

Annex C. Public Universities Output Multiplier Calculations

Table C.1. Data Preparation for Public Universities in period of 2010–2016 (source: compiled by author from Universities Official Financial Activities Reports, Lithuanian Ministry of Education and Science, Education management information system and Research and Higher Education Monitoring and Analysis Centre).

	Total expenditure	Total Income	Number of students	Full Time Equivalent (Total)	Estimate
HE ₁	€ 103,694,716	€ 104,491,322	34 868	4386.435	104 039 470
HE ₂	€ 388,603,113	€ 381,569,076	81 470	13 058.65	382 556 344
HE ₃	€ 141,846,009	€ 143,429,072	39 215	5974.19	142 766 638
HE ₄	€ 101,922,250	€ 104,048,175	42 149	4678.2	103 774 103
HE ₅	€ 47,726,574	€ 47,332,485	6441	2781.28	45 370 659
HE ₆	€ 37,643,755	€ 37,113,579	14 840	1522.89	36 405 449
HE ₇	€ 333,703,527	€ 335,608,056	53 482	11 637.691	335 190 964
HE ₈	€ 138,842,344	€ 133,446,367	108 041	6742.08	135 899 397
HE ₉	€ 85,175,991	€ 85,595,238	35 629	4080.01	85 047 133
HE ₁₀	€ 63,118,339	€ 62,706,180	12 517	2345.25	61 737 476
HE ₁₁	€ 258,034,488	€ 258,514,343	78 997	10 701.735	258 734 021
HE ₁₂	€ 639,529,768	€ 638,229,406	14 3673	22 575.28	640 476 080
HE ₁₃	€ 159,974,754	€ 167,066,193	59 806	6269.34	167 817 895

Table C.2. Calculation the Direct Costs of Education Sector in Comparison with Other Sectors (compiled by author)

Classifications of Activities	Education (IO) column coefficients
A – Agriculture, forestry and fishing	0.001
B + C + D + E – Mining and quarrying; Manufacturing; electricity, gas, steam and air conditioning; Water supply; waste water treatment, waste management and regeneration	0.758
F – Construction	0.055
G + H + I – Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities	0.082
J – Information and communication	0.016
K – Financial and insurance activities	0.004
L – Real estate operations	0.012
M + N – Professional, scientific and technical activities; administrative and support activities	0.018
O + Q – Public administration and defense; compulsory social security; human health and social work	0.000
P – Education	0.041
R + S + T – Arts, entertainment and recreation, repair of household goods and other services	0.013

Table C.3. Dissemination of the Educational Multiplier for All Education Stages
(*compiled by author*)

P - Education	0.041
Pre-primary and primary education	0.006
Basic and secondary education	0.015
Colleges	0.001
Output multiplier for HEIs	0.008
<i>Public Universities</i>	<i>0.00035</i>
<i>HE1</i>	<i>0.00128</i>
<i>HE2</i>	<i>0.00048</i>
<i>HE3</i>	<i>0.00035</i>
<i>HE4</i>	<i>0.00015</i>
<i>HE5</i>	<i>0.00012</i>
<i>HE6</i>	<i>0.00112</i>
<i>HE7</i>	<i>0.00045</i>
<i>HE8</i>	<i>0.00028</i>
<i>HE9</i>	<i>0.00021</i>
<i>HE10</i>	<i>0.00086</i>
<i>HE11</i>	<i>0.00214</i>
<i>HE12</i>	<i>0.00056</i>
HE13	0.010
Research and development in the field of education; Other matters not related to education in the group	0.013

Table C.4. Output Multiplier Distribution between Public Universities Using three different methods showed consistency in the data (compiled by author)

	Regression on income, number of students and number of FTE	Regression of all variables	Proportional based on expenses
Public Universities	0.008	0.008	0.008
HE1	<i>0.00035</i>	<i>0.00035</i>	<i>0.00035</i>
HE2	<i>0.00128</i>	<i>0.00130</i>	<i>0.00130</i>
HE3	<i>0.00048</i>	<i>0.00047</i>	<i>0.00047</i>
HE4	<i>0.00035</i>	<i>0.00034</i>	<i>0.00034</i>
HE5	<i>0.00015</i>	<i>0.00015</i>	<i>0.00016</i>
HE6	<i>0.00012</i>	<i>0.00013</i>	<i>0.00013</i>
HE7	<i>0.00112</i>	<i>0.00111</i>	<i>0.00111</i>
HE8	<i>0.00045</i>	<i>0.00046</i>	<i>0.00046</i>
HE9	<i>0.00028</i>	<i>0.00029</i>	<i>0.00028</i>
HE10	<i>0.00021</i>	<i>0.00021</i>	<i>0.00021</i>
HE11	<i>0.00086</i>	<i>0.00086</i>	<i>0.00086</i>
HE12	<i>0.00214</i>	<i>0.00214</i>	<i>0.00214</i>
HE13	<i>0.00056</i>	<i>0.00053</i>	<i>0.00053</i>
Research and development in the field of education; Other matters not related to education in the group	0.010	0.010	0.010