14% relative to 2006. Once again, 2010 appears to be a turning point in both regions, as growth in per-student funding reversed globally after this year. In the Global North, however, growth in per-student funding resumed after 2012, whereas in the Global South it remained basically stagnant.





Public universities in the CANZAUS region received the most government funding per student in the Global North in 2018 (USD 13,444), followed by their peers in Advanced Asia (USD 11,992), Western Europe (USD 9,951), and finally the EECA region (USD 5,512). There was, however, a clear convergence in government funding per student over our time period, as shown in Figure 4.16. Per-student funding declined in CANZAUS, while all other regions increased their public funding per student — especially the low-spending EECA region (by 97%).





National-level trends in public funding to universities tend to mirror what we observed earlier with regard to total government HE spending per student (see Figure 4.6), with some exceptions. Countries with significantly higher-than-average proportions of students enrolled in private institutions (e.g. Japan, Kazakhstan) tend to look

⁴ These figures do not include funding for university colleges in Bangladesh, specialised universities in India, and police/military institutions in Romania. They do include a modest share of funds for public hybrids in Kenya.

better on this measure. The UK and Australia look worse, (likely because they substantially pay for HE through student loans repaid via the tax system), as does Germany, presumably because a lot of payments to universities pass through third-party foundations or are due to funding arrangements for university hospitals.

FIGURE 4.17 — Per-student government transfers to public universities by country in the Global North, 2006 and 2018 (in thousands of 2018 USD at PPP)



Per-student government funding to public universities also varies considerably between regions of the Global South. Public universities in Latin America received USD 8,199 per student from governments in 2018, followed by their peers in East Asia at USD 4,486, the MENA region at USD 4,475, Sub-Saharan Africa at USD 3,021, and finally South Asia at USD 2,474. Across the super-region, funding per student rose initially to a peak, followed by stagnation or decline. Peak years ranged between 2009 (in Sub-Saharan Africa) and 2013 (in East Asia). With this late peak, East Asia was the only region to experience significant growth in funds per student for public universities over the entire 2006 to 2018 period.

FIGURE 4.18 — Per-student government transfers to public universities in the Global South by region, 2006-2018 (in 2018 USD at PPP)



Examining national-level data on per-student funding to public universities, Saudi Arabia remains the highest-spending jurisdiction, followed by Brazil and Chile, which had more modest public HE spending per student overall. This is a product of the fact that the large private HE sector in Latin America that receives little public financial support – meaning that the resources which are invested tend to concentrate in public HEIs. In terms of change over time, four governments more than doubled their funding per student for public universities: Chile, Thailand, Vietnam, and Burkina Faso. Chile in fact almost tripled its funding per student, with the increase very considerable in absolute terms at USD 6,861. Meanwhile, 13 countries reduced per-student public university funding by 20% or more. The greatest losses in relative terms were in Indonesia and Morocco, where funding per student fell by over half, though Malaysia had by far the most significant absolute funding reduction at USD 7,770 per student.

FIGURE 4.19 – Per-student government transfers to public universities by country, 2006 and 2018 (in thousands of 2018 USD at PPP)



Vietnam National University, Hanoi, Vietnam



Short-Cycle Higher Education Institutions

Total government transfers to public short-cycle HEIs world-wide amounted to USD 100.1 billion in 2018.⁵ Over 70% of this total comes from just two countries: the US and China. Total spending in this category rose 64% from 2006 to 2018, due primarily to a more than five-fold increase in China's spending over this time. Spending on short-cycle institutions in the US increased by 24% between 2006 and 2011 but stagnated thereafter.

FIGURE 4.20 – Government transfers to public short-cycle higher education institutions, 2006 to 2018 (in billions of 2018 USD at PPP)



Figure 4.21 shows that on a per-student basis, governments in Advanced Asia fund their public short-cycle HEIs more than just about anywhere else, although their public short-cycle sector is small. The other big spenders per student in 2018 were Switzerland, which we have already shown is among the world's highest spenders on HE in general, and Chile, which was opening its first three public short-cycle institutions and thus incurring significant start up costs.

FIGURE 4.21 — Per-student government transfers to public short-cycle higher education institutions by country, 2006 and 2018 (in thousands of 2018 USD at PPP)



Public short-cycle HEIs tend to receive less funding per student from government than do public universities, with exceptions clearly indicated in Figure 4.22. The relative position of short-cycle HEIs improved dramatically in the Global South from 2006 to 2018, however, driven by China. Other jurisdictions where public short-cycle HEIs made important relative gains include Japan, Malaysia, Vietnam, Nigeria, and Hong Kong. Public short-cycle HEIs lost funding on a per-student basis compared to public universities in five jurisdictions: Switzerland, Russia, Israel, New Zealand, and Ghana.





Hybrids

Total government transfers to public hybrids world-wide amounted to USD 27.6 billion in 2018, up 67% since 2006.⁶ Western Europe accounted for 60% of this funding, down from 66.7% in 2006. This decline is due mostly to more significant funding increases for public hybrids in Latin America.



FIGURE 4.23 – Government transfers to public hybrids by region, 2006-2018 (in billions of 2018 USD at PPP)

⁵ The countries for which we have data accounted for 99% of enrolments in the Global North and 96% of enrolments in the Global South in 2018. Countries without available data are Poland, Taiwan, and Ukraine in the Global North and Egypt, Indonesia, Kenya, Saudi Arabia, and Thailand in the Global South. We are also missing data for a minority share of short-cycle enrolments in Ghana and Malaysia.

⁶ The countries covered by our sample account for 100% of hybrid enrolments in the Global North and 93% in the Global South. Countries for which data were unavailable are Algeria, Bangladesh, Chile, Egypt, Kenya (included in the universities data), Malaysia, Morocco, and Thailand.



Examining country-level data, most of the governments that best fund public hybrids are in Western Europe. Spending in the Global South varies considerably between countries, with Brazil among the highest spenders and Chile and Nigeria among the lowest. Spending per student fell over our period of interest in the Global South, principally because funding per student almost halved in Mexico. Meanwhile, the modest increase in the Global North is consistent with the patterns in Germany and the Netherlands.

FIGURE 4.24 – Per-student government transfers to public hybrids by country, 2006 and 2018 (in thousands of 2018 USD at PPP)



As is the case for public short-cycle HEIs, public hybrids receive less funding from government per student than public universities — with the average ratios very close in the Global North and Global South. There is considerable diversity among countries, however, especially in the Global South, where three countries funded their public hybrids more generously than their public universities. Significant changes in the balance of funding across institution types took place from 2006 to 2018, to hybrids' advantage in Peru, Nigeria, and Poland and to their disadvantage in Finland.

FIGURE 4.25 – Per-student government transfers to public hybrids as a percentage of per-student government transfers to universities by country, 2006 and 2018



BOX 4.2: PUBLIC FUNDING FOR PRIVATE HIGHER EDUCATION

As noted in Chapter 3, defining private HE is anything but straightforward. This study considers HE as private in general where that is the local definition, except for treating certain publicly funded private institutions in Chile and India as public. However, as the figure below shows, the degree of public funding for private HEIs can vary considerably between countries. In fact, supposedly private universities in Germany and especially Sweden receive more government funding relative to their expenditures than do public institutions in many other jurisdictions. In general, many private HEIs in Western Europe, as well as parts of the EECA, appear to receive substantial public funding for their activities. In effect, these regions are committed to public financing of HE and express that commitment even when institutional ownership is not public.

FIGURE B4.2 – Government funding to private universities as a percentage of total institutional spending, 2018



Private hybrids and short-cycle HEIs typically receive a lower share of their funds from public sources than do private universities. In fact, in most countries for which we have data, government funding was equivalent to 6% or less of total expenditures by private hybrids or short-cycle HEIs. Major exceptions to this pattern include Chile and South Korea, where government funding was equal to 38% and 29% respectively of total expenditures by private short-cycle HEIs. In Chile, this is entirely a product of the Gratuidad policy (see Box 6.3), which since 2017 has provided select short-cycle HEIs with funding so that they may provide fee-free education to lower-income students.



CHAPTER Five

FINANCES OF HIGHER EDUCATION INSTITUTIONS



Chapter Five

FINANCES OF HIGHER EDUCATION INSTITUTIONS

In countries with available data, the total expenditures of public universities reached USD 983 billion in 2018, up 48% relative to 2006. Spending doubled in this time in the Global South, but growth decelerated considerably and spending actually fell relative to enrolments after 2013. Student fees corresponded to an increasing share of institutional expenditures in the Global North while public funding declined, but the opposite occurred among countries reporting data in the Global South. Total expenditures at hybrids and short-cycle higher education institutions (HEIs) were more modest on a per-student basis than at public universities, which was also the case for private HEIs of all types, with few exceptions. Public universities notably benefited from more diverse revenue streams than did other types of institutions, especially in the Global North.

The previous chapter looked at public financing of higher education (HE). This chapter examines total institutional expenditures, which reflect institutional resources from both public and private sources — in the long run, expenditures and income should be roughly equal. National data collection systems often do not collect information on money raised from sources other than direct institutional grants or on expenditures at the institutional level. This chapter therefore is slightly lopsided in the sense that it covers almost all countries in the Global North but only a subset of the Global South countries.

In the Global North, all countries publish total expenditures data on public universities and hybrids, and nearly all publish data on public short-cycle HEIs as well.¹ Many also publish data on private institutions' finances, and where they do not, the sectors are often sufficiently small that direct data collection from institutional financial statements is feasible.

In the Global South, on the other hand, only about half of the surveyed countries publish data on the expenditures of their public universities, and coverage is even weaker for public hybrids and short-cycle HEIs. Data on private universities in the Global South are almost completely unavailable. In this chapter, data for the Global South therefore excludes Algeria, Cameroon, Egypt, Ethiopia, Ghana, India, Iran, Kenya, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Saudi Arabia, Tanzania, and Thailand.

¹ The countries in the Global North without full data for public short-cycle HEIs are Poland and Taiwan.

BOX 5.1 - WHAT DO WE KNOW ABOUT PRIVATE FUNDING FOR PUBLIC HIGHER EDUCATION INSTITUTIONS?

Very few countries record private inflows into HE in a consistent and comparable way. Generally, though, they record both total expenditures of public institutions and public transfers to public institutions (see previous chapter), and in theory, the difference between the two should be roughly equivalent to private inflows of money into higher education. On a year-to-year basis this is not exactly true, because institutions may borrow or run surpluses. Also, in countries where universities derive significant income from hospitals (see Box 5.2), "non-government" sources of income actually include significant public funds through the healthcare system but are not captured as such by statistical systems. This is a significant limitation on any attempt to understand the exact division of public and private expenditures globally.

Still, since institutional incomes should equal expenditures over the long run, the difference between institutional expenditures and public transfers offers a reasonable proxy for private funds in HE, at least in terms of change over time. In the Global North, data quality is adequate to compare trends in public and estimated private revenues at public HEIs overall. Figure A shows that private and public funding for HEIs grew at roughly the same pace until 2011, after which revenues from public sources stagnated but revenues from private sources rose by 4% per year. As a result, confirmed public funding accounted for less than half (48%) of funding for public HEIs in 2018.

FIGURE B5.1A — Real change in public higher education institutions' revenues by source in the Global North, 2006-2018 (2006=100)



Figure B shows estimated total private funding to public universities by region in the Global North from 2006 to 2018. In total, this amounted to USD 383 billion in 2018, up 54% over our period of interest. The US accounted for more than half of this sum. This source of funding rose most quickly from 2006 to 2018 in Western Europe and North America (by 78% and 65%, respectively), more slowly in Advanced Asia (by 35%), and actually declined in Eastern Europe and Central Asia (EECA – by 26%).

FIGURE B5.1B – Estimated total private expenditures in public universities by region in the Global North, 2006-2018 (in billions of 2018 USD at PPP)



In the Global South, we obtained much less data to examine private expenditures in public universities in fact, only 14 countries provide the necessary data for the full period of interest. Among these countries, China accounted for roughly 70% of all private spending. As in the Global North, estimated private expenditures rose by 54% in real terms from 2006 to 2018.





^{*}As noted at the start of the chapter, the data for the Global South are very incomplete.

PUBLIC HIGHER EDUCATION INSTITUTIONS

Universities

Total expenditures of public universities in the countries with available data reached USD 983 billion in 2018, 48% relative to 2006. In the Global North, spending increased by one-third (34%) in the full period, while spending doubled (up 102%) in the countries of the Global South that have data, with this result driven mainly by changes in China. In terms of the timing of changes, spending increased by 4% per year from 2006 to 2010, stayed constant from 2010 to 2013 and then resumed growing at a rate of 2% per year until 2018. In the Global South, spending rose by 9% per year until 2013, but after that it actually grew more slowly than in the Global North.

FIGURE 5.1 – Total expenditures of public universities in the World and by super-region*, 2006-2018 (in billions of USD at PPP)



On a per student basis, total expenditures of public universities in the Global North were USD 23,133 in 2018, up 38% relative to 2006. In the Global South, total public expenditures were approximately USD 6,472 per student in 2018, up just 7% in total relative to 2006. Growth in the Global South averaged 2.5% per annum from 2006 to 2013, again driven mainly by China, but after that it declined by a little over 2% per year, with the declines mainly happening in Latin America, Turkey, and Bangladesh. This means the advantage in per-student resources of public universities in the Global North relative to those in the Global South increased from 2.8-fold in 2006 to 3.6-fold in 2018. **FIGURE 5.2** – Total per-student expenditures of public universities in the World and by super-region*, 2006-2018 (in thousands of USD at PPP)



Figure 5.3 compares government transfers and student fee revenues relative to total expenditures of public universities from 2006 to 2018. Among the countries with data, public universities in the Global South are relatively more reliant on government funds and less reliant on student fees — a trend which became even more pronounced over the period of interest. Among countries with available data in the Global North, government transfers accounted for less than half of revenues by 2018, down from 52%.





Within the Global North, most public university spending occurred in the CANZAUS region (55% in 2018), followed by Western Europe (28% in 2018). The predominance of these two regions only grew from 2006 to 2018, as their public universities' expenditures rose respectively by 40% and 36%, compared with 26% growth in Advanced Asia and just 2% total growth in the EECA region.

FIGURE 5.4 – Total expenditures of public universities in the Global North by region, 2006-2018 (in billions of USD at PPP)



Turning to national-level data on total expenditures per student, in 2018 the highest spending public universities were in Singapore, Japan, Switzerland, and the US. The lowest expenditures per student were for public universities in the five EECA countries, as well as Spain and Italy – countries financed mostly by government but also receiving substantial resources via student fees.

FIGURE 5.5 – Total per-student expenditures of public universities by country in the Global North, 2006 and 2018 (in thousands of USD at PPP)



There are remarkable differences in per student spending between countries and within regions. For instance, spending per student is almost five times higher in Singapore than in South Korea, four times higher in Switzerland than in Spain, and 2.5 times higher in the US than in Australia. In terms of growth in spending per student, public universities in six jurisdictions experienced average annual growth in excess of 4% from 2006 to 2018: Kazakhstan (7.4%), Romania (6.9%), South Korea (5.3%), Russia (5.3%), Poland (4.6%), and the UK (4.4%), all countries where total enrolments fell. Meanwhile, five countries experienced no change in per student spending (i.e. total changes of between -0.5% and +0.5%): Ukraine, Taiwan, Italy, the Netherlands, and Canada.

Figure 5.6 compares government transfers and student fee revenues to total institutional spending in public universities of the Global North by country in 2018. The highest ratios of public funding to total expenditures were all in Western Europe: Finland (95%), France (88%), Sweden (83%), and Switzerland (82%). Conversely, three of the countries with the lowest ratios of government funding to total expenditures were also in Western Europe (the UK at 25.5%, Ireland at 38%, and Germany at 39%), in addition to Japan (35%), the US (38%), and Australia (39%). Switzerland is the only country with public universities near the top in terms of both total expenditures and the share of funds from government sources.

FIGURE 5.6 – Government transfers and student fee revenues relative to total institutional spending in public universities by country in the Global North, 2006 and 2018



Countries that are less reliant on government funding tend to have a higher ratio of student fee revenues to total expenditures, but it is not a simple linear relationship. Fees were highest relative to expenditures for public universities in Australia (52%), the UK (49%), Kazakhstan (47%), and Russia (37%) and below 3% for Finland, Germany, Sweden, Switzerland, and France.





BOX 5.2 – HOSPITALS AND OTHER HEALTH SERVICES AS FACTORS IN UNIVERSITY EXPENDITURES AND REVENUES

HE is intimately connected with healthcare in many jurisdictions. HEIs educate healthcare workers and conduct health research. In many instances, universities may even operate health services for their surrounding communities, up to and including entire hospitals. Whether university accounts include health services can make a considerable difference in the scale of total spending. It is not always easy to ascertain whether university finances include hospitals and other health services, but we can confirm that our figures do include such spending for the US, Germany, Japan, Brazil, Taiwan, and Malaysia. Nowhere does health spending appear to be a more significant issue than in Germany, where we estimate that expenditures on health services accounted for 34% of public universities' spending in 2018. Excluding this, German universities' expenditures per student would go from being near the top to somewhat middling in the Global North (between Finland and Israel). In the United States, hospitals accounted for 15.6% of public university spending in 2018, up from 11.3% in 2006.



For those countries in the Global South where data is available, Chinese public universities accounted for almost two-thirds (64%) of institutional spending in 2018, followed by Brazil (11%), Turkey (8%), and South Africa (3%). The post-2013 slowdown in spending growth was a common experience for most countries in the Global South. Spending actually fell in this period in Brazil and Indonesia, while growth was negligible in Argentina and Benin.



FIGURE 5.7 – Total expenditures of public universities in the Global South*, 2006-2018 (in billions of USD at PPP)

*As indicated at the start of the chapter, the data for the Global South are very incomplete.

Overall, there are even greater differences in per student total institutional spending between countries in the Global South than there are in the Global North. The highest spenders were a trio of Latin American countries as well as South Africa and China, while the lowest spenders were mostly in francophone Africa and South and Southeast Asia (as well as Turkey). Spending increased in most countries in the Global South, most dramatically in Vietnam and Burkina Faso, but spending per student actually fell in four other countries: Indonesia, Turkey, Bangladesh, and South Africa.

FIGURE 5.8 – Total per-student expenditures of public universities by country in the Global South reporting data, 2006 and 2018 (in thousands of USD at PPP)



Université d'Abomey Calavi, Benin

The countries where public funding made up the highest proportion of total expenditures were all in francophone West Africa.² Among countries with reliable data, government funds corresponded to 92% of total expenditures of public universities in Argentina and to approximately 82% in Turkey and the Philippines. Student fee revenues were most significant for public universities in Chile, South Africa, and Vietnam, respectively corresponding to 39%, 38%, and 35% of total expenditures.

FIGURE 5.9 – Government transfers and student fee revenues relative to total institutional spending in public universities by country in the Global South, 2006 and 2018



Taken together, Figures 5.8 and 5.9 suggest that public universities funded overwhelmingly by government tend to have fewer resources overall (with Brazil a clear exception), while those countries receiving more student fees and other private revenues tend to be higher spenders (with Cameroon and Indonesia seeming to be exceptions).

Hybrids

In reviewing data on hybrids, we consider data for countries in the Global North and the Global South together.³ Spending per student was the highest by far in Switzerland, followed by Brazil then Ireland, while the lowest spending

FIGURE 5.10 – Total per-student expenditures of public hybrids by country, 2006 and 2018 (in thousands of USD at PPP)



was in Colombia and Peru. Côte-d'Ivoire and South Africa stand out in our data for per student spending levels comparable to many countries of the Global North. The largest increases in spending from 2006 to 2018 took place in Poland and Peru, while Brazil and Colombia reduced spending per student at public hybrids.

Public universities spend more per student than do public hybrids in almost all countries, the exceptions being Côte-d'Ivoire and Brazil. This reflects a general pattern where public universities spend more relative to hybrids in the Global North, while the reverse is true in the Global South. This is presumably a reflection of Global North universities' greater level of research-intensity.





Public hybrids tend to receive a higher share of revenues from government transfers than do public universities, though this is by no means a universal pattern. Hybrids also tend to receive less funding from sources other than fees and government transfers, which again likely reflects universities' advantages in attracting income through research partnerships.

FIGURE 5.12 — Government transfers and student fee revenues relative to total institutional spending in public universities and public hybrids by country, 2006 and 2018



² These figures should be treated with caution, as we estimated total expenditures as the sum of government transfers and student fee revenues in these countries. Alternative funding sources in these countries may be limited but could include international donors.

³ For the Global South, we are missing data for Algeria, Bangladesh, Chile, Egypt, Kenya, Malaysia, Morocco, Nigeria, and Thailand.

Short-Cycle Higher Education Institutions

There are considerable national differences in the per-student expenditures of public short-cycle HEIs, much the same as for other institution types.⁴ In 2018, the highest levels of per student spending were in Chile, because this was the year the country introduced public short-cycle HEIs, meaning start-up expenditures were high and enrolments modest. Apart from this anomalous case, the highest spending levels were in Advanced Asian public short-cycle HEIs and Canada. Spending was the lowest for public short-cycle HEIs in Colombia, China, and Vietnam.

FIGURE 5.13 — Total per-student expenditures of public short-cycle higher education institutions by country, 2006 and 2018 (in thousands of USD at PPP)



Expenditures per student are lower at public short-cycle HEIs than at public universities, much the same as with hybrids, with a few exceptions; the anomalous Chilean case as well as South Korea and Vietnam. Resources are especially constrained in Colombia, Sweden, and the US. From 2006 to 2018, public short-cycle HEIs lost significant ground relative to universities most especially in Russia, New Zealand, and Israel, while they gained ground in China, Hong Kong, Taiwan, and Vietnam.

FIGURE 5.14 — Total per-student expenditures of public short-cycle higher education institutions relative to total per-student expenditures of public universities by country, 2006 and 2018



Short-cycle HEIs are more dependent on the mix of government transfers and student fee revenues for their funding than are public universities, much like hybrids. They tend to depend more on government funding in particular, with fee dependency varying markedly between countries.

FIGURE 5.15 – Government transfers and student fee revenues relative to total institutional spending in public universities and public short-cycle higher education institutions by country, 2006 and 2018



PRIVATE HIGHER EDUCATION INSTITUTIONS

A number of countries offer data on total expenditures and revenue sources for private HEIs. This section first addresses data for universities, which are the most extensive, followed by hybrids and short-cycle HEIs.

Universities

The highest spending private universities by far are in the US, Sweden, and Germany, with the latter two catching up rapidly to the former over the years 2006–2019. On the lower end, spending in Spain, Poland, and Russia is as low as in many countries of the Global South.

FIGURE 5.16 — Total per-student expenditures of private universities by country, 2006 and 2018 (in thousands of USD at PPP)



⁴ The countries missing data are Poland and Switzerland in the Global North and Argentina, Egypt, Indonesia, Iran, Kenya, Malaysia, Mexico, Nigeria, Saudi Arabia, and Thailand in the Global South.

Private universities' expenditures per student are generally lower than those at their public counterparts in most countries, particularly in the Global South. However, the reverse is true in a number of cases including Turkey, where per student expenditures at public universities are diluted by large numbers of students enrolled in low-cost distance education programs, as well as Germany, South Korea, and the United States. Between 2006 and 2018, spending rose at private universities relative to public ones in Germany and Vietnam in particular, while it fell in South Korea, Colombia, and Spain.

FIGURE 5.17 — Total per-student expenditures at private universities as a percentage of per-student expenditures at public universities by country, 2006 and 2018



The available data make it clear that student fees are the predominant source of revenues for private universities in most countries, equaling more than half of total institutional expenditures. Yet there are countries where other funding sources predominate, including Sweden, Germany, Italy, the US, and South Korea.

FIGURE 5.18 – Total student fee revenues as a percentage of total expenditures of private universities, by country, 2006 and 2018



Mode Gakuen Cocoon Tower, Japan


Hybrids and Short-Cycle Higher Education Institutions

Examining data on hybrids and short-cycle HEIs, the highest per-student expenditures in 2018 were in Singapore, followed by the US, Sweden, and Japan. The lowest spending was in countries of the Global South as well as Russia and Poland.

FIGURE 5.19 — Total per-student expenditures of private hybrids and short-cycle higher education institutions by country, 2006 and 2018* (in thousands of USD at PPP)



No country's private hybrids and short-cycle HEIs reported higher per-student total expenditures than public universities in 2018.⁵ Except in Vietnam and South Korea, the gap in total spending per student was in excess of 50%.

FIGURE 5.20 — Total per-student expenditures at private hybrids and short-cycle higher education institutions as a percentage of total per-student expenditures at public universities by country, 2006 and 2018*



Student fees are a more important source of funding for private hybrids and short-cycle HEIs than they are for private universities. In 2018, fees collected were equal to over 50% of total expenditures in all countries except South Korea and Côte-d'Ivoire.⁶

FIGURE 5.21 — Total student fee revenues and government transfers relative to total expenditures of private hybrids and short-cycle higher education institutions by country, 2006 and 2018*



Langara College, British Columbia, Canada



⁵ The figure compares spending to public universities because of the universal presence of public universities and the availability of data in the countries in question.

⁶ We did not have equivalent data for Sweden, but these were very likely equal to less than 50% of expenditures also.

^{*} The data are for hybrids in Singapore, Israel, Germany, Sweden, Poland, Burkina Faso, and Côte-d'Ivoire. For Colombia, they are for hybrids and short-cycle HEIs combined. For all other countries, the data represent finances of private short-cycle HEIs.



BOX 5.3 – THE FINANCIAL WEIGHT OF HIGHER EDUCATION INSTITUTIONS

Comparing total institutional expenditures with institution counts can provide insight into the financial heft of different types of HEIs in different jurisdictions and, by implication, the complexity of their operations.

Public universities in the Global North on average have much larger budgets than those in the South. They are especially high on average in places such as Singapore (USD 870 million), Hong Kong (USD 684 million) and Australia (USD 578 million). These countries were not without comparators in the Global South. South Africa's public universities spent USD 463 million on average in 2018, and government funding alone per public university in Saudi Arabia exceeded USD 757 million (data on total expenditures of these universities in Saudi Arabia is unavailable, but private expenditures are not thought to be large). At the other end of the scale, public universities in France had average expenditures of just over USD 35 million each in 2018. Spending was still lower for public universities in Vietnam, Burkina Faso, Bangladesh, the Philippines, and especially Indonesia (USD 11.5 million). Jurisdictions which rely more heavily on specialised universities, also tend to have smaller average institutions sizes, which in turn usually means smaller budgets as well.

Other HEI types were comparatively much smaller. Expenditures per institution averaged less than USD 10 million in 2018 at public short-cycle HEIs in 14 of the 23 countries with available data (including six in the Global North) and at public hybrids in seven of the 18 countries with data, including Germany and Poland. Private universities' average expenditures exceeded USD 80 million in seven countries, all in the Global North, but average expenditures were under USD 20 million in five others. For private hybrids and short-cycle HEIs, expenditures averaged above USD 20 million in only three countries: Singapore, South Korea, and Chile.

Utrecht University Library, Netherlands



Part 3

FINANCES OF HIGHER EDUCATION DEMAND



CHAPTER Six

WHAT STUDENTS PAY TO PARTICIPATE IN HIGHER EDUCATION



Chapter Six

WHAT STUDENTS PAY TO PARTICIPATE IN HIGHER EDUCATION

Worldwide, roughly 90% of all students pav compulsory fees to attend higher education (HE). Only six countries have systems where public provision can be considered fully free, at least for domestic students, while in another six less than half of students pay fees. Among the remaining countries, some like France and Germany have very low fees, but a full 13 countries from the Global North have average fees at public universities which are in excess of USD 5,000, while fees are comparable for students in South Africa and Chile (among those who pay fees) in the Global South. Generally speaking, fees are higher at private higher education institutions (HEIs) than at public ones, and they are higher at universities than at either hybrids or short-cycle HEIs.

APPROACHES TO STUDENT FEES IN PUBLIC HIGHER EDUCATION

This exploration of student fees in HE around the world will begin by examining the share of students paying fees of any amount, as well as the shares paying reduced or elevated differential amounts relative to the "regular" rate in their country. The next section will compare "regular" fee amounts.

Worldwide, approximately 92% of students were charged some form of compulsory fee in 2018, up by 1.4 percentage points since 2006. As Figure 6.1 shows, the share of completely fee-free students was more than twice as high in the Global North as in the Global South. The share of fee-free students grew in the Global South by almost half a percentage point from 2006 to 2018, but declined by 1.5 percentage points in the Global North. For the most part, this shift was not the result of any shift of policy with respect to students in public HEIs; instead, it was because private HEIs account for a slowly growing share of total world enrolments and charge fees basically across the board. A very small but rising share of students are also paying elevated differential fees, reflecting the expansion of international student numbers at public HEIs, particularly in the Global North, though students paying these higher fees accounted for just 2% of all students in the region in 2018.





The Global North is home to a diverse set of payment regimes for public HEIs. Systems that offer free fees to at least some students are concentrated in Western Europe and the EECA region. Only two countries in our sample – Finland and Sweden – operate near-universal free-fee regimes, though even these countries charge elevated fees to some international students. Elevated differential fees tend to be concentrated in anglophone countries, which are better able to charge a premium for international students (see Box 6.2).

FIGURE 6.2 – Approximate share of students under each fee regimes at public higher education institutions by country in the Global North, 2018¹



*UK - England includes Northern Ireland.

There is a similar diversity of fee regimes in the Global South, though fewer countries have reduced or elevated differential fees. South and East Asian countries tend to place the greatest emphasis on fees and countries in the MENA region the least. The greatest diversity of approaches is in Latin America and Sub-Saharan Africa, as each of these regions is split between countries that are largely fee-free versus those that are fee-reliant. In Sub-Saharan Africa, the former English colonies tend to charge fees more widely, while in Latin America, fees tend to be more important in the traditionally more liberal economies along the Pacific Coast (i.e. Colombia, Peru, and Chile).

FIGURE 6.3 – Approximate share of students under each fee regimes at public higher education institutions by country in the Global South, 2018²



Globally, there are modest differences in the shares of students paying fees by type of institution, more so in the Global South than in the Global North. These patterns result more from the distribution of institution types across jurisdictions than from differences within jurisdictions, especially given that the largest differences between institution types are in the Global South, where multi-tiered fee regimes are less common.



¹ There are some countries in the Global North where this report is unable to distinguish between those students paying different types of fees. These countries are the United States, where out-of-state students typically are charged higher fees at public HEIs; Singapore, which provides various tuition grants to students based on a variety of characteristics; Switzerland, where institutions in some cantons charge international differential fees; Canada, where some provinces charge different rates for domestic students from within the province or out of province; and Spain, which has some tuition exemptions that are tracked as part of grants data, as addressed in the next chapter. Note that data for England in the figure also include Northern Ireland. ² As in the Global North, we cannot capture the full diversity of fees charged in all jurisdictions of the Global South. Indonesia introduced a fee reduction program during our period of interest to the benefit of a share of students, while Egypt also appears to charge different fee rates to students based on channels of admission.



TUITION FEE LEVELS AT PUBLIC UNIVERSITIES

An exclusive focus on the share of students paying any kind of compulsory fee obscures differences in the amounts students actually pay. In a number of systems (e.g. Germany), fees may be universal, but the amounts charged in fees are so modest that they might be seen equivalent to free. We focus in this section on regular fees – i.e. the fees paid by a majority of fee-paying students and those who are neither partly exempted nor required to pay more, as explained in the Reader's Guide.³

As shown in figure 6.4, fees at public universities in jurisdictions of the Global North varies considerably between countries and within regions. Increases in the UK and Ireland were by far the greatest in the Global North over our period of interest, while fees in the continental Western European countries that charge them remained low — although they increased by over 90% and 52% respectively in Spain and Italy. In other regions, we also observe considerable diversity between countries, notably because of outliers such as Singapore and Hong Kong in Advanced Asia, Kazakhstan in EECA, and the US in the CANZAUS region. Ukraine and Hong Kong stand out for having significantly reduced their average fees.

FIGURE 6.4 – Average regular fees at public universities by country in the Global North, 2006 and 2018 (in thousands of 2018 USD at PPP)



Although not visible in the figure, trends in fees varied over time. In Western Europe and the CANZAUS region, growth occurred throughout the period in question, but with pauses from 2009 to 2012 in Western Europe and after 2016 in the CANZAUS region. In EECA, there was fee growth only after 2012, while fees held steady in Advanced Asia throughout the full period. Of course, simply looking at fee levels tells us little about how affordable these fees are. A very rough way to measure affordability across countries is to express fee levels as a percentage of GDP per capita — i.e. the average income per resident. Such an analysis, shown below in Figure 6.5, again shows that Western Europe has the lowest fees. However, countries in the EECA region — particularly Kazakhstan, Ukraine, and Russia — now have the highest fees, although it should be recalled that large proportions of students in this region pay no fees at all. A number of important countries in the Advanced Asia region, including Hong Kong, Taiwan, and especially South Korea, have become more affordable over time, not so much because tuition has fallen but because GDP per capita has risen more rapidly.

FIGURE 6.5 – Average regular fees at public universities as a percentage of gross domestic product per capita by country in the Global North, 2006 and 2018



La Trobe Institute For Molecular Science, Australia



³ Or the near-plurality in Wales, where a slightly higher share of students benefit from a fee reduction policy.

BOX 6.1 – CATEGORISING STUDENT FEE REGIMES

When it comes to categorizing national approaches to student fees, there are a four factors that need to be considered: the share of students paying fees in public HE; the fee rates among those in public HE; the share of students attending public HE; and the gross enrolment rate (GER).

In total, there are seven models of student financing, the first four of which are structured around free or low fees in public HE:

- **Inclusive, free public systems:** The public sector educates most students without charging fees, and overall participation rates are high.
- Token fee-charging systems: The public sector educates most students while charging only modest fees.
- **Privileged public systems:** The public sector charges no fees or very low fees, but most students attend private HE providers and GERs are modest.
- Merit-based free public systems: The public sector educates most students and exempts a substantial share of these students from paying fees based on merit.

The other three models charge substantial fees in the public sector, based on slightly different approaches:

- Undifferentiated fee-charging systems: Students attending the same study program and institution will generally pay the same fee rate.
- **Differentiated fee-charging systems:** Students attending the same study program and institution may pay different rates based on characteristics such as citizenship.
- **Need-based tuition exemption systems:** Students may be exempt from paying study fees based on need.

Not all countries fit one of these seven models perfectly; in a few cases, they will predominately fit one model while also displaying a few characteristics of another. Map 2, on the following page, indicates the type of fee regime in operation in the 56 countries covered by this study, with markings for the secondary model in mixed regimes.





Mixed Model

For mixed models, the country best fits with the model indicated by the general colour of the country on the map, but it also has some characteristics of the secondary model signalled by the coloured dot.





Turning to the Global South, there is considerable diversity in fee levels among countries, even within the same region. The highest fees by far in 2018 were in Chile and South Africa, while the lowest were in Benin and Burkina Faso. All of the Latin American jurisdictions with available data increased their regular fees over the period of interest, while conversely, all countries in Sub-Saharan Africa reduced their fees in real terms. East Asia is remarkable for its combination of significant tuition reductions in China and Indonesia alongside fee increases in Vietnam and the Philippines. In general, most fee declines appear to have been driven by inflation, as fees were often fixed at a nominal level for years without adjustment.





When data on GDP per capita are added to the analysis, Sub-Saharan African jurisdictions appear less affordable, while East Asian countries, Vietnam aside, emerge as relatively more affordable. South Africa may in fact be the least affordable jurisdiction for studies in the world by our measures, given its high fees and absence of exemptions (though this judgement needs to be tempered by data on student financial aid, covered in the next chapter). Kenya, China, and Indonesia drastically increased affordability through a mix of economic growth and fee restraint or reductions.





BOX 6.2 – COSTS OF INTERNATIONAL STUDIES IN THE GLOBAL NORTH

The number of students pursuing their studies abroad increased steadily between 2006 and 2018, and this growth was particularly notable among wealthier students from the Global South travelling to the Global North. A growing number of countries charge these students elevated differential fees to supplement the public funding provided to serve domestic demand for studies.⁴ This is especially true of jurisdictions that deliver programming in English, which not coincidentally are able to charge the highest fees, as shown in the figure below.

FIGURE B6.2 – Average tuition costs for international students at public universities in countries in the Global North receiving substantial numbers of international students, 2006 and 2018 (in thousands of 2018 USD at PPP)



"PR" indicates private. Note that UK – England includes Northern Ireland. Data for Finland and Sweden appear to account for tuition exemptions, which may not occur in other jurisdictions.

"ND" indicates countries where no differential fees are charged, or in the case of the United States where we have no data on differential fee amounts

For those countries able to attract large numbers of these students, the financial windfalls have been substantial. We estimate that public universities in the ten jurisdictions indicated in the figure above together collected USD 19.5 billion in differential fee revenues in 2018, which was equal to 14.4% of their total expenditures in that year. By contrast, these same countries only collected USD 7 billion (adjusted 2018 dollars) in differential fee revenues in 2006, equal to 7.5% of their total expenditures. The growth in differential fee revenues for public hybrids and short-cycle HEIs was even more radical than for public universities in some jurisdictions. In Canada, for example, we estimate that differential fee revenues went from equalling just 3.5% of public hybrid and short-cycle HEIs' expenditures in 2006 to 19.5% in 2018

FEES AT PUBLIC HYBRID AND SHORT-CYCLE INSTITUTIONS

Regular fee amounts vary considerably between public hybrids and short-cycle institutions in different jurisdictions. The highest fees are in Advanced Asia, South Africa, Ireland, and Canada, while the lowest are in countries of the Global South and Germany. We also observe radical changes in fees charged in some countries; decline in Japan and Russia but also substantial increases in Hong Kong, Ireland, South Korea, and Vietnam.

FIGURE 6.8 – Average regular fees at public hybrids and short-cycle higher education institutions by country, 2006 and 2018 (in 2018 USD at PPP)



Fees at public hybrids and short-cycle institutions tend to be lower than those at public universities, although as Figure 6.9 shows, there are a number of jurisdictions — located mostly in Western Europe and Sub-Saharan Africa — where this is not the case.

FIGURE 6.9 – Average regular fees at public hybrids and short-cycle higher education institutions relative to public universities, 2006 and 2018



⁴ Note that differential fees may be charged to some nationals in some cases and that not all international students pay differential fees where they are charged. In particular, countries in Western Europe that charge differential fees have historically not charged them to students from other Western European countries. Other exceptions apply elsewhere, such as in Quebec (Canada) for students coming from France and mutually between Australia and New Zealand.

BOX 6.3 – MAJOR REFORMS TO TUITION FEE POLICIES

Worldwide, governments normally either regulate domestic tuition fees or in some cases set them directly. Since 2006, there have been only a few cases of major national policy changes to introduce or increase fees. This infrequency of reform reflects how fee levels are often a high-stakes political matter.

The most notorious fee increase between 2006 and 2018 occurred in England and Wales, where compulsory fees were allowed to triple in 2012. In 2005, Germany revised its constitution to allow tuition fees, but not all states chose to introduce them, and by 2014 those states that had chosen to do so had reversed their course and abolished them — German students continue to pay some modest compulsory fees, but they are not labelled as being for instruction. Sweden and Finland also both introduced significant fees, but only for international students.

That said, the preponderance of big policy changes have been in the direction of lower fees, not higher ones. In 2012-13, Turkey made it free for students to pursue "daytime" (i.e., full-time) study at public universities. In 2013, Indonesia eliminated "enrolment fees" - one-time charges payable at the time of initial enrolment which were usually higher than annual tuition – at all public universities. In an interesting need-based intervention, Chile introduced a program called Gratuidad in 2016 which covered the fees of students from the bottom 60% of families by income at public universities and some non-profit private universities. While all of these policies entailed significant shifts in funding from private to public sources, they also all excluded significant numbers of students, either because they attended private universities or attended under non-traditional modalities (such as part-time students in Turkey).

In New Zealand, the Labour government began to exempt domestic first-year students from fees in 2018. Initially, the pledge was to expand this to second- and third-year students in 2021 and 2024 respectively. The party reneged on this pledge during the election of 2020, though it kept the free first-year policy unchanged.

Two other examples of fee changes, albeit slightly after our period of interest are the Philippines and Australia. The Philippines essentially abolished student fees at public universities in 2018-2019. In 2021, the government of Australia, which had operated a set of differential fees by program since 1996, rejigged its fees to make STEM programs cheaper and humanities/social science programs more expensive.

In some countries, governments have attempted moves toward "free tuition" through the creation of targeted scholarship programs which provide students with grants which are "equal to" tuition. This describes initiatives as varied as Indonesia's Bidikmisi scholarships, New York State's Excelsior Scholarships, and the (short-lived) targeted free tuition programs in Canadian provinces such as Ontario and New Brunswick. These are technically not about eliminating fees so much as reducing the "net price" to zero; the difference is less about the cost to students than it is the flow of funds to institutions. The following chapter discusses student grants in more detail.





FEES AT PRIVATE HIGHER EDUCATION INSTITUTIONS

Though private universities make up two-thirds of institutions around the world, and a third of all global enrolments, data for fees in this sector are relatively scarce. Among the countries for which data is available, most of which are in the Global North, the United States has by far the most expensive private universities on average with Poland and Spain having the least expensive.

FIGURE 6.10 – Average regular fees at private universities by country, 2006 and 2018 (in thousands of 2018 USD at PPP)⁵





Fees at private universities are higher than at public universities in almost all of the jurisdictions for which we have data, with the exceptions being Poland and Russia. Fees are much higher in France and Germany, mainly because fees at public universities are so low in these countries, and Kenya. In the largest jurisdictions with really significant private sectors — i.e. the United States, China, and other Advanced Asian countries — the ratio of private to public regular fees is roughly 2:1.





Finally, in closing we can compare average fees at private hybrid and short-cycle institutions to their public counterparts in the same countries. There are again two countries with lower fees at private institutions, but in most cases fees at these HEIs are higher.





University of Lima, Peru

⁵ Kenya data appear to be anomalous but come directly from our source data. The figure doubled from 2017 to 2018, as fee revenues rose just as an increased share of students received tuition exemptions. We therefore have relatively low confidence in this data-point.

BOX 6.4 – GOVERNMENT-INSTIGATED TUITION EXEMP-TIONS AT PRIVATE HIGHER EDUCATION INSTITUTIONS

Private HEIs generally have discretion to set their own fees. These institutions may therefore charge different rates to different students, but this is not a matter of public policy. There are, however, cases where governments fund private HEIs on the condition of charging reduced fees to a share of students or where legislation dictates that certain students should be able to study fee-free.

Chile for instance has invited private (non-CRUCH) universities and short-cycle HEIs to participate in its Gratuidad ("free fees") program for lower-income students, provided that the institutions meet certain conditions. As of 2018. 10.4% of students in private universities and 28.5% of students in short-cycle HEIs were tuition-exempt under this program. In Russia and Kenya, policies providing respectively free and reduced fees at private HEIs began in 2011 and 2016 respectively, tied to merit-based systems that apply much more extensively in the public sector. In all of these cases, an increase in government funds for private HEIs accompanied these policies. In the Chilean case, this new policy has substantially altered the model of funding for private HE, with potentially significant longer-term implications for governance.

In the Global North, policies exempting certain students from tuition apply to public universities in France and Italy basically on the same basis and are written in legislation or regulation. These policies use need-based criteria.



Sorbonne Université, France



CHAPTER

Seven

STUDENT FINANCIAL AID



Chapter Seven

STUDENT FINANCIAL AID

Through direct student financial aid (SFA), governments provide money to students during their studies to help them pay for fees and other costs. Worldwide, direct SFA disbursements for higher education (HE) were equivalent to approximately 0.27% of GDP in 2018. This was up considerably since 2006, but down from about 2011, which was the year of "peak student aid". Overall global disbursements in loans and grants stayed at around \$280 billion from 2011 on, even though global HE enrolments continued to grow. While a few countries outperform the field in terms of the proportion of the student body receiving aid or the total amount of aid provided per recipient, very few are at the head of the class for both. In 2018, Burkina Faso was the clear exception where grants were concerned, while the UK and Tanzania had the largest loan programs.

Nearly all countries operate some kind of direct SFA system (Box 7.1 discusses indirect SFA). The most basic form of SFA is merit-based scholarships to reward high-achieving students and offset the costs of study. Somewhat more complex are grants based on student need, which require a reliable method of comparing need across students — something that is often difficult, as many jurisdictions do not have sophisticated means of family income verification. Student loans are the most complex form of direct SFA, as they require national authorities to keep track of individual borrowers and manage tens or even hundreds of thousands of accounts at once. Loans often provide the most cost-efficient support for affordability.

Data on direct SFA us somewhat more plentiful than for total institutional income or income from private sources (see Chapter 5)¹. However, data remain incomplete in a number of countries², and no data at all were available for Cameroon, Egypt, Ethiopia, Iran, Israel, and Singapore.



King Abdullah University of Science and Technology, Saudi Arabia

¹ As indicated in the Reader's Guide, this chapter focuses on government direct SFA that supports first-cycle tertiary education, especially ISCED level 5 and 6 programs, in the home country. Data on financing for postgraduate studies or studies abroad is only included where this is funded under the standard direct SFA programs for ISCED level 5 and 6 students.

² For instance, it is possible to estimate the number of grant recipients in Saudi Arabia, but no data on available amounts could be located. In Romania, the government provides institutions with funding specifically for student grants but does not track recipient numbers.

BOX 7.1 – INDIRECT FORMS OF STUDENT FINANCIAL AID

While this report focuses mainly on direct SFA in the form of loans and grants, many countries provide other forms of assistance both to students and parents

One important indirect form of SFA in many jurisdictions takes the form of subsidies for providers of housing, meals, and transportation. Data on these kinds of expenditures are scarce, but some comparable data is at least available with respect to student housing. Algeria appears likely to offer the most extensive support for student housing in the world, at least in terms of coverage. In other jurisdictions, approximately 6% or less of the student body receives such support. The share of students in subsidised student housing declined from 2006 to 2018 in almost all of the jurisdictions with available data, most dramatically in Algeria.

FIGURE B7.1A – Recipients of subsidised residency spaces as a share of total enrolments by country with available data, 2006, 2012, and 2018



Data on the value of residence subsidies is more limited, especially because these are indistinguishable from meals and other support in a number of Sub-Saharan African countries. Where data are available, the average value of residence subsidies is substantial — certainly comparable to the support that countries commonly provide to students through loans or grants.

Many countries provide various forms of subsidies to help students obtain full- or part-time employment concurrently with their studies or during breaks between semesters. Aside from helping students to earn money, these initiatives can also promote work-integrated learning and labour market attachment after graduation. Often, the mechanism directly supports employers by fully or partly offsetting wage costs, either through a grant or tax credit. **FIGURE B7.1B** — Average value of residence subsidies per recipient in countries with available data, 2006, 2012, and 2018 (in 2018 USD at PPP)



A number of countries also use tax credits or tax deductions to support education in various ways. The US allows students (or more commonly their parents) to deduct tuition from family income before paying taxes. Canadian governments provide tax credits for tuition that students can either use immediately after the year of study in question, transfer to a parent or spouse, or carry forward to a future date when their taxable income will be higher. Germany provides a tax-based monthly child allowance for parents with children up to the age of 25 as long as they remain in a full-time training/education program. A number of countries also exempt scholarships from taxation.

Lastly, programs that encourage parents to save for their children's HE exist in various parts of the world. The national student loans board in Malaysia runs the Skim Simpanan Pendidikan Negara program, which exempts the gains on depositors' savings from taxation, while low-income families are eligible to have their donations matched 1-to-1 by the government. The Government of Malaysia also requires that all student loan borrowers have previously opened such a savings account. The Government of Canada's Registered Education Savings Plans (RESPs) work in a similar way, while the Canada Education Savings Grants (CESG) provide a matching 20 to 40 cents per dollar saved for HE, depending on family income. Finally, all 50 US states have tax-free savings accounts known generally as "529 plans" based on the section of the tax code under which they were set up, while roughly a dozen states have some kind of matching scheme as well.



TRENDS IN DISBURSEMENTS

Figure 7.1 shows that governments worldwide reported disbursing about \$280 billion in grants and loans to students in 2018. This represents an increase of 74% from 2006, though nearly all of the growth took place prior to 2011. Sixty-five percent of global disbursements took the form of loans in 2018, while 35% took the form of grants.





Globally, direct SFA disbursements to students rose by half relative to GDP from 2006 to 2011, from 0.22% to 0.33%. By 2018, however, they had fallen back to 0.27% of global GDP, or about equivalent to the GDP of Colombia. The decline was a product of stagnant disbursements contrasted with a still-growing economy. Within this picture, patterns in the Global North and Global South were distinct. The pre-2011 growth and post-2011 decline in disbursements were more pronounced in the Global North than in the Global South. Still, total disbursements in the Global North remained about four times as large relative to GDP as they were in the Global South in 2018.





Alexandru Ioan Cuza University, Romania



Grant and loan disbursements in the Global North increased by 79% and 61% respectively from 2006 to 2011. Disbursements then stagnated until 2015 and then declined slightly thereafter. The balance between these two forms of SFA shifted only slightly. In 2006, grants represented 34% of total disbursements, while in 2018 they were 36%. All of these results were overwhelmingly due to changes in the United States, which is by far the largest provider of both grants and loans.

FIGURE 7.3 – Total funds disbursed in student grants and loans in the Global North, 2006-2018 (in billions of 2018 USD at PPP)



Figure 7.4 further illustrates how CANZAUS is the major driver of trends in direct SFA disbursements in the Global North, as disbursements in this region equate to at least three times as large a percentage of total GDP as in any other region. Whereas trends in CANZAUS therefore greatly resemble those across the Global North during the period of interest, Western Europe and Advanced Asia experienced slow but consistent rises in disbursements relative to GDP, at least until 2015. Meanwhile, SFA declined relative to GDP throughout the period of interest in the EECA region, although this was more about growth in the size of the region's economy than a decline in the absolute value of SFA awarded.

FIGURE 7.4 — Funds disbursed in total direct student financial aid as a percentage of gross domestic product by region in the Global North, 2006-2018



Loans made up more than 50% of direct SFA in all of the highest-disbursing countries. These include five predominantly Anglophone countries (Australia, Canada, New Zealand, the UK, and the US), Sweden and Finland (both of which have free fees for domestic students), and the Netherlands. Other Western European countries, as well as those from EECA, tend to prefer grants to loans, albeit in much smaller amounts. The Advanced Asian countries tend to disburse a mix of grants and loans.

FIGURE 7.5 - Funds disbursed in student grants and loans as a



percentage of gross domestic product by country in the Global North, 2018

In the Global South, growth in both grant and loan disbursements was dramatic from 2006 to 2018. The proportions of aid provided in the form of loans and grants in 2018 were much the same as in the Global North, with loans making up 65% of the total, though this is down markedly from 84% in 2006. Driven mainly by a policy change in China, grants grew almost three times as guickly as loans in this time.

Loans

Grants





All regions of the Global South increased their direct SFA disbursements relative to GDP from 2006 to 2018, except for South Asia. Growth was most significant in Latin America, though disbursements fell back somewhat from 2016 on. Growth was also strong in Sub-Saharan Africa and the MENA region, which typically had the highest disbursements relative to GDP.





As in the Global North, those countries with the highest total disbursements tended to have large loan programs, although Burkina Faso and Morocco are important exceptions. Those with smaller disbursements tend to be grant-only. More so than in the Global North, there was considerable diversity in disbursements relative to GDP within regions of the Global South.

FIGURE 7.8 – Funds disbursed in student grants and loans relative to gross domestic product by country in the Global South, 2018





TRENDS IN RECIPIENTS AND COVERAGE

Figure 7.9 shows that the number of recipients of government loans and grants also grew significantly from 2006 to 2018. These figures involve some double-counting, because students may receive more than one type of loan or grant in a single year, which it is not possible to disentangle in all countries. Students may also receive a mix of loans and grants. That said, it appears that the total number of recipients more than doubled between 2006 and 2015, at which point growth stopped. The number of grant recipients increased by 164% from 2006 to 2018, while the number of loan recipients rose just 57%.





Coverage refers to the percentage of students in a country who receive loans or grants. In 2018, one-in-five students globally benefited from a government grant of some kind. In contrast, only 12% of students benefited from a loan. Loan coverage declined from 2011 onward, while grant coverage mostly increased until 2018.





2iE — Institut International d'Ingénierie de l'Eau et de l'Environnement, Burkina Faso

In the Global North, 30% of students received grants and 26% received loans in 2018, with both figures up from 21% in 2006. The share of loan recipients peaked in 2012, then diverged from grant recipients, whereas the share of grant recipients continued to increase basically up to 2015.

FIGURE 7.11 — Share of total students receiving grants and loans in the Global North, 2006-2018



In the Global South, the percentage of students receiving grants and loans was very low in 2006, at just 3% and 4% respectively. Grant coverage increased significantly over the period of interest, in two bursts, one in 2008 and the other in 2015, finishing at 16% in 2018. Loan coverage only increased modestly, and only up to 2011, before it actually fell back to 6% in 2018.

FIGURE 7.12 — Shares of total students receiving grants and loans in the Global South, 2006-2018



Figure 7.13 compares average loan and grant disbursements worldwide from 2006 to 2018. Loans are generally much higher in value, averaging USD 7,702 in 2018 compared to USD 2,627 for grants. The data show that loans fluctuated around basically the same value (up 4% overall), while grants declined in value by 26%, with most of the decline occurring after 2011.



FIGURE 7.13 — Amounts received per recipient of student grants and loans, 2006-2018 (in 2018 USD at PPP)



Indian Institute of Management Ahmedabad, India



Taras Shevchenko National University of Kyiv, Ukraine

BOX 7.2 - CATEGORISING GOVERNMENT STUDENT FINANCIAL AID SYSTEMS

Student financial aid regimes can be categorized both by the types of aid provided and by the extent of coverage. Broadly speaking, national student aid systems fall into one of five types:

1) **Token:** Any country where less than 10% of the student body receives SFA of any type classifies as having "token" aid. These models are almost exclusively limited to scattered countries in the Global South, with Switzerland operating the only token system in the Global North.

2) **Grant-dominant:** Countries that provide grants to over 10% of students but offer little or no other forms of SFA operate grant-dominant models. In the Global North, this model is characteristic of EECA, while in the Global South it occurs in a number of mid-sized jurisdictions such as Argentina, Mexico, the Philippines, and Saudi Arabia.

3) **Oeuvres universitaires:** Countries which not only provide grants to students but also view student

housing as an important area of responsibility which they fund directly — i.e. not only through grants to students — operate under the oeuvres universitaires model. This might also be called the French model, since it is characteristic of France and a number of its former colonies, along with a few other jurisdictions. These jurisdictions closely resemble grant-dominant models, as they usually do not provide loans as a major form of aid.

4) **Loan-dominant:** Countries that provide loans to over 10% of students but little or no other SFA classify as "loan-dominant." This model is most common in East Asia and in eastern and southern Sub-Saharan Africa.

5) **Combined:** Countries where governments provide a mix of grants and loans to students covering at least 10% of the student body have "combined" SFA models. These are common in CANZAUS, northern parts of Western Europe, and Advanced Asia.

MAP 3 — Types of government student financial aid systems, 2018



GRANTS

Trends in average grant disbursement differ in the Global North and the Global South. As Figure 7.14 shows, in the Global North, grants rose in value by 32% from 2006 to 2011, but then fell back by about 10% and stayed roughly constant thereafter. In the Global South, grant values fell 27% from 2006 to 2018. These results indicate that the global decline in grant values after 2011, identified in Figure 7.13, is less the product of grants declining anywhere in particular than it is of the shift in global enrolments from the Global North to the Global South.

FIGURE 7.14 — Student grant amounts per recipient by super-region, 2006-2018 (in 2018 USD at PPP)



Global North

The share of students receiving grants not only varied across jurisdictions of the Global North from 2006 to 2018 but also changed significantly over time within some jurisdictions. Nowhere is this more apparent than in South Korea, where the proportion of students receiving grants rose from close to zero in 2006 to 86% in 2018 (see Box 7.3). Grant coverage also expanded greatly in Canada and Spain during this period, while it fell markedly in the Netherlands, New Zealand, and the UK.

FIGURE 7.15 – Share of students receiving grants by country in Global North, 2006, 2012, and 2018



University Hospital, National Taiwan University, Taiwan

In terms of the size of the grants available on average, the US provides the largest grants in the Global North, followed by four Western European countries then Australia. Grants are the most modest in Kazakhstan and Russia, although the data only provide minimum values for these countries, followed by South Korea, Taiwan, and Finland. The greatest increases in grant values over the period of interest took place in Australia, Ireland, Poland, and Japan (where grants were introduced in 2018 for the first time). Ukraine, Finland, and South Korea all significantly reduced the average value of their grants.

FIGURE 7.16 — Student grant amounts per recipient by country in the Global North, 2006, 2012, and 2018 (in 2018 USD at PPP)





Figures 7.15 and 7.16 looked at grant coverage and size respectively. Figure 7.17 provides a consolidated picture of different national grant programs' generosity by considering the two issues together. On the x-axis, the figure measures the percentage of the student body receiving grants; on the y-axis, it measures the average grant size, expressed as a percentage of local GDP per capita rather than absolute dollars in order to control for different levels of national affluence. By this measure, the countries closest to the north-east quadrant of this graph — Ukraine, France, the US, Canada, Sweden, and South Korea — have the most generous student grant programs, although they place varying emphasis on either maximising grant values or coverage.

FIGURE 7.17 — Comparison of student grant coverage and grant amounts per recipient by country in the Global North, 2018



In terms of change over time, South Korea was the most aggressive in expanding its grant program through coverage — a strategy Canada also pursued, albeit less dramatically. The Netherlands and to a lesser extent Ireland, meanwhile, increased grant values considerably while reducing coverage.



Global South

A handful of countries in the Global South – notably Algeria, Burkina Faso, China, and Morocco – have grant programs which cover a very large portion of the student body. Other countries have only very modest grant programs. The greatest expansion of programs between 2006 and 2018, as measured by the percentage of students receiving grants, took place in China and the Philippines. The greatest reductions were in Algeria, Kenya, and South Africa, although this largely reflected a failure of grant numbers to keep up with enrolments. There are no obvious regional patterns in terms of grant coverage, except that programs are relatively modest throughout South Asia.

FIGURE 7.18 — Share of students receiving grants by country in the Global South, 2006, 2012, and 2018



The highest average grant values in the Global South were in South Africa, Peru, and Tanzania, with the first two being the highest anywhere in the world. In many other jurisdictions, grant values were much smaller. Both Peru and South Africa also stand out for markedly increasing the value of their grants, whereas most countries in the Global South reduced their value between 2006 and 2018.

FIGURE 7.19 — Student grant amounts per recipient by country in the Global South, 2006, 2012, and 2018 (in 2018 USD at PPP)



University of Dodoma, Tanzania

Figure 7.20, like Figure 7.17, shows both grant coverage and average grant size across countries in the Global South. Tanzania stands out for having a relatively small number of very large grants, while Algeria (DZ) stands out as providing a high percentage of its students with very small grants. Burkina Faso is effectively alone in providing grants that are both widespread and meaningful in purchasing power terms.³

FIGURE 7.20 — Comparison of student grant coverage and grant amounts per recipient by country in the Global South, 2018



With regard to change over time, China and the Philippines notably increased coverage of their grant programs while slightly reducing the average value of grants from 2006 to 2018. Meanwhile, South Africa reduced coverage while significantly raising grant value, and Algeria reduced both value and coverage.



Tel Aviv University, Israel

BOX 7.3 – MAJOR REFORMS IN DIRECT STUDENT FINANCIAL AID FROM 2006 TO 2018

The largest increase in direct SFA in dollar terms over our period of interest resulted from the expansion of need-based Pell Grants during Barack Obama's first term as President of the United States. Between 2008 and 2012, the number of recipients jumped from just over five million per year to just over nine million per year, at the same time as the value of the grant increased substantially. All told, this led to a 150% increase in program costs, although spending fell back somewhat subsequently.

The next most important change in world direct SFA was China's gradual ramping up of state grants for students. China first launched a need-based scholarship program in 2006 and subsequently increased disbursements dramatically, reaching 7.8 million students in 2018. While these grants were modest in size, their coverage was high.

South Korea massively increased the coverage of its means-tested National Scholarship program in 2012, following a wave of protests about university tuition fees. As in China, the goal appears to have been to give many students small amounts of money rather than provide substantial amounts of money to those most in need. In South Korea, the number of beneficiaries rose nine-fold in 2012, but the average grant size fell by 60%.

The other major change of note globally was in the UK, where loan volume increased substantially to accommodate the new higher tuition fees which came into effect in 2012 (see Box 6.3). These new income-contingent loans had generous repayment conditions, as discussed in more detail in Box 7.4.

One policy shift of note in North America has been a string of attempts to make need-based grants equal to tuition so that, at least for students from lower income brackets, tuition could at least be said to be "net zero." In the US, the State of New York did this for its public universities through its Excelsior Scholarships starting in 2017, while in Canada attempts to do the same by Liberal governments in Ontario and New Brunswick were in place for a couple of years before being eliminated by their Conservative successors. With a movement for universally free community colleges now seemingly dead in the US Congress, these types of student aid policies may become more fashionable in that country.

³ Of course, these data are missing Saudi Arabia, which might have the most generous grants in the world, let alone the Global South, by our measures.

LOANS

Loan values rose in the Global North from 2006 to 2018 by a total of 24%. In the Global South, averages fluctuated considerably from year to year but ultimately fell by 13% between 2006 and 2018. Average loan size in the Global South thus ended the period at about 40% the size of loans in the Global North — a substantial decrease from 2006.

FIGURE 7.21 — Student loan amounts per recipient by super-region, 2006-2018 (in 2018 USD at PPP)



Global North

In 2018, Ioan coverage in the Global North was highest – and growing – in four jurisdictions in the northern part of Western Europe, followed by the CANZAUS countries then jurisdictions mostly in Advanced Asia. The Ioan programs in five other jurisdictions, with Switzerland the largest, were very small, with coverage consistently below 2%.⁴ From 2006, Ioan coverage grew the most in the Netherlands and Finland and fell the most in New Zealand and Taiwan. The share of students receiving Ioans in the US also rose from 2006 to 2012, but then fell back thereafter.

FIGURE 7.22 – Share of students receiving student loans by country in the Global North, 2006, 2012, and 2018



With respect to average loan amounts, students in the UK and US received the largest loans, while those in Germany, Taiwan, and South Korea received the smallest. The value of student loans in the UK also increased by far the most dramatically over the period of interest, followed by Kazakhstan and Finland. No country significantly reduced the scale of its student loan program over the full 12-year period.





Figure 7.24 examines the combination of loan coverage and loan size, in much the same way as Figures 7.17 and 7.20. A number of countries combined very high coverage levels with medium-sized loans (the Netherlands, Sweden, Finland, and New Zealand), while Kazakhstan is the one country with loans that are quite high in value but low in frequency. Yet no country comes close to the UK in terms of both the size of its loans and the comprehensiveness of their use.

FIGURE 7.24 – Comparison of student loan coverage and loan amounts per recipient by country in the Global North, 2018



The four Western European jurisdictions with the highest student loan coverage all also increased the value of their loans from 2006 to 2018. The was unlike the four CANZAUS countries which in 2018 had identical coverage rates and lower average loan values than it did in 2006.

⁴ Spain also had a very small loan program from 2008 to 2011 only.

Global South

The largest student loan programs in the Global South, as measured by the proportion of students using loans, are located in a trio of Sub-Saharan African countries (Tanzania, Kenya, and South Africa), followed by Chile. South Africa and Kenya stand out for greatly increasing loan coverage, while coverage fell markedly in Tanzania and Turkey. The data further point to significant year-to-year fluctuations in loan coverage, for instance in Vietnam, Chile, and Thailand, where loan coverage in 2012 was significantly higher than in 2006 or 2018.

FIGURE 7.25 — Share of students receiving loans by country in the Global South, 2006, 2012, and 2018



By far the largest average student loans in 2018 were in Malaysia, followed by Peru, Brazil, and India.⁵ Student loan values fell considerably in Malaysia from 2006 to 2018, as well as in India and Pakistan, whereas they rose markedly in Peru, Brazil, and South Africa.

FIGURE 7.26 — Student loan amounts per recipient by country in the Global South, 2006, 2012, and 2018 (in thousands of 2018 USD at PPP)



Figure 7.27 combines the analysis of size and coverage into a single figure. Here, Tanzania stands out as having by some considerable distance the most extensive student loan program in the Global South, in terms of not just coverage but also average loan value. Loans in India

are comparable to those in Tanzania in terms of size, but reach only a fraction of the number of students; Kenyan student loans are comparable in terms of coverage, but are only a fraction of the size of those in Tanzania.

FIGURE 7.27 – Comparison of student loan coverage and loan amounts per recipient by country in the Global South, 2018



Considering change over time, Tanzania's advantage in terms of both loan values and coverage actually declined somewhat from 2006 to 2018. Among other countries, South Africa raised both coverage and loan values significantly, while Kenya raised its coverage markedly but reduced average loan values.

Punjab University, Pakistan



⁵ Note that to some extent, these results are a product of very high PPP conversion rates. If converted at current exchange rates, the Malaysia results in particular would look quite different.

BOX 7.4 – LOAN REPAYMENT

While this report looks at loans from the "front end" – i.e. in terms of the money provided to students during their studies – most of the international literature on the subject tends to focus on issues of loan repayment. This report avoids making comparisons of repayments because insufficient data is available to produce comparable statistics. However, it is possible to at least describe the different approaches to loan repayment.

Loan programs vary firstly in terms of how the principal is calculated. In some countries (e.g. parts of Canada), some portion of outstanding loans is forgiven prior to the start of repayment if the principal loan is above a certain threshold. In other countries, loans can be forgiven if the student graduates within a certain period of time (the Netherlands), while in others they can be forgiven based on academic performance (Germany). The US and Canada both also run workforce-contingent student loan forgiveness policies which forgive loans to graduates who take up jobs in particular fields or in particular remote parts of the country.

Secondly, loan payments vary according to the interest rates charged. Many programs charge no interest at all, which implicitly turns part of the loan into a grant, particularly in countries where inflation is high. Some charge interest equal to inflation (e.g. Australia), others a rate equal to the government's current rate of borrowing, and still others to some higher rate reflecting the fact that student loans carry a high risk of non-repayment. Usually, the interest rate is charged from the moment that the loan is issued, although in Canada and the United States loans carry zero interest while students are in school, then carry positive rates of interest after graduation. There are also differences in terms of how quickly loan repayment starts. In many countries, it is just a few months, but in some (e.g. Germany) it can be up to five years. Most countries also have some kind of income threshold below which loans need not be repaid, so that low-income borrowers may delay the start of their repayment for longer still or even have their principal reduced.

In many countries, loan repayment is handled in a strictly "mortgage-style" fashion – i.e. amortised over a given number of years and split into equal monthly payments. In others, recipients pay a percentage of their total income (Australia) or a percentage of income above a given threshold (UK, New Zealand). In these countries with so-called "income-contingent" loans, loans are often collected through the payroll tax system, though this implies a system of individual rather than household taxation, which not all countries possess. Other countries use hybrid systems: Canada and the US amortise their loans mortgage-style but limit total payments based on income, while Sweden employs a modified mortgage-style repayment system in which required payments start low then rise every year.

The repayment term of student loans can also vary quite a bit. In East Asia, loan terms can be as short as five years. In other cases, loan repayment periods can range up to 25 years or even until death. Generally speaking, income-contingent loans tend to have longer repayment periods. Some programs forgive any outstanding loans at the end of the repayment period. In the case of the UK, only about half the total value of loans is ever expected to be repaid, which means that there is a substantial grant benefit embedded in student loans, but it is impossible to tell exactly how much each individual receives in grants until the multi-decade repayment period is over.





Appendices

Ê

TAAT	

à à-Quá

Appendix A

HOW THE GEOGRAPHICAL REGIONS WERE CONSTRUCTED

To allow the analysis of global trends at some level below that of the entire world, it was necessary to break countries up according to an economic and geographic scheme. This meant formulating a set of smaller groupings which were internally coherent – that is, where countries were more similar to others within the group than they were to countries outside of it. As one might imagine, this is a difficult task with no perfect solution.

The basic decision was to divide the world according to some measure of state economic capacity, or, broadly, what has been called "developed" and "developing", or as is currently more fashionable, the "Global North" and the "Global South. This is more difficult than it sounds: countries occupy a spectrum of income and finding a reliable dividing line is difficult. Income changes over time, and countries which might have been on one side of the line in the past might no longer be there now.

Two other factors entered into the decision about classifying countries economically. One had to do with geographic considerations; by and large, it seemed to make more sense to keep geographical regions intact more often than not even if one country was richer and/or poorer than its neighbours. And then there was history, which influenced divisions in two ways. First, higher education systems are a lagging indicator of economic growth, so there are good reasons to weight historical wealth slightly more highly than current wealth. Second, in the specific case of the Soviet Union a number of successor republics shared basically the same higher education structure, so it seemed to make more sense to keep these countries together than to put them apart. The "Global North" portrayed in this report therefore, is not quite co-equivalent to other definitions of "rich countries". It excludes a number of OECD countries, including Chile, Colombia, Mexico, and Turkey,¹ as well as the petrostate of Saudi Arabia. For historical reasons, Kazakhstan was kept with the other post-Soviet successor countries in a category (Eastern Europe/Central Asia) which groups together states which underwent an economic transition away from socialism in the 1990s.

Within the global North, all of the four geographic sub-groupings are to some degree contestable. "Western Europe" looks a great deal like the pre-2004 European Union, only with Switzerland included. This makes some sense for historical reasons, though some might have preferred a version which more closely resembles the present-day political geography of Europe, in which Poland and Romania were placed with Western Europe rather than with the ex-Soviet countries of Ukraine. Russia and Kazakhstan. Another variation on Western Europe might have excluded the United Kingdom because of Brexit. Indeed, the United Kingdom might have made more sense as part of the "CANZAUS" grouping, turning it into somethings resembling the "Five Eyes" intelligence alliance of (mostly) anglophone countries. However, this is a very present-oriented view of the world, and would not necessarily have made sense in the context of the year 2006, when our work starts.

The "Advanced Asia" grouping of modern Asian economies is mostly understandable, including as it does not just the OECD members Japan and Korea, but also Taiwan, Hong Kong and Singapore, all among the early industrializing countries of the region (though, at the time of writing, it is unclear if Hong Kong should in future continue to be included as a separate jurisdiction or be made and undistinguished part of China). Yet, this region also includes Israel, which is always difficult to classify. Geographically, it belongs to the Middle East, but because of political conflicts between Israel and its neighbours, it

¹ The OECD's recent membership expansion has objectively altered the relevance of membership as an indicator of economic development. For instance, Colombia's GDP per capita in 2020 was just USD 5,333 and Mexico's just USD 8,347 according to the World Bank.

is rarely grouped together with them for international comparative purposes. Often, it is grouped together with Europe, as it is for Eurovision and continental football tournaments, and that was an option except that it was not clear which grouping – west or east – would make more sense. As a result, it was added to the "Asian" category, which is technically correct even if it results in some wide geographic dispersion.

In the Global South, the groupings are more straightforward. Sub-Saharan Africa is a widely-recognized and relatively homogenous grouping, as is South Asia. Latin America has a degree of cultural/historical homogeneity which makes it a natural grouping. East Asia makes geographic sense as well, even if China's sheer size swamps the other members. The one grouping that is potentially problematic is the Middle East/North Africa region. This may be the most economically varied region in the world, due largely to differences in resource endowments. Ethnically, this region is sometimes coterminous with the homelands of the Arab peoples; in others (including this one) it also includes Iran and - less often - Turkey as well. Both of these were located together with Middle East/North Africa (MENA) for lack of geographic alternatives. Turkey, like Israel, could have been lumped in with Europe but its economic development is not on par on Western Europe and it does not share the communist past of Eastern Europe. With Iran the only other choice would have been to group it with South Asia, and that seemed to be even less of coherent grouping than MENA.

Alternative groupings of countries and regions could certainly be used. However, to the extent that any single alteration to the groupings used here makes one country be in "better company", it usually makes another grouping less coherent. Thus, while not all groupings are ideal, they appear pareto-optimal as a whole.

Appendix B

SUMMARY REGARDING DATA QUALITY

The data presented in this report arguably offer the best snapshot of global higher education (HE) ever assembled. However, as might be expected in any undertaking of this size, data quality is uneven.

We gathered data from official, national sources wherever possible, including from governments, their affiliated steering agencies, and HE associations. Data from these sources alone, however, were often incomplete. They might not cover all years for all variables of interest. They might also have elements that are incorrect. Where we suspect data may be incorrect but do not know for sure, we have sought to indicate such in country profiles. Where we know the data are incorrect we have applied some form of estimation to address this.

Occasionally, we have supplemented national data sources with unofficial or non-national sources. These can include reports from international organisations such as the World Bank and UNESCO, or sometimes from peer-reviewed books or articles. We generally use these options only where official, national sources are very inadequate.

Data quality tends to vary in predictable ways. Countries in the Global South generally have less complete data than countries in the Global North. Data on enrolments is the most reliable typically, followed by higher education institution (HEI) counts, though in both cases reliability weakens as we begin to try to separate providers into various "types". With respect to financial matters, data on total public HE spending are generally available, although what is included in public spending may vary by jurisdiction. Data quality worsens as we proceed away from public spending and towards other HEI resources, as we break down resources by HEI-type, and especially once we consider private HEIs' finances. Student fees data are among the least complete in this publication, especially concerning amounts paid. Finally, government student financial aid data are entirely missing for a few countries, and were a serious challenge to gather especially across much of the Global South.

The estimations in this volume take various forms. By far the most common from is interpolation. In most cases, we interpolated on a linear basis, such that the 2007 figure would equal the 2006 figure plus 50% of the difference between 2006 and 2008. In some cases, we interpolated on an exponential basis, so that the 2007 figure would equal the square root of (the 2008 figure divided by the 2006 figure) times the 2006 figure. Interpolation is the most reliable form of estimation because it does not alter the overall direction of trends, it merely smooths out some variations that might occur over time. In a few cases we had to project our data forward or backward based on the years that we did have, because our data were incomplete for years at the end or the beginning of our time series. To fill in one missing year for enrolments say in 2006, we might assume enrolments stayed the same as in 2007, or for the breakdown of enrolments by HEI-type we might assume the proportions remained constant. In some rare occasions, we did more complex operations based on whatever information we could find. For instance, in the absence of public HE spending data in Ethiopia for the last years of our time series we used reporting on total public spending on education, and planning documents regarding the share of spending to go to HE to generate our projections.

National reporting practices and methodologies sometimes changed one or more times during the thirteen-year span covered by this report, and this created series breaks that required some estimation in order to maintain consistency. Wherever possible, we sought to find as many overlapping years as possible and then understand consistent patterns in the difference between the time series with the different methodologies. We then adjusted the data in one direction or the other based on this pattern of difference. Where there were differences between two methods, we tended to default to the more recent methodology, except where we had reasons to judge the most recent data as unreliable – for example in the UK which has systematically under-reported public HE expenditures that take the form of loan losses.

Our use of estimation may make the findings of this report appear less reliable, and certainly country-level data in some cases should be treated as approximate rather than exact. However, without these estimation practices it would be nearly impossible to produce consistent data across all countries and all years, which would severely limit the quality and comprehensiveness of this report.

The chart below outlines our assessment of data quality in this report by country and subject of the data. We hope to continue improving the accuracy of our data moving forward. We invite those who believe they can help us improve the quality of our data in a specific country to please let us know.

LEGEND

COLOUR	DATA
Green	We recopied data directly from a source.
Yellow	We made some estimation to modify data from a source, but generally we were closely guided by a source.
Orange	We have relatively low confidence in the data due to the extent of estimation required, or because the original source data appears of questionable reliability.
Red	We were not able to obtain data.
Grey	Not applicable

GLOBAL NORTH

COUNTRY	ENROLMENT AND	FINANCING (PUBLIC SECTOR)	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
Australia	Green	Green	Yellow: Data missing university colleges, as well as Torrens University until 2018.	Green	Yellow: All grant amounts and recipient numbers estimated, loan amounts estimated for 2014 to 2018.
Canada	Orange: Had to do own assessment to develop enrolment and institution counts for short-cycle HEIs and hybrids. Private data are incomplete - sub- stantial private sector uncounted.	Yellow: Generated own estimates of total public spending on higher education - chal- lenges discerning federal and provincial spending not provided directly to institutions. Developed estimates for short-cycle HEIs due to omissions of some smaller institutions and unclear distinctions from semi-HEIs	Yellow: Data developed largely from institution- al financial reports. Includes data only on religious comprehen- sive universities. Incomplete as private sector generally not tracked in Canada.	Orange: Breakdown of fees by international and domestic entirely estimated based on data on average undergraduate fees at universities for domestic and international students.	Yellow: Basically all data estimated for Canada regarding recipients in an effort to tackle challenges in counting between federal and provincial governments.
Finland	Green: Assuming there is in fact no private sector	Green	Grey: Not applicable so far as discernible from the data	Green	Green
France	Yellow: Some estima- tion with regards to breakdown of counts of public and private specialised universi- ties.	Green	Green	Yellow: Estimated breakdown of exemption recipients by institution type before 2017.	Yellow: Estimated data on residence subsidy recipients based on interpolation for the years 2006-2008 and 2010-2018. Estimated values of grants and loans from 2006 to 2009 (basically had to subtract modest estimated loan amounts to get grants).
COUNTRY	ENROLMENT AND	FINANCING (PUBLIC SECTOR)	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
-----------	--	---	---	--	--
Germany	Yellow: Some estima- tion of breakdown of HE enrolments in public and private secondary schools.	Yellow: Very difficult to discern precise amounts transferred to institutions from governments - estimat- ed. Also little reporting on total government spending on higher education. Weak reporting on fach- schulen specifically in general.	Yellow: Very difficult to discern precise amounts transferred to institutions from governments - estimat- ed. Weak reporting on fachschulen specifical- ly in general.	Yellow: Modest estimation of fees. Not clear that we are fully tracking fee exemp- tions that have been in place over period of interest and may vary based on the state.	Green
Hong Kong	Green	Yellow: Gaps in reporting on short-cy- cle HEIs before 2010. Data limitations on transfers to private HEIs.	Red: No data	Orange: Can only track numbers of high differential payers versus normal fee payers, but no data on amounts from each.	Green
Ireland	Yellow: Some estima- tion of enrolments at start and end of time series for private HEIs, and in 2007 for public university colleges. Counts of private HEIs estimated throughout.	Yellow: All figures estimated for public transfers to HEIs because data do not distinguish funding provided as student grants according to our methodology.	Red: No data	Yellow: All data estimated for amounts paid by students under different fee regimes. Estimated number of students on reduced fees at hybrids in 2006.	Yellow: Estimated grants data for 2015 to 2018.
Israel	Yellow: Short-cycle breakdown by public and private all estimated for enrol- ments and institution counts. University colleges institution counts estimated, as were enrolments in 2009 - may have simply stopped gathering data on these institutions.	Green	Yellow: Data very good. Only gap is confirmed government funding to private HEIs before 2013.	Green	Red: No data. There are multiple govern- ment grant and loan programs in operation but not tracked and reported.
Italy	Yellow: Modest patchiness in public/ private breakdown of enrolment data particularly for specialised universi- ties prior to 2009, resolved through estimation. 2007 universities count estimated.	Yellow: Had to do some estimation for all final figures on total institutional spending. Minor issues in data on government transfers to universities.	Yellow: Had to do some estimation for all final figures on total institutional spending. Minor issues in data on government transfers to universities.	Yellow: Estimated full tuition recipients in 2007.	Yellow: Estimated amounts of residence subsidies from 2011 to 2017. Estimated recipients of grants from 2006 to 2011.
Japan	Green	Yellow: Required some estimation for total public spending prior to 2010, and public transfers to public HEIs in all years.	Yellow: Modest requirement for estimation of govern- ment funding of private HEIs after 2011.	Green	Green

COUNTRY	ENROLMENT AND	FINANCING (PUBLIC SECTOR)	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID	
Kazakhstan	Yellow: Considerable estimation in break- downs of enrolments by public/private and between comprehen- sive and specialised universities. Similar difficulties with specialised and comprehensive universities for institution counts.	Yellow: Data gap in 2007 required estimation to fill except for short-cycle HEIs.	Red: No data	Yellow: Only have solid data for universities. Had to estimate data for vocational higher education.	Orange: Grant amounts are minimal while loan amounts are maxima. Numbers of loan recipi- ents all estimated for each year based on multi-year totals.	
Netherlands	Green	Green	Grey: Not applicable so far as discernible from the data	Orange: All data estimated for interna- tional student fees as counts of such students not reported. Only able to directly gather data on standard fees.	Yellow: Estimated grants data for 2006 to 2009.	
New Zealand	Green	Green	Grey: Not applicable	Yellow: Had to estimate numbers of free tuition students at hybrids and short-cycle HEIs in 2018.	Green	
Poland	Yellow: Modest estimation in 2007 regarding breakdown of enrolments between private hybrids and specialised universi- ties, and in 2006 for public-private breakdown of short-cycle enrol- ments. Estimation in 2006 and 2007 of counts of short-cycle HEIs.	Green	Green	Yellow: Had to do some very modest estima- tion to calculate number of students paying fees accounting for international students.	Yellow: Estimated loan amounts in 2006, 2007 and 2011-2016. Program modest in size however.	
Romania	Yellow: All enrolment data estimated for 2006 to 2009 as incomplete tracking of graduate students. Estimates of institution counts by institution type in 2006 to 2009.	Yellow: Required considerable estima- tion for total public spending and total institutional spending.	Red: No data	Yellow: Estimated tuition exemption recipients for 2006	Yellow: Basic structure is that money provided to institutions to offer student financial aid. Can track money provided, but not how the money is used. Under this structure, by our approach there basically is no government SFA provided directly to students.	
Russia	Green	Yellow: Data for 2006 estimated based on interpolation.	Orange: No data prior to 2010 for short-cycle and 2009 for universi- ties.	Yellow: Estimated tuition exemption recipients for 2015.	Orange: Grant amounts are minimal only. Estimated grant recipients after 2014.	

COUNTRY	ENROLMENT AND	FINANCING (PUBLIC SECTOR)	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
Singapore	Green	Yellow: Considerable estimation in total public spending data. Some gap filling for finances of public short-cycle HEIs in 2008 and 2009	Orange: Estimation and gaps for private short-cycle and hybrids.	Red: Could not pull together complete data. Know that there are differentials	Red: Could not pull together complete data. There are substantial SFA programs in operation - grants and loans at least.
South Korea	Green	Yellow: All total public spending figures are estimates. Estimated public student fee reve- nues from 2016 to 2018.	Green	Yellow: Estimated public student fee reve- nues from 2016 to 2018.	Green
Spain	Green	Yellow: Modest gaps in data on finances of public universities.	Orange: Finances of private HEIs tracked based on interpolation between surveys completed at gaps of as many as six years. Some estimation of revenue sources for publics in 2006, 2008 and 2009.	Yellow: Estimated public student fee reve- nues in 2006, 2008 and 2009.	Yellow: Estimated grants data for 2006 to 2010.
Sweden	Yellow: Modest estimation of break- down in short-cycle HEI enrolments from 2008 to 2011 by public/ private.	Yellow: Total expendi- tures data actually reflect total revenues. Total expenditures of public short-cycle HEIs are estimated.	Orange: Missing data on finances of private short-cycle HEIs aside from government transfers. No reliable data on student fee revenues.	Green	Green
Switzerland	Green	Yellow: Data estimates for transfers to public short-cycle HEIs and entirely missing for student fee revenues and total expenditures at these institutions. Estimates for special- ised universities in 2006 and 2007.	Red: Basically no data.	Orange: Entirely missing fees data for public short-cycle HEIs. Estimates for specialised universi- ties in 2006 and 2007.	Green
Taiwan	Yellow: Estimates of enrolments in private semi-HE after 2011.	Yellow: All data estimated for transfers to institutions because difficult to discern amounts to modest short-cycle HEI sector. Student fee revenues all estimated	Yellow: All data estimated for transfers to institutions because difficult to discern amounts to modest short-cycle HEI sector. Student fee revenues all estimated	Green	Yellow: Estimated data for grants in 2006.
Ukraine	Yellow: All 2018 data estimated due to change in methodolo- gy of tracking.	Orange: Missing data for short-cycle HEIs. Figures for universities specifically are estimated because cannot distinguish perfectly amounts from those to short-cycle HEIs. Figures in 2006 and 2007 fully estimated.	Red: No data	Orange: Missing data for short-cycle HEIs. Figures for universities specifically are estimated because cannot distinguish perfectly amounts from those to short-cycle HEIs. Figures in 2006 and 2007 fully estimated. All final data on tuition exemptions at publics are estimated.	Orange: Grant amounts are minima only.

COUNTRY	ENROLMENT AND	FINANCING (PUBLIC SECTOR)	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
United Kingdom	Orange: Substantial estimation of trends in the private sector based on fragmented data.	Yellow: Public spending figures calculated to address methodological challenges relating to tracking of student loans not to be paid off - particularly after 2014. Some gaps in 2006 and 2007 data at public HEIs.	Red: No reliable data could only have provided analysis for many years at University of Bucking- ham, which is a fraction of the private sector.	Yellow: Very modest estimation of tuition payments in 2006 and 2007 in Northern Ireland.	Yellow: Estimation of grants data in 2006 and 2007 in Northern Ireland.
United States	Yellow: Data by institution-type largely estimated because typical tracking of institution-types data does not align to preferred Carnegie classifications measure, which is reported only intermit- tently (each 3-5 years).	Yellow: Developed own tracking of total public spending to account for federal and state moneys not going directly to HEIs. Data by institution-type largely estimated because typical tracking of institu- tion-types data does not align to preferred Carnegie classifica- tions measure, which is reported only intermittently (each 3-5 years).	Yellow: Data by institution-type largely estimated because typical tracking of institution-types data does not align to preferred Carnegie classifications measure, which is reported only intermit- tently (each 3-5 years).	Red: Not able to distinguish numbers of in-state versus out-of-state students and differences in fee amounts which will vary by state.	Yellow: Estimated data on recipients of grants because not possible to perfectly discern recipients of state and federal - provides a minimum estimate of recipients which means per-student grant amounts are maxima. Excludes modest state-level loan programs.

GLOBAL SOUTH

COUNTRY	ENROLMENT AND	TOTAL GOVERNMENT SPENDING	FINANCES OF PUBLIC HEIS	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
Algeria	Green	Green	Orange: Only have transfers to institu- tions data which are wholly estimated relative to total public spending.	Grey: Not applica- ble so far as discernible from the data	Red: No data, though fees are minimal	Yellow: All grant amounts estimat- ed. All recipient figures estimated before 2011. No data on value of residence subsidies.
Argentina	Green	Green	Yellow: Data breaking down transfers to public non-university HEIs by institution type are entirely estimated - assume same amounts to hybrids and short-cy- cle HEIs. All data on total expenditures of public universities are estimated except for 2011, 2012, 2014 and 2019	Red: No data	Green: No fees	Yellow: Grants data estimated after 2013, except recipient numbers in 2018.

COUNTRY	ENROLMENT AND	TOTAL GOVERNMENT SPENDING	FINANCES OF PUBLIC HEIS	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
Bangladesh	Yellow: Considerable estimation particular- ly for 2006-2008, and in other years notably for enrolment breakdown between comprehensive universities and semi-HE.	Yellow: Data estimated up to 2009 and for 2011 and 2017.	Orange: Government transfers data wholly estimated. Total institutional spending has some gaps estimated - most especially 2006 and 2007. For both these data series, limited to exclude university colleges.	Red: No data	Red: No data on amounts, though fees are very modest	Yellow: Data only after 2012. Assuming no national program before 2013.
Benin	Yellow: Data estima- tion in 2006-2007 and 2011-2013.	Green	Orange: All figures estimated for all years. Student fee revenues estimated based on per-student amounts. Total expenditures correspond to sum of student fee revenues and government transfers.	Red: No data	Yellow: Yes — all data estimated based on per-student amounts for amounts. Data on tuition exemp- tions calculated based on students not receiving grants.	Orange: Grant recipients estimated in 2006, residence recipients tracked and estimated in 2006, 2007 and 2011-2013. Significant estimation of grant amounts - all years by 2006 and 2010.
Brazil	Green	Yellow: All data estimated.	Yellow: All data estimated.	Red: No data	Yellow: No fees - may not be exactly right for all states.	Yellow: Loan amounts estimat- ed for 2007.
Burkina faso	Yellow: Estimated breakdown of private enrolments by institution type from 2006 to 2013.	Yellow: Data estimated for 2006	Orange: All data estimated except for 2007, 2014 and modestly in 2018. Total institutional expenditures estimated as sum of transfers to institu- tions and student fee revenues.	Orange: All figures estimated for all years. Student fee revenues estimat- ed based on per-student amounts. Total expenditures corre- spond to sum of student fee revenues and government transfers.	Yellow: Yes — all data estimated based on per-student amounts.	Orange: All grant amounts estimat- ed. No data on residence subsidy amounts. Grant recipients estimated for 2006-2008, and residence subsidies for 2007, 2008 and 2010.
Cameroon	Yellow: Enrolments estimated in 2014. All private institution counts data estimated.	Green	Orange: Transfers to institutions data estimated before 2016 based on total government spending data. Only have total institutional spending data for 2016 to 2018.	Red: No data	Red: No data	Red: No data
Chile	Green	Green	Yellow: Data estimated for 2017 and 2018 due to reporting change in data sources.	Orange: Very little data prior to 2011 - data on govern- ment transfers only and these are entirely estimated.	Yellow: Total amounts data estimated for 2017 and 2018 due to reporting change in data sources. Exemption recipients data estimated for private universi- ties.	Green

COUNTRY	ENROLMENT AND	TOTAL GOVERNMENT SPENDING	FINANCES OF PUBLIC HEIS	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
China	Orange: Breakdowns between comprehen- sive and specialised universities all estimated. Short-cy- cle data estimated in most years. Difficult notably to assign students in distance learning.	Green	Yellow: Some estimation in breakdown by institution type in 2006 and 2007.	Yellow: Some estimation in breakdown by institution type in 2006 and 2007.	Yellow: Some estimation in breakdown by institution type in 2006 and 2007.	Yellow: Loan and grant amounts estimated in 2006 and 2007, as were grant recipient numbers.
Colombia	Green	Yellow: All data estimated.	Orange: All data estimated before 2011. Estimation also common for 2017 and 2018.	Orange: All data estimated before 2011. Estimation also common for 2017 and 2018.	Orange: Data estimated before 2011. Estimation also common for 2017 and 2018.	Yellow: Loan amounts estimat- ed in 2015 and 2016.
Côte-d'Ivoire	Yellow: Enrolments estimated in 2006 for all but secondary schools, as well as institution counts. Secondary school enrolments estimated in 2013. Breakdown of specialised university and public compre- hensive university enrolments estimated for 2006 to 2011.	Yellow: Data estimated for 2006 and 2007	Orange: Almost all figures estimated for all years. Student fee revenues estimated based on per-student amounts. Total expenditures correspond to sum of student fee revenues and government transfers.	Orange: Almost all figures estimated for all years, except for transfers from 2009 to 2016. Student fee revenues estimat- ed based on per-student amounts. Total expenditures corre- spond to sum of student fee revenues and government transfers.	Yellow: Yes - all data estimated based on per-student amounts.	Orange: Intermit- tent estimation of grant amounts. Recipients estimated in 2006-2007 and 2010-2012. No data on residence subsidy amounts, but recipients complete with estimation for 2006-2008.
Egypt	Yellow: Estimation of figures for private non-university institution counts from 2007 to 2010 and 2015 to 2018.	Green	Yellow: All data estimated to convert to actuals.	Red: No data	Red: No data, though fees are very modest	Red: No data
Ethiopia	Yellow: Institution counts estimated for public institutions in 2006 and 2010, and for privates in 2007, 2009, 2010 and 2015.	Orange: Data estimated in particular for 2016 to 2018.	Orange: Only have transfers to institu- tions data which are wholly estimated relative to total public spending.	Red: No data	Orange: No data except regarding students exempt from fees - esti- mated in 2012.	Red: No data
Ghana	Yellow: Some estimation in 2009 and 2012 for enrolment data. Some estimation of institution counts in 2010.	Yellow: Data estimated for 2008, 2010-2012	Orange: Almost all data estimated prior to 2013 and only have transfers data for 2010 and earlier. Additional gaps for more recent data require additional estimation. Does not cover all short-cycle HEIs.	Red: No data	Orange: No data before 2011, estimated up to 2014. Does not include all short-cycle HEIs.	Orange: All grants data estimated. Loans data estimated for 2006 only.

COUNTRY	ENROLMENT AND	TOTAL GOVERNMENT SPENDING	FINANCES OF PUBLIC HEIS	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
India	Orange: All data estimated with considerable difficulty, especially for data prior to 2011 when the All India Survey of Higher Education was launched. Estimation tries to correct for under-reporting of enrolments and difficult-to track data by institution type before 2011. Institution counts data slightly more reliable than enrolments data, especially from 2011 on.	Green	Orange: All data estimated from total public spending. Only covers transfers to institutions.	Red: No data	Red: No data	Orange: All loans amounts estimat- ed before 2015 based on cumulative data. Grant amounts estimated in 2015. Grant recipients estimated before 2016 (except in 2006 and 2007) and loan recipi- ents estimated before 2015.
Indonesia	Yellow: Only data without any estima- tion from 2012-2015 for enrolments. Other data required some estimation, notably for specialised universities. Institu- tion counts data required estimation only in 2006, 2007 and 2018.	Orange: All data estimated	Orange: Almost all data estimated. Only generated for universities	Red: No data	Orange: All data estimated and for universities only. May miss data on tuition exemption beneficiaries.	Orange: Grant amounts data involves intermit- tent estimation. All recipients data estimated before 2016.
Iran	Orange: Institution counts data estimat- ed for 2008, 2016 and 2018. Breakdowns by institution type estimated for 2018.	Orange: Data from UNESCO best available	Orange: Can only generate estimates from interspersed years based on budgets by institution type. Interpolating estimates in other years.	Red: No data	Red: No data	Red: No data
Kenya	Green	Green	Orange: Estimated for transfers to institu- tions before 2013. Only have from 2011 (with estimates) for total institutional spending. Only have partial data on fee revenues.	Orange: Data only from 2011 on. Estimated before 2014.	Orange: Calculat- ed with consider- able interpola- tion.	Yellow: Estimation for 2006 and 2007.
Malaysia	Yellow: Some estimation for private enrolments in 2006-2008 and 2013. Some estimation of private institution counts in 2008 and 2016.	Yellow: Estimated before 2012	Orange: Only have transfers to institu- tions data. Estimated in many years for short-cycle HEIs - does not include all such institutions.	Red: No data	Red: No data	Orange: Unable to gather high quality data on grants. All loan recipient figures estimated.

COUNTRY	ENROLMENT AND INSTITUTIONS	TOTAL GOVERNMENT SPENDING	FINANCES OF PUBLIC HEIS	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
Mexico	Orange: Institution counts and enrol- ments estimated for 2006 to 2010. We assigned institutions to institution types.	Yellow: Estimated in 2006.	Orange: Only have transfers to institu- tions data. Estimated. Hybrids and short-cy- cle basically estimate as receiving equal funds per student.	Red: No data	Red: No data on amounts, though fees are modest	Green: Not certain we are covering all state programs. Federal only.
Morocco	Yellow: Modest estimation of private enrolment data in all years before 2016, including public-pri- vate breakdown of secondary students from 2006-2008.	Green	Orange: Only have transfers to institu- tions data which are basically estimated relative to total public spending. Only estimate for universities.	Red: No data	Red: No data	Orange: All grants amounts estimat- ed. Residence spending estimated in 2007 and 2008. Grant recipients estimated in 2007 and 2008.
Nigeria	Orange: Short-cycle institution counts data estimated in all years but 2014 and 2015. Most enrolment figures estimated for 2011 to 2018, but other data also may be conflicting between sources.	Orange: Appear to only have federal spending. Estimation in 2007, 2009-2010, 2012-2013, 2018.	Orange: Only appear to have federal spending. Estimation for a number of years for at least one type of HEI - in 2007, 2009-2010, 2012- 2013, 2018.	Red: No data	Red: No data	Orange: All grants data estimated. Federal grants only.
Pakistan	Yellow: Some estimation of college enrolments data by public private for 2014 to 2018, and institu- tion counts in 2018.	Yellow: Estimated in 2017	Orange: Only have transfers to institu- tions data which are basically estimated relative to total public spending.	Red: No data	Red: No data	Orange: All grants data estimated from multi-year data. Loans data estimated in many years between data announce- ments.
Peru	Yellow: All university enrolment data adjusted to account for differences in figures between sources.	Green	Yellow: Estimated student fee revenues before 2013. Estimated total institutional spending in 2007 and 2009 for hybrids.	Red: No data	Yellow: Estimated student fee revenues before 2013.	Orange: Grants data estimated before 2014. Loans data estimated from 2008-2010 for amounts and for all years before 2011 except 2008 for recipients.
Philippines	Yellow: Institu- tion-type data estimated for 2006 to 2014 and for 2018. Some estimation of university counts in all years, though public universities only for 2015 to 2018.	Orange: All data estimated due to absence of local government data.	Orange: All data estimated due to absence of local government data.	Red: No data	Orange: All data estimated due to absence of local government data.	Yellow: Some estimation in 2010
Saudi Arabia	Green	Yellow: Data estimated after 2017	Orange: Only have transfers to universi- ties.	Red: No data	Red: No data but assumed to be basically nil.	Orange: Grant recipients estimated based on basic program parameters. No data on amounts.

COUNTRY	ENROLMENT AND	TOTAL GOVERNMENT SPENDING	FINANCES OF PUBLIC HEIS	FINANCING (PRIVATE SECTOR)	STUDENT FEES IN PUBLIC SECTOR	STUDENT FINANCIAL AID
South Africa	Yellow: Estimated private enrolments in 2006 and 2007. Institution counts for privates also estimated in early years.	Yellow: Estimated figure for 2010	Green	Red: No data	Green	Yellow: Recipients estimated for 2006-2008
Tanzania	Orange: Enrolments at least partially estimated in all years except 2016.	Orange: All data estimated after 2011.	Orange: Only have transfers to institu- tions data which are basically estimated relative to total public spending.	Red: No data	Red: No data	Yellow: Grants data estimated for 2006 to 2008 and 2011 to 2016.
Thailand	Green: No data estimated, but assigned categories by HESA.	Green	Yellow: Only have data on transfers to universities	Red: No data	Red: No data	Yellow: Figures estimated prior to 2010
Turkey	Green	Yellow: Estima- tion in 2007 and 2008	Yellow: Estimation in some data for 2006.	Orange: No data prior to 2012. Data estimated where available. No data on student fee revenues.	Yellow: Estimated exemption recipients in 2013 and 2014.	Green
Vietnam	Orange: Data estimated for university enrolments from 2006 to 2016. College counts data estimated in 2017. General impression is of low reliability of data, particularly for colleges in last years of time series when there are structural changes in the system or methodological changes.	Orange: All data estimated except from 2010-2014. Especially loose estimation after 2014.	Orange: Best data from 2010 to 2014. Estimation for data by institution type. Poorest data after 2014.	Orange: Best data from 2010 to 2014. Estimation for data by institution type. Poorest data after 2014.	Orange: Best data from 2010 to 2014. Estimation for data by institution type. Poorest data after 2014.	Orange: All loans data estimated based on cumulative figures rather than annual.

Image Credits

Simon Fraser University, Burnaby, British Columbia: Image ID: 87822757, by James Chen, Shutterstock	. 1
University Of Science And Technology, Houari Boumediene, Algeria: Houari Boumedien University USTHB, by Krami Nesrine, cropped, licensed under CC BY-SA 4.0	. 3
University of Lagos, Nigeria: Image ID: 1229967019, by Fadingxsilhouette8, Shutterstock	. 4
University of Buenos Aires, Argentina: Image ID: 273763170, by Aleksandar Todorovic, Adobe Stock	. 5
UNAM Central Library, Autonomous National University of Mexico (UNAM), Mexico: Image ID: 166749928, by qojoo, Adobe Stock	. 6
Universidad de Antioquia, Colombia: Image ID: 94587151, by Haz, Adobe Stock	. 7
Université Félix Houphouët-Boigny, Cote-d'Ivoire: Felix houphouet-boigny university, by Hanay, cropped, licensed under CC BY-SA 3.0	. 8
University of Douala, Cameroon, Université de Douala 02, by Kondah, cropped, licensed under CC BY-SA 4.0	. 9
University of Brasília, Brazil, University of Brasilia, by Frank van Leersum, licensed under CC BY-NC 2.0, Flickr	. 12
Kuggen Building, Chalmers University of Technology, Gothenburg, Sweden , Image ID 2037124745, by Jana Janina, Shutterstock	. 14
Yonsei University, South Korea, Image ID: 142514307, by niyazz, Adobe Stock	. 17
Universidad de Chile, Chile, Image ID: 331979247, by IVÁN VIEITO GARCÍA, Adobe Stock	. 20
Moscow State University, Moscow, Russia, Image ID: 316806575, by miklyxa, Adobe Stock	. 21
Hong Kong Polytechnic University, Hong Kong, The Hong Kong Polytechnic University, by Ken OHYAMA, cropped, licensed under CC BY-SA 2.0, Flickr	. 23
MIT, Stata Center, United States, Image ID: 311234002, by wolterke, Adobe Stock	. 24
Al Azhar University, Egypt, Image ID: 1530411965, by SyahmiJamil, Shutterstock	. 27
Senate House of the University of London, United Kingdom, Image ID: 343485512, by IWei, Adobe Stock	. 29
Aalto University School of Business, Finland , Aalto University School of Business Atrium, by Rutlandbaconsouthamptonshakespeare, cropped, licensed under CC BY-SA 4.0	. 30
University of Chittagong, Chittagong, Bangladesh , Faculty of Biological Science at University of Chittagong, by Moheen Reeyad, cropped, licensed under CC BY-SA 4.0	. 31
University Library of Humboldt, Germany, Image ID: 70592963, by katatonia, Adobe Stock	. 33
Bocconi University, Milan, Italy, 2018-05-FL-188613, by ACME, licensed under CC BY-NC 2.0	. 36
University of Malaya, Malaysia, Image ID: 453882658, by amirraizat, Shutterstock	. 37
University of Ghana, Balme Library, Ghana , Balme Library of University of Ghana, Accra, Ghana, by Rjruiziii, cropped, licensed under CC BY-SA 3.0	. 38
Kenyatta University, Kenya , Kenyatta University Entrance, by Thorkild Tylleskar, cropped, licensed under CC BY-SA 4.0	. 39
The West Gate, Peking University, Beijing, China , West gate of Peking University (20180418180213), by N509FZ, cropped, licensed under CC BY-SA 4.0	. 41
Trinity College, Ireland, Image ID: 379170496, by VanderWolf Images, Adobe Stock	. 43
University in Salamanca, Spain, Image ID: 280339591, by milosk50, Adobe Stock	. 44
Rectorate Building, Universitas Indonesia, Indonesia , Universidad Indonesia Edificio Administrativo, by Tequendamia, cropped	. 47

Vietnam National University, Hanoi, Vietnam, Nha dieu hanh 144 Xuan Thuy 26Jan2005-01s, by VNU Media, licensed under CC BY-SA 4.0	. 50
Main Entrance Gate, University of Tehran, Iran, Image ID: 629401700, by Victor Jiang, Shutterstock	. 52
Natural Sciences Campus, Addis Ababa University, Ethiopia, ET Addis asv2018-01 img13 University gate, by A.Savin, WikiCommons	. 54
Nazarbayev University, Kazakhstan, Image ID: 325084760, by nikitamaykov, Adobe Stock	. 58
Université d'Abomey Calavi, Benin , Maison de l'enseignant à l'Université d'Abomey-Calavi-Bénin, by Adoscam, licensed under CC BY-SA 4.0	. 59
Mode Gakuen Cocoon Tower, Japan, Image ID: 350779024, by Michael Evans, Adobe Stock	. 62
Langara College, British Columbia, Canada, Langara Library, by Morgana911, licensed under CC BY-SA 4.0	. 63
Utrecht University Library, Netherlands , Biblioteca da Universidade de Utrecht, by Miguel M. Almeida, cropped, licensed under CC BY-NC 2.0, Flickr	. 64
The Hive, Nanyang Technological University, Singapore, Image ID: 657916540, by Maha Heang 245789, Shutterstock	. 66
Mohammed VI Polytechnic University, Morocco, Logo UM6P, by Aminezr23, cropped, licensed under CC BY-SA 4.0	. 68
La Trobe Institute For Molecular Science, Australia, Image ID: 245237362, by Nils Versemann, Shutterstock	. 69
University of Otago, New Zealand, Image ID: 193586044, by wopa54, Adobe Stock	. 70
Istanbul University, Turkey, Image ID: 57409159, by javarman, Adobe Stock	. 72
University of Bialystok, Poland, Image ID: 1952800138, by Adam J-ta, Shutterstock	. 74
University of Cape Town, South Africa, Image ID: 788452162, by EQRoy, Shutterstock	. 75
University of Lima, Peru, Image ID: 1722374755, by Eduardo Vidal Gutierrez, Shutterstock	. 76
Sorbonne Université, France, Image ID: 305789129, by Telly, Adobe Stock	. 77
University of Santo Tomas, Philippines, Image ID: 1106852417, by Walter Eric Sy, Shutterstock	. 78
King Abdullah University of Science and Technology, Saudi Arabia, Image ID: 395417019, by Walter_D, Adobe Stock	. 79
Alexandru Ioan Cuza University, Romania, Alexandru Ioan Cuza" University of Iaşi 11, by Argenna, cropped, licensed under CC BY-SA 4.0	. 81
Bangkok University, Thailand, Beautiful building @ Bangkok University, by ::::=UT=::::, cropped, licensed under CC BY-SA 3.0	. 82
2iE – Institut International d'Ingénierie de l'Eau et de l'Environnement, Burkina Faso , 2ie entrée, by Communication2iE, cropped, licensed under CC BY-SA 3.0	. 84
Indian Institute of Management Ahmedabad, India, Image ID: 72525058, Scott Norsworthy, Shutterstock	. 85
Taras Shevchenko National University of Kyiv, Ukraine, Image ID: 213185025, by adamchuk_leo, Adobe Stock	. 86
University Hospital, National Taiwan University, Taiwan, Image ID: 141038482, by Sean Hsu, Adobe Stock	. 88
University of Dodoma, Tanzania , University of Dodoma - Admin Building, by Job de Graaf, cropped, licensed under CC BY 2.0	. 89
Tel Aviv University, Israel, Image ID: 564340480, by Spiroview Inc, Shutterstock	. 90
Punjab University, Pakistan , Punjab university Art & Design Dept 2, by Lime.adeel, cropped, licensed under CC BY-SA 3.0	. 92
Rolex Learning Center at the Swiss Federal Institute of Technology, Switzerland, Image ID: 305014499, by Bogdan Lazar, Adobe Stock	. 93

Maps, All Maps by FreeVectorMaps.com



Higher Education Strategy Associates (HESA) is a Toronto-based firm providing strategic insight and guidance to governments, postsecondary institutions, and agencies through excellence and expertise in policy analysis, monitoring and evaluation, and strategic consulting services. Through these activities, HESA strives to improve the quality, efficacy, and fairness of higher education systems in Canada and worldwide.

Higher Education Strategy Associates

Suite 207, 20 Maud Street, Toronto ON, M5V 2M5, Canada

+1 (416) 848-0215 info@higheredstrategy.com www.higheredstrategy.com

