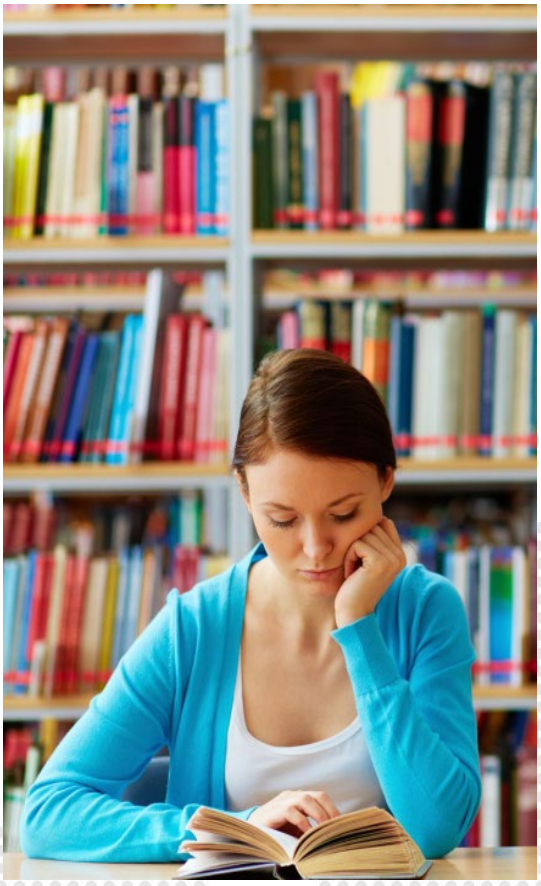
Impact of Covid-19 on university finances in Wales

Report for the University and College Union



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1 Introduction

The Covid-19 pandemic has had an almost unimaginable impact on all nations of the United Kingdom. There are numerous families that have had their lives shattered, and the health and social impacts of the pandemic are likely to persist long into the future. The economic impact of the pandemic will also be significant, with thousands of businesses and households in Wales thrown into financial hardship, many of whom will fail to ever recover. Initial estimates of the economic impact of the pandemic are worse than *anything* the country has ever experienced[1] - and deteriorating steadily. Although the current lockdown is entirely necessary, the longer it persists, the deeper and more irreversible the economic damage, and the longer until recovery occurs.

For the higher education (HE) sector in Wales, the pandemic will have immense financial consequences. Welsh universities have already suffered very significant revenue losses in respect of accommodation, conferences, and events activity. Optimistically, assuming that some face-to-face or widespread online provision will be possible in September 2020, the prospect of a significant proportion of domestic and international students **deferring** their decision to undertake a higher education qualification means that every university's core income streams will be severely jeopardised. There is also a **timing risk** that essentially reduces the potential upside of any return to 'business as usual'. Specifically, because the decision to undertake higher education takes place well in advance of actual enrolment, even if there is complete certainty in respect of the nature of HE provision in the coming weeks – or even months – this will be too late for many students.

In this report, which is based on a recent report for the University and College Union for the United Kingdom as a whole (link), we focus here on the impact of the pandemic on the finances of a selection of Welsh higher education institutions. **First**, we combine the most recently produced economic growth forecasts – both for the United Kingdom and internationally – and combine this with existing research on the determinants of HE student demand to identify the potential effect of the predicted economic recession on domestic and international enrolment rates in Wales. **Second**, we consider the most recent evidence on the impact of the pandemic on the decision of students to defer their decision to enrol in higher education (under the assumption that some form of either face-to-face or online provision will be available in autumn 2020). While the analysis assumes relatively optimistic outcomes for higher education institutions (HEIs), in reality, the potential financial impacts may be much **worse** than those presented here unless there is more comprehensive government intervention to support universities through this crisis.

In terms of core measures considered, in addition to the **number of first-year enrolments** in Welsh higher education institutions, we identify the financial impact on Welsh universities. In particular, we focus on the decline in **tuition fee and public Teaching Grant income** associated with first-year enrolments, and in consequence, the extent to which Welsh universities are in surplus or deficit based on their **day-to-day operations** (i.e. focusing on institutions **net cash inflow from operating activities**). In economic terms, the latter measure assesses the extent to which Welsh universities are covering their **variable** or **operating** costs (and in the absence of financial reserves or alternative revenue sources might be considered the minimum requirement for medium term *commercial* viability). Finally, unless the government underwrites their financial losses, assuming that institutions cut their expenditures to match the decline in income, we also assess the impact on **job losses** across the sector, as well as the consequential **direct, indirect and induced economic impact** across the wider UK economy.

[1] Office for Budget Responsibility (2020). See Chart 1.2 in 'Commentary on the OBR coronavirus reference scenario'.

2 The baseline position of institutions in Wales

To understand the baseline position of Welsh higher education institutions prior to the Covid-19 pandemic, we analysed publicly available information from HESA on enrolments and finances relating to the 2018-19 academic year[2]. In other words (and in the absence of more recent information), we assume that, in the absence of the Covid-19 pandemic, higher education institutions' positions in relation to student enrolments, finances and staff in the 2020-21 academic year would have remained the same as in the 2018-19 academic year. Hence, all of the predicted impacts of the pandemic (presented in Section 4) were estimated in comparison to this baseline.

Given the differential effect of the domestic and global slowdown on enrolments, the analysis was undertaken separately by **student domicile** (i.e. Wales, rest-of-the-UK, EU and Non-EU students), **level of study** (UG/PG) and **mode of study** (FT/PT). In addition, following a previous study (undertaken for the HEPI and Kaplan)[3] assessing the international demand for higher education in the UK, the analysis was split into **four clusters of higher education institutions**. Rather than splitting institutions into their mission group (which is self-selected and somewhat arbitrary), we used the classification of UK higher education institutions developed by Boliver (2015)[4].

Using this analysis, we group higher education institutions into four clusters. Cluster 2[5] includes just one Russell Group institution (Cardiff University). Cluster 3 consists of 5 institutions in Wales (covering members of the University Alliance and unaffiliated institutions). Finally, Cluster 4 covers 2 institutions in Wales (with members from GuildHE and an unaffiliated institution).[6] Any institutions that were not included in Boliver's (2015) proposed clusters were excluded from the analysis.

Table 1 Presentation of university clusters (based on Boliver, 2015)

Cluster 2 (1 HEI)	Cluster 3 (5 HEIs)	Cluster 2 (1 HEIs)
Cardiff University[a]	Aberystwyth University[c]	Glyndwr University[e]
	Bangor University[c]	University of Wales Trinity Saint David[c]
	Cardiff Metropolitan University[g]	
	University of South Wales[f]	
	Swansea University[c]	

a. Russell Group; b. (former) 1994 Group; c. Unaffiliated Old (pre-1992) universities; d. Million+; e. GuildHE; f. University Alliance; g. Unaffiliated New (post-1992) universities. At the time the original Boliver analysis was undertaken, Cardiff Metropolitan University was a member of University Alliance. Source: Boliver (2015)

2.1 First-year student enrolments

Table 2 presents the number of first year students enrolled at Welsh HEIs in 2018-19 (focusing on institutions covered in the Boliver (2015) clusters only). Of the **57,140** first-year students in 2018-19, **50%** (**28,545**) were Welsh-domiciled, **28%** (**16,260**) were from the rest of the UK, **5%** (**3,035**) were EU-domiciled, and **16%** (**9,300**) were from Non-EU jurisdictions. Approximately **71%** of students were undertaking undergraduate qualifications (**40,620**), and **72%** (**40,885**) were undertaking their qualifications on a full-time basis.

[2] 2018-19 being the most recent academic year for which this information was published, at the time of writing.
[3] See London Economics (2017a).
[4] Boliver's (2015) research suggests that, as a result of the differences in research activity, measures of perceived teaching quality (including NSS satisfaction measures and Guardian University Guide scores), economic resources, academic selectivity, and socioeconomic student mix, it is possible to classify UK HEIs into four distinct clusters. Among the pre-1992 universities, Oxford and Cambridge 'emerge as an elite tier' (and not considered in this report), with the remaining Russell Group universities essentially undifferentiated from the majority of other pre-1992 universities (Clusters 2 and 3). However, the cluster analysis further indicates that there is a division among the post-1992 universities, with around a quarter of these institutions categorised as Cluster 4, primarily based on their lower levels of research activity, resources, and selectivity (compared to Cluster 3).
[5] In total across the United Kingdom, Clusters 2, 3 and 4 contain 38, 67 and 18 institutions respectively.
[6] Note that the original analysis by Boliver (2015) included a total of 127 HEIs. The analysis presented in the main UCU report (link) focuses on 125 institutions, where we exclude SOAS University of London (since the relevant HESA financial information was unavailable for this institution) and the University of Wales, Newport (since it has now merged into the University of South Wales).

Table 2 Number and % of first-year students entering UK higher education in 2018-9 in Wales, by domicile, study mode and level, and institution cluster

	# of students				% of total (separately by cluster)			
	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Wales								
UG full-time	2,015	8,780	3,005	**13,800**	12%	29%	29%	**24%**
UG part-time	1,790	3,695	2,120	**7,605**	11%	12%	21%	**13%**
PG full-time	865	2,295	500	**3,660**	5%	7%	5%	**6%**
PG part-time	960	2,065	455	**3,480**	6%	7%	4%	**6%**
Total	**5,630**	**16,835**	**6,080**	**28,545**	**35%**	**55%**	**59%**	**50%**
Rest of the United Kingdom								
UG full-time	3,595	6,120	2,155	**11,870**	22%	20%	21%	**21%**
UG part-time	70	285	430	**785**	0%	1%	4%	**1%**
PG full-time	590	1,150	175	**1,915**	4%	4%	2%	**3%**
PG part-time	615	885	190	**1,690**	4%	3%	2%	**3%**
Total	**4,870**	**8,440**	**2,950**	**16,260**	**30%**	**27%**	**29%**	**28%**
EU								
UG full-time	225	985	255	**1,465**	1%	3%	2%	**3%**
UG part-time	10	115	560	**685**	0%	0%	5%	**1%**
PG full-time	260	400	40	**700**	2%	1%	0%	**1%**
PG part-time	55	75	55	**185**	0%	0%	1%	**0%**
Total	**550**	**1,575**	**910**	**3,035**	**3%**	**5%**	**9%**	**5%**
Non-EU								
UG full-time	750	1,865	115	**2,730**	5%	6%	1%	**5%**
UG part-time	1,625	25	30	**1,680**	10%	0%	0%	**3%**
PG full-time	2,685	1,925	135	**4,745**	17%	6%	1%	**8%**
PG part-time	40	85	20	**145**	0%	0%	0%	**0%**
Total	**5,100**	**3,900**	**300**	**9,300**	**32%**	**13%**	**3%**	**16%**
Total								
UG full-time	6,585	17,750	5,530	**29,865**	41%	58%	54%	**52%**
UG part-time	3,495	4,120	3,140	**10,755**	22%	13%	31%	**19%**
PG full-time	4,400	5,770	850	**11,020**	27%	19%	8%	**19%**
PG part-time	1,670	3,110	720	**5,500**	10%	10%	7%	**10%**
Total	**16,150**	**30,750**	**10,240**	**57,140**	**100%**	**100%**	**100%**	**100%**

Note: All numbers cover only the 125 institutions grouped into clusters by Boliver (2015), and are rounded to the nearest 5. ***Source: London Economics' analysis of HESA data (see HESA, 2020a)***

2.2 Baseline financial position

2.2.1 Tuition fee and Teaching Grant income

As presented in Table 3, the total tuition fee income (from first-year and continuing students) generated by Welsh-domiciled students in 2018-19 stood at approximately **£342 million**, with a further **£303 million** and **£43 million** accrued from students from the rest of the UK and EU-domiciled students respectively. **£177 million** of tuition fee income was generated from non-EU students. Total tuition fee income was estimated to be **£865 million.**

This equates to an average of approximately **£108 million** in tuition fee income per Welsh higher education institution. However, there is significant variation depending on cluster. Specifically, Cardiff University (the only Cluster 2 institution contained in the analysis) accrued **£260 million** in tuition fee income in 2018-19, compared to **£104 million** and **£43 million** per institution in Cluster 3 and 4 respectively. In addition, of particular importance here is the dependency on fee income from non-EU students. Cardiff University (Cluster 2) accrued **£83 million** in tuition fee income from non-EU international students compared to an average of **£18 million** and **£2 million** per institution in Clusters 3 and 4 respectively.

Table 3 Total tuition fee income accrued by Welsh higher education institutions in 2018-19, by student domicile and institution cluster

	Cluster 2	Cluster 3	Cluster 4	Total
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Wales	£61m	£222m	£58m	**£342m**
Rest of the UK	£104m	£178m	£21m	**£303m**
EU	£12m	£29m	£3m	**£43m**
Non-EU	£83m	£89m	£5m	**£177m**
Total	**£260m**	**£518m**	**£87m**	**£865m**
% of total				
Wales	24%	43%	67%	**39%**
Rest of the UK	40%	34%	24%	**35%**
EU	4%	6%	4%	**5%**
Non-EU	32%	17%	6%	**20%**
Total	**100%**	**100%**	**100%**	**100%**
Average per HEI				
Wales	£61m	£44m	£29m	**£43m**
Rest of the UK	£104m	£36m	£10m	**£38m**
EU	£12m	£6m	£2m	**£5m**
Non-EU	£83m	£18m	£2m	**£22m**
Total	**£260m**	**£104m**	**£43m**	**£108m**

Note: Numbers are rounded to the nearest £m or %. The income presented focuses on higher education course fees only, and excludes any income from other courses or education contracts (e.g. further education courses, transnational education courses, etc.).

Source: London Economics' analysis of HESA data (see HESA, 2020b)

In addition, higher education institutions in Wales received **£28 million** in Teaching Grant income in respect of UK-domiciled and EU-domiciled students (from the Higher Education Funding Council for Wales, the Office for Students, the Scottish Funding Council, and the Department for the Economy Northern Ireland).

2.2.2 Total income, expenditure and staff

As presented in Table 4, for the Welsh higher education institutions under consideration, total income in 2018-19 stood at **£1,631 million**, of which more than **£1,083 million** relates to the combined total of tuition fee and Teaching Grant income[7]. Although not under consideration here, a further **£273 million** in university income was accrued from the provision of a range of other services (for instance, accommodation, catering and events), which will clearly be impacted by the economic slowdown and the reduced number of students expected to enrol in Welsh HEIs in 2020.

The total expenditure of Welsh higher education institutions in 2018-19 stood at approximately **£1,844 million**, of which **£1,119 million** was spent on staff related costs (**61%**), and **£724 million** was spent on non-staff costs (**39%**). Welsh universities employed almost **23,000** staff in 2018-19 (headcount), comprising **10,230** academic staff, **2,115** academic staff on atypical contracts, and **10,540** non-academic staff.

Table 4 Total income accrued, expenditure incurred and staff employed by Welsh higher education institutions in 2018-19, by institution cluster

	Cluster 2	Cluster 3	Cluster 4	Total
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Income				
Tuition fees & educ. contracts	£280m	£524m	£89m	**£892m**
Funding body grants	£58m	£83m	£50m	**£190m**
Research grants & contracts	£116m	£143m	£0m	**£260m**
Other income	£76m	£164m	£33m	**£273m**
Investment income	£6m	£3m	£0m	**£10m**
Donations & endowments	£3m	£3m	£0m	**£6m**
Total	**£539m**	**£921m**	**£172m**	**£1,631m**
Expenditure				
Staff costs	£405m	£605m	£109m	**£1,119m**
Non-staff costs	£240m	£403m	£82m	**£724m**
Total	**£645m**	**£1,008m**	**£191m**	**£1,844m**
# of staff (headcount)				
Academic (excl. atypical)	3,330	5,945	955	**10,230**
Non-academic	3,475	6,030	1,035	**10,540**
Academic atypical	1,025	895	195	**2,115**
Total	**7,830**	**12,870**	**2,185**	**22,885**

Note: Any financial data are rounded to the nearest £m. Staff numbers are measured in headcount (in terms of HESA's definition of full-person equivalence), rounded to the nearest 5, and include staff on academic atypical contracts.

Source: London Economics' analysis of HESA data (see HESA, 2020b and 2020c)

2.2.3 Net cash inflow from operating activities

To understand the financial position of Welsh universities, rather than use surplus or deficit as a proportion of total income, we have considered institutions' **net cash inflow from operating activities as a proportion of total income**. This measure, which is used as a key financial indicator

[7] In Table 4, the income from teaching grants (£28 million) is included in the income from on funding body grants (£190 million), while the tuition fee income from HE course fees (£865 million) is included in the total income from tuition fees and education contracts (£892 million).

by HESA[8], provides an indication of the financial health of an institution in terms of its **day-to-day operations**. This metric is different from another common and straightforward financial metric of **surplus or deficit as a proportion of total income,** because it does not include any items of **non-cash expenditure** (such as depreciation, amortisation and (most importantly) adjustments for pension liabilities), or income from and expenditure on financing activities. We use this approach because the inclusion of pension provision charges in particular distorts the more standard surplus metric so that it cannot be used to assess the core sustainability of a university's business model. However, it is important to note that this measure (net cash inflow) is not perfect, with one of the main issues being the different approaches adopted by higher education institutions in respect of the accounting treatment of depreciation and amortisation.

In general, the estimate of **net cash inflow from operating activities as a proportion of total income** is typically approximately **10 percentage points** higher than the standard measure of surplus or deficit as a proportion of total income. In the absence of significant financial reserves, we would define organisations with a **net cash inflow** of less than **5%** as facing **significant operational challenges in the medium term** (as insufficient cash reserves are being generated to service debt or to build up cash reserves to pay for necessary capital refurbishment for instance)[9]. Most institutions that focus on net cash inflow would target achieving **at least 8%**.

Table 5 presents information in respect of Welsh institutions' net cash inflow positions in the baseline (i.e. in 2018-19). Across all HEIs considered in the analysis, the average net cash inflow from operating activities as a proportion of total income stood at approximately **5.4%** in 2018-19. By cluster, these proportions were lowest for institutions in ClustFigure 1ers 3 and 4. The analysis further indicates that, in 2018-19, there were **3** Welsh higher education institutions with a net cash inflow from operating activities of less than **5%**, of which **2** had a negative net cash inflow.

Table 5 Baseline net cash inflow from operating activities in 2018-19 by institution cluster in Wales (in £m and as a % of income)

	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Net cash inflow (per institution)	£50m	£5m	£2m	**£10m**
Net cash inflow (% of total income)	9.3%	4.9%	4.7%	**5.4%**
# of HEIs with net cash inflow <5%	-	2	1	**3**
# of HEIs with net cash inflow <0%	-	2	-	**2**

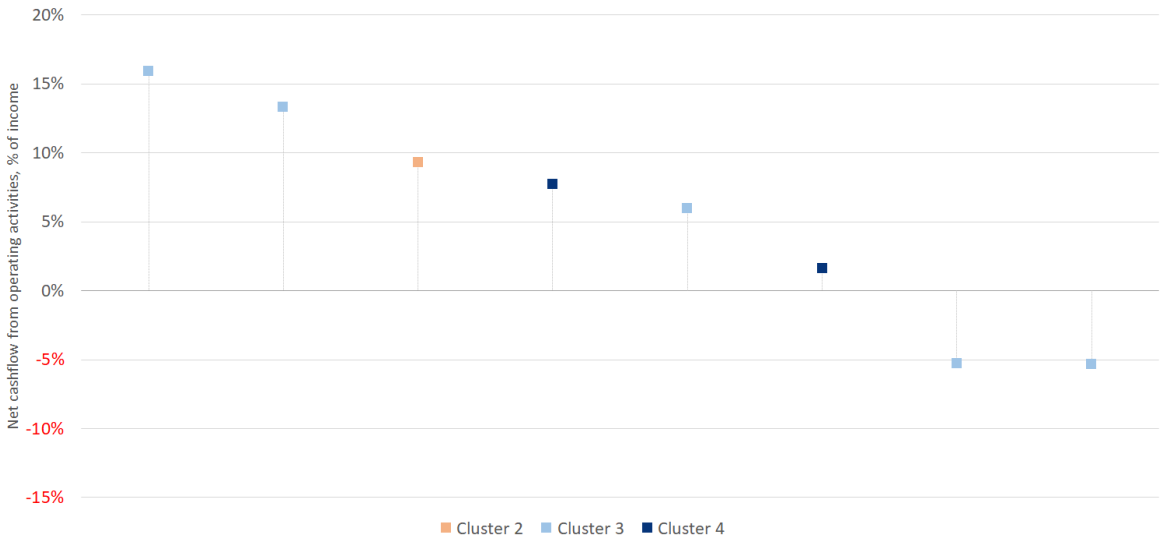
Source: London Economics' analysis of HESA data (see HESA, 2020b)

Figure 1 presents net cash inflow from operating activities as a proportion of total income, in 2018-19, separately by institution. It is important to note that institutions from all clusters were distributed across the entire spectrum, with a slightly higher concentration of institutions in Cluster 3 at the upper end of the spectrum (i.e. with higher net cash inflow positions).

[8] See HESA (2020b).

[9] Net cash inflow should exceed the institution's annual costs of servicing borrowing, i.e. interest and repayments. In 2018-19, the average of finance costs as a proportion of total income was estimated to be marginally above 4%, although for some institutions, the estimate was in excess of 10%.

Figure 1 Net cash inflow from operating activities as a % of income in 2018-19, by Welsh institution and cluster



Source: London Economics' analysis of HESA data (see HESA, 2020b)

3 Estimating the impact of the Covid-19 pandemic

3.1 Estimating the impact of the predicted global recession

3.1.1 UK-domiciled students

Economic growth forecasts for the UK

In the Office for Budget Responsibility's Economic and Fiscal Outlook for March 2020 (published in early March 2020), GDP growth was estimated to be **1.4%** for 2019, with expected subsequent annual growth of between **1.1%** and **1.8%** between 2020 and 2025[10]. However, more recent forecasts for the UK economy (including updates from the OBR itself) have predicted significant reductions in UK GDP in 2020 (presented in Table 5 in the main report). Over the entire year, the OBR now expects a **13%** decline in output). With the first release of ONS data covering the Covid-19 lockdown (link) indicating that there was a **2%** contraction in the economy between January and March 2020 (and a **5.8%** contraction in March alone), we consider the OBR forecast to be a reasonable assessment of the impact of the pandemic on economic growth in 2020. As such, we have used this estimate in subsequent modelling (described in further detail below).

Understanding the impact of the recession on UK-domiciled students

Specifically, to understand the impact of the economic downturn on student enrolments in Welsh higher education institutions, we have used the same information from the UK Quarterly Labour Force Survey (between Q1 2005 and Q1 2018) assessing the correlation between UK higher education participation and GDP growth.

[10] See Office for Budget Responsibility (2020a).

Theoretically, we would expect to see:

- A **countercyclical relationship** between **full-time** HE participation and economic growth. Specifically, as an economic slowdown occurs, the labour market options available to prospective full-time students decline, resulting in lower opportunity costs (in terms of labour market earnings) associated with higher education participation (effectively the 'price' of participation). This would result in an expected increase in full-time HE participation; and
- A **procyclical relationship** between **part-time** HE participation and economic growth. Given that a high proportion of part-time students are working in the labour market when making the decision to enrol in HE, an economic slowdown would reduce prospective students' disposable income, resulting in these individuals spending less on *all* goods and services – including higher education. The result would be a lower propensity to enrol in higher education[11].

The analysis of the Labour Force Survey presented in the main report – albeit being relatively simplistic and not reflective of the scale of the predicted economic slowdown and the more limited wider economic opportunities – suggests that a 1 percentage point reduction in annual UK GDP growth is associated with a **0.03% increase in full-time enrolments** in higher education (at any level). For part-time students, the effect is more substantial and is in the opposite direction (as expected), with the analysis indicating that a 1 percentage point reduction in the annual UK GDP growth rate is associated with a **0.56% decrease in part-time enrolments** in part time enrolment in higher education. We adopt the comparable estimates as part of this analysis for Welsh higher education institutions.

Combining these estimates with the above OBR economic forecast (indicating that UK GDP growth in 2020 will be approximately **14.8 percentage points** lower than in the previous year (i.e. in the absence of the pandemic), we estimate that, on average, there would be a **0-1%** increase in first-year full-time enrolments in 2020-21 in Welsh higher education institutions (compared to the baseline), an **8-9%** decline in part-time enrolments. This corresponds to an overall **3%** decline in UK-domiciled students enrolling in Welsh higher education institutions (equivalent to **1,025** students)[12].

It is important to note that these estimates only provide a *partial* estimate of the impact of the Covid-19 pandemic, as they do not account for any *additional* student deferrals due to the pandemic (e.g. students deferring their enrolment into UK higher education – or no longer considering undertaking higher education in Wales at all – due to the significant uncertainty over how/whether they will be able to attend their chosen course). These additional deferral effects are further discussed in Section 3.2.

3.1.2 International students

Economic forecasts for the global economy

There have been a number of recent forecasts of the impact of Covid-19 on the global economy. In particular, there have been a range of forecasts predicting significantly lower global GDP growth

[11] For a detailed discussion of the theory underpinning the behaviour of part-time and full-time students in response to changing economic conditions, see London Economics (2017b).

[12] As outlined above, we assume differential effects across institutions in different clusters, with HEIs in Cluster 1 (i.e. the most prestigious institutions) expected to face the relatively largest increase in the number of full-time students and the smallest decline in part-time students as a result of the impact of the UK's economic recession. Please refer to Annex A2.2.1 for more detail.

than in the absence of the pandemic (i.e. than estimated pre-crisis), including estimates by the OECD (**1.5 percentage points** lower (Figure 5, link)); Morgan Stanley (**3.1 percentage points** lower (link); Capital Economics (**6.8 percentage points** lower (link)); the United Nations (**3.4 percentage points** lower (link); and the International Monetary Fund (**6.3 percentage points** lower (link)). Notably, those forecasts published more recently again offer a more pessimistic estimate of the impact of the pandemic on global economic growth. In other forecasts estimating the extent of the global contraction (rather than the difference in pre- and post-pandemic growth rates), the National Institute for Economic and Social Research estimate a **4%** contraction of the global economy compared to 2019 (link), while a World Bank study from 2013 estimated the specific impact of a severe flu pandemic on the global economy at **4.8%** of global GDP (link).

For the purposes of this analysis, based on the World Bank analysis, we assume that the global economy will contract by **4.8%** in 2020.

Understanding the impact of the global recession on international students

In previous work undertaken on behalf of the Higher Education Policy Institute and Kaplan International[13], London Economics identified that every 1% reduction in global GDP was associated with a **0.485%** reduction in first-year international undergraduate students entering UK higher education in a given year. While no such effect was identified for postgraduate students, clearly, it is intuitively correct that an economic slowdown of the magnitude forecast for 2020 will have a negative impact on postgraduate students coming to the United Kingdom from overseas. Hence, as we have not applied any recession effect to these prospective students, our estimates of the recession effect associated with the pandemic on international students likely underestimate the true impact.

Combining the above estimate with an assumed **4.8%** global GDP contraction (estimated by the World Bank (2013)), we estimate a **1-2%** decline in the number of international EU-domiciled and non-EU-domiciled first-year undergraduate students coming to study in Wales in 2020-21[14].

Combining the impacts on domestic and international first-year students, the analysis indicates that the economic recession caused by the Covid-19 pandemic – by itself – would result in a (minimum) **2%** reduction in the number of first-year students entering higher education in Wales in 2020-21 (corresponding to approximately **1,180** students). Again, note that this is a relatively conservative estimate, with the true effect likely to be significantly higher. In addition, as outlined above, these estimates do not yet account for the impact of the additional student deferrals caused by the pandemic, discussed in the next section.

3.2 Estimating the impact of student deferrals due to the pandemic

To understand the impact of the pandemic on student deferrals, we have relied on several recent pieces of research analysing the potential effects on domestic and international students. However, the reasonableness of these analyses crucially depends on the extent to which institutions are fully operational in autumn 2020, as well as when there is some degree of certainty in respect of the institutional offer. We have assumed that the estimated deferral rates are reflective of the information available at the time in relation to the duration of the current lockdown, and the current delivery of higher education teaching across the sector. Clearly, if there is a significant delay in the

[13] See London Economics (2017a).
[14] Again, please refer to Annex A2.2.1 for more detail on the assumed underlying differential effects by university cluster.

availability and notification of when 'full' provision might take place, the greater the likelihood of deferral and the more significant the financial impact on institutions.

For **domestic students**, a recent joint UCAS/Youthsight[15] survey of 500 'A' level students that had applied to enter higher education identified that approximately **14%** were considering deferring their place. We apply this proportion to all UK-domiciled first-year students, irrespective of study level and mode of study, but with differential deferral rates applied to institutions in different university clusters (assuming the lowest deferral rates for Cardiff University in Cluster 2, and the highest for institutions in Cluster 4).[16]

For **international students**, the British Council[17] recently published results from a survey of Chinese nationals who had applied to study higher education courses overseas in the 2020-21 academic year (of which 98% had applied to study in the United Kingdom). Respondents were asked to indicate to what extent they were likely to cancel or delay their plans to study. **12%** of respondents had either already cancelled their plans or were 'very likely' to defer, with a further **12%** being 'somewhat likely'. **39%** were undecided ('neither likely nor unlikely'), while a further **25%** were 'somewhat unlikely' and the remaining **12%** were 'very unlikely' to delay or cancel their plans. We then applied a simple likelihood to each category of response (ranging from a 100% probability of deferral to those that had already cancelled their plans or were very likely to, to 0% for those very unlikely to cancel their plans). The expected probability-adjusted deferral rate was thus estimated to be approximately **47%**.[18] Although this survey related to prospective Chinese students only, we applied this deferral rate to all EU-domiciled and Non-EU domiciled students (again varying by cluster[19], and assuming the same deferral rate across all levels and mode of study). We adopted the same approach presented in the main report to estimate the rate of deferral of international enrolments in Welsh higher education institutions.

Note again that we did not apply the same magnitude of impact of either the recession or the pandemic effect across institutional clusters. In particular, to account for prospective students' switching behaviour, we applied differential estimates across clusters so that Cardiff University in Cluster 2 was assumed to be the *least negatively impacted* by either the economic recession or expected deferrals, and institutions in Cluster 4 were the *most negatively impacted*. Although the assumed variation across clusters was not particularly large, this does potentially address some change in institutional behaviour in respect of attracting students to fill enrolment shortfalls.

Further note that the impacts of the recession and student deferrals were applied *sequentially,* where above-described deferral rates were applied to the estimated number of first-year students *after* taking account of the recession effects. Given the multiplicative nature of the modelling, the aggregate impact of both types of effects remains unaffected by this sequencing.

[15] See UCAS and Youthsight (2020).
[16] See Annex A2.2.2 for more information.
[17] British Council (2020).
[18] In terms of the reasonableness of this assumption, other recent research estimated that amongst international students initially intending to study overseas, approximately **53%** are intending to defer their place, with an additional **8%** no longer intending to study overseas (link).
[19] See Annex A2.2.2 for more information.

4 The impact of the Covid-19 pandemic

4.1 Impact on student enrolments and income

Combining the impact of the economic downturn and the expected deferral rate, the analysis indicates that compared to baseline (i.e. 2018-19) first-year enrolments, a total of approximately **13,250** students will no longer enrol in Welsh higher education institutions in 2020-21 – equivalent to approximately **23%** of the baseline cohort (see Table 6). This includes approximately **4,915** fewer Welsh-domiciled students (a **17%** decline) and approximately **2,490** fewer students from the rest of the UK (a **15%** decline). The estimated decline in EU and non-EU students stands at **1,460** and **4,385** respectively (approximately **47-48%** within each category).

This corresponds to a total decline of approximately **1,665** students per institution, although there is some significant variation by university cluster. In particular, and in part reflecting the relative size of the institutions, the analysis indicates that there will be approximately **4,235** fewer first-year enrolments at Cardiff University in Cluster 2, **1,345** fewer enrolments per institution in Cluster 3 and **1,130** fewer enrolments per institution in Cluster 4.

Table 6 Estimated impact of the pandemic on first-year student enrolments in 2020-21, by student domicile and institution cluster

	Cluster 2	Cluster 3	Cluster 4	Total	% diff (to baseline)
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)	
Total across all HEIs					
Wales	-915	-2,840	-1,160	**-4,915**	**-17%**
Rest of the UK	-680	-1,295	-515	**-2,490**	**-15%**
EU	-255	-755	-450	**-1,460**	**-48%**
Non-EU	-2,385	-1,855	-145	**-4,385**	**-47%**
Total	**-4,235**	**-6,745**	**-2,270**	**-13,250**	**-23%**
Average per HEI					
Wales	-915	-565	-580	**-615**	**-17%**
Rest of the UK	-680	-260	-255	**-315**	**-15%**
EU	-255	-150	-225	**-185**	**-48%**
Non-EU	-2,385	-370	-70	**-550**	**-47%**
Total	**-4,235**	**-1,345**	**-1,130**	**-1,665**	**-23%**

Note: All numbers are rounded to the nearest 5.

Source: London Economics' analysis

In terms of the financial impact, the total decline in tuition fee and Teaching Grant income experienced across the sector was estimated to be **£98 million** (comprised of a decline in tuition fee income of **£96 million** and a loss of Teaching Grant income of **£2 million**). By student domicile, approximately **£21 million** of this loss in tuition fee income relates to the tuition fee income associated with Welsh-domiciled students, with a further **£14 million** associated with tuition fee income from students domiciled in the rest of the United Kingdom and **£10 million** associated with EU-domiciled students. Driven by the significantly higher tuition fees charged to non-EU students,

the largest decline in income was associated with non-EU students, where the expected loss in fee income was estimated to be approximately **£51 million**.[20]

Per institution, while the average decline in tuition fee income per institution stands at approximately **£12 million**, the variation in the reliance on international students across clusters results in a significant variation in impacts by cluster. For Cardiff University in Cluster 2, the impact was estimated to be **£35 million** compared to estimates of **£11 million** and **£5 million** per institution in Clusters 3 and 4 respectively.

Table 7 Estimated impact of the pandemic on HEI income in 2020-21, by institution cluster

	Cluster 2	Cluster 3	Cluster 4	Total	% diff (to baseline)
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)	-
Total across all HEIs					
Tuition fees	(£34m)	(£52m)	(£10m)	**(£96m)**	**-11%**
Teaching grants	(£1m)	(£1m)	(£1m)	**(£2m)**	**-9%**
Other income	-	-	-	**-**	**-**
Total	**(£35m)**	**(£53m)**	**(£10m)**	**(£98m)**	**-6%**
Average per HEI					
Tuition fees	(£34m)	(£10m)	(£5m)	**(£12m)**	**-11%**
Teaching grants	(£1m)	(£0m)	(£0m)	**(£0m)**	**-9%**
Other income	-	-	-	**-**	**-**
Total	**(£35m)**	**(£11m)**	**(£5m)**	**(£12m)**	**-6%**

Note: All numbers are rounded to the nearest £m.

Source: London Economics' analysis

It is important to note that these estimates relate solely to income from tuition fees and teaching grants, and do not include any loss in income associated with the provision of ancillary services (such as accommodation, catering, conferences etc). Furthermore, we only consider the decline in fee and Teaching Grant income associated with first-year students in the 2020-21 academic, i.e. in these students' first year of study. Given the fact that many higher education students enrol in multi-year programmes, the total financial impact associated with the decline in first-year students (over their entire study duration) may be much larger – especially depending on the extent to which students decide to no longer come to Wales at all.

4.2 Impact on net cash inflow from operating activities

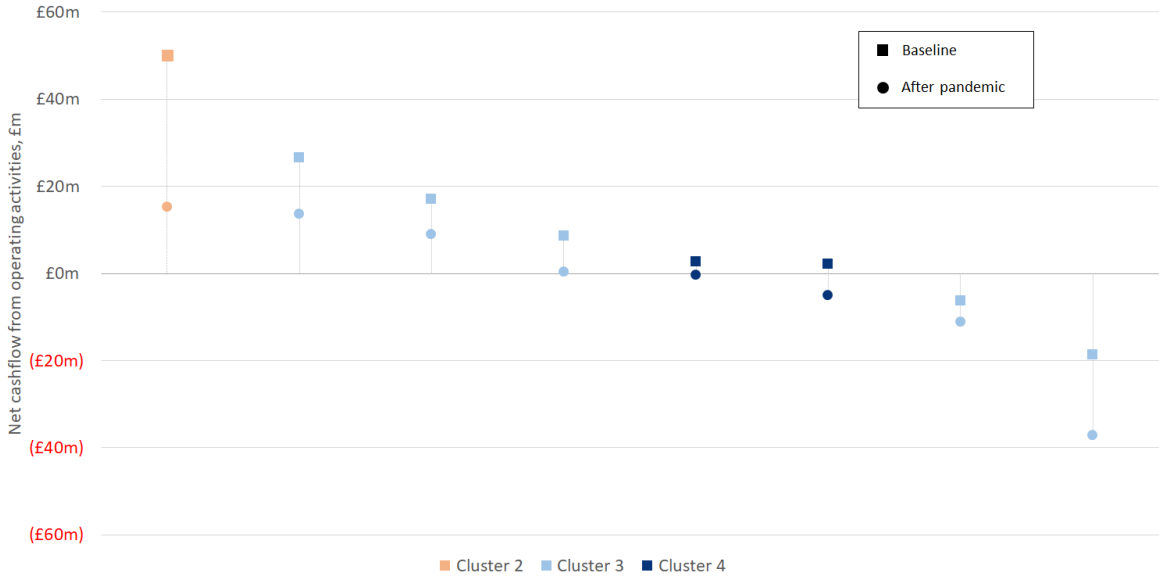
In Figure 2 and Figure 3, we provide information on the change to the key financial metric of **net cash inflow from operating activities**, in absolute monetary terms and as a proportion of total income, by institution and cluster (all ranked from highest (left) to lowest (right) net cash inflow in the baseline).

As outlined in Figure 2, the impact of the pandemic on individual higher education institutions' net cash inflow in monetary terms is stark. Specifically, the analysis estimates that Cardiff University – the institution with the largest baseline net cash inflow position pre-pandemic (**£50 million**) will

[20] Note again HEIs receive no Teaching Grant funding for Non-EU students, so that there is no estimated impact of the pandemic on this type of income.

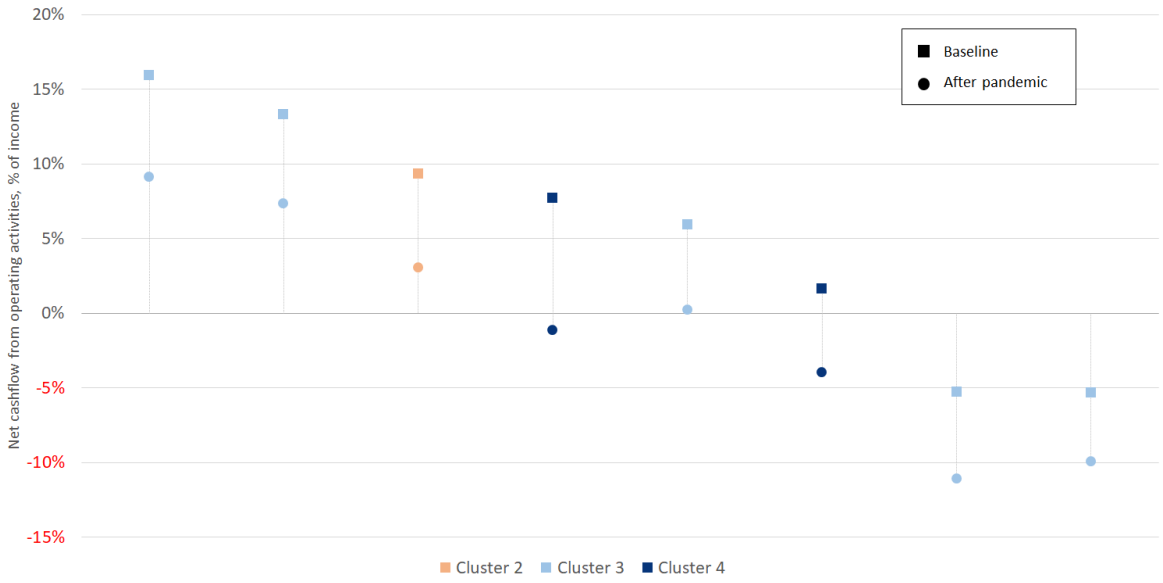
experience a decline in net cash inflow of **£35 million** to approximately **£15 million.** Figure 3 presents net cash inflows as a proportion of income by institution, with the corresponding information at cluster level presented in Table 8. The analysis indicates that overall, the average net cash inflow across all higher education institutions declines from **5.4%** to **-0.8 %** (a fall of **6.2 percentage points**). The decline is most acute for Cluster 4 institutions, where net cash inflow declines from an average **4.7%** to **-2.5%** of income (a fall of **7.2 percentage points**, corresponding to **£5 million** per institution). For Cluster 3 institutions, net cash inflow declines from an average **4.9%** to **-0.9%** of income (a fall of **5.8 percentage points**, corresponding to **£11 million** per institution).

Figure 2 Net cash inflow from operating activities (in £m) per institution in 2020-21, baseline vs. after pandemic, by institution and cluster in Wales



Source: London Economics' analysis

Figure 3 Net cash inflow from operating activities (as a % of total income) per institution in 2020-21, baseline vs. after pandemic, by institution and cluster in Wales



Source: London Economics' analysis

In terms of the number of institutions facing a **net cash inflow position of less than 5%**, this is estimated to increase from **3** institutions in the baseline (pre-pandemic) to **6** institutions in 2020-21. **3** out of the **5** Cluster 3 institutions are expected to be in this position (compared to **2** in the baseline), with the corresponding number in Cluster 4 standing at **2** (compared to **1** in the baseline). In terms of **negative net cash inflows**, compared to the baseline, where only **2** institutions posted a negative net cash inflow, this is expected to increase to a total of **4** institutions (of which **2** are in Cluster 3 and **2** are in Cluster 4).

Table 8 Estimated net cash inflow from operating activities (in £m and as a % of income) in 2020-21, baseline vs. after pandemic, by institution cluster in Wales

	Cluster 2	Cluster 3	Cluster 4	Total
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Net cash inflow (% of total income)				
Baseline	9.3%	4.9%	4.7%	**5.4%**
After pandemic	3.0%	-0.9%	-2.5%	**-0.8%**
Net cash inflow (per institution)				
Baseline	£50m	£5m	£2m	**£10m**
After pandemic	£15m	(£5m)	(£3m)	**(£2m)**
# of HEIs with net cash inflow <5%				
Baseline	-	2	1	**3**
After pandemic	1	3	2	**6**
# of HEIs with net cash inflow <0%				
Baseline	-	2	-	**2**
After pandemic	-	2	2	**4**

Note: All monetary estimates are rounded to the nearest £m. ***Source: London Economics' analysis***

4.3 Impact on employment

The previous sections illustrated the impact of the Covid-19 pandemic on Welsh universities' financial positions based on the estimated decline in tuition fee and Teaching Grant income resulting from the pandemic, but making no assumptions regarding any reductions in institutions' expenditures or assistance from the government to make up for the lost revenue.

To understand what the decline in institutions' financial positions might mean for their staff, we have used information on the breakdown of university expenditure into staff and non-staff costs, as well as the average staff cost per employee, in 2018-19. Specifically, for this element of the analysis we have assumed that the estimated reduction in income for each institution following the pandemic would be fully offset by a corresponding reduction in institutional expenditure, and that the relative reduction in staff and non-staff costs will reflect the baseline distribution of expenditure of staff and non-staff costs. Similarly, we assume the same average level of staff expenditure per employee as in the baseline[21], and that job losses occur in proportion to the current employment profile in each university (i.e. we assume that job losses are not targeted at one particular category of staff, but rather spread evenly across each institution). To estimate the reduction in institutional

[21] Note that the staff costs per employee were estimated by dividing the total staff costs in 2018-19 incurred by each institution by the number of total academic, non-academic and academic atypical staff (in headcount) employed by the institution in that academic year.

staff as a result of the pandemic, we then divide the estimated decline in staff-related costs by the average staff expenditure per employee (again separately for each institution).

The results presented in Table 9 indicate that if, in the absence of substantial underwriting of their losses by the UK government, institutions reduced their expenditure by **£98 million** (reflecting the estimated decline in university income after the pandemic (Table 7)), this would result in approximately **1,230** job losses across the HE sector in Wales (in headcount terms). This equates to approximately **155** job losses per institution. Again reflecting the differential effect of the pandemic on institutions depending on their core reliance on international students (and size), the losses vary from an average of **65** staff per institution in Cluster 4 to **135** in in Cluster 3 institutions.

Table 9 Number of staff employed by HEIs in 2020-21 (in headcount), baseline vs. after pandemic, by cluster in Wales

	Cluster 2	Cluster 3	Cluster 4	Total
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Total across all HEIs				
Baseline	7,830	12,870	2,185	**22,885**
After pandemic	7,405	12,190	2,060	**21,655**
Difference	-425	-680	-125	**-1,230**
Average per HEI				
Baseline	7,830	2,575	1,095	**2,860**
After pandemic	7,405	2,440	1,030	**2,705**
Difference	-425	-135	-65	**-155**

Note: All numbers are rounded to the nearest 5.

Source: London Economics' analysis

4.4 Wider economic impact

Finally, we consider the wider economic impact associated with the expected reduction in higher education institutions' income and expenditure. As illustrated in the many existing analyses of the economic contributions of Welsh higher education institutions[22], the economic impact of universities goes well beyond their campuses and buildings. Universities act as very significant economic units within their local economies, generating economic output through the purchase of products and services from their suppliers, as well as the expenditure of their staff. These **direct, indirect and induced** economic impacts are defined as follows:

- **Direct effect:** This considers the economic output generated by a university itself, by purchasing goods and services (including labour) from the economy in which it operates.
- **Indirect effect:** The university's purchases generate income for the supplying industries, which they in turn spend on their own purchases from suppliers to meet the university's demands. This results in a chain reaction (or 'ripple/multiplier effect') of subsequent rounds of spending across industries.
- **Induced effect**: The university's employees will use their wages to buy consumer goods and services within the economy, generating wage income for employees within the industries

[22] E.g. see London Economics (2017c).

producing these goods and services, who in turn spend their own income. Again, this leads a 'ripple effect' of spending throughout the economy as a whole.

Applying existing estimates of the economic multipliers associated with higher education institutions' expenditure and employment to the estimated reductions in university expenditure and employment (in the absence of substantial underwriting of institutions' financial losses by the UK government)[23], Table 10 illustrates the effect of the pandemic on total UK economic output and employment. In particular, the analysis estimates that the combined direct, indirect and induced economic impacts of the activities of the 8 Welsh higher education institutions declines from **£4,591 million** to approximately **£4,347 million** (a reduction of approximately **£244 million**). In terms of employment losses, the reduction in institutional activity would be expected to result in approximately **2,545** job losses, of which approximately **1,230** occurring directly in higher education institutions, with a further **1,315** jobs lost throughout institutions' local, regional and national supply chains.

Again, throughout this analysis we have made a number of relatively conservative assumptions based on the information available, and focused only on specific university income streams that will be directly impacted by the expected reduction in first-year enrolments as a result of the recession and student deferrals. It is likely that the impact of the pandemic on the higher education sector, and the consequential impact on the UK economy, will be significantly larger than the estimates presented here.

Table 10 Total direct, indirect and induced economic impact generated by higher education institutions' expenditures in 2020-21, baseline vs. after pandemic, by cluster in Wales

	Cluster 2	Cluster 3	Cluster 4	Total
# of HEIs	Cluster 2 (#1)	Cluster 3 (#5)	Cluster 4 (#2)	Total (#8)
Economic output (£m)				
Baseline	£1,606m	£2,510m	£476m	**£4,591m**
After pandemic	£1,519m	£2,378m	£450m	**£4,347m**
Difference	(£87m)	(£131m)	(£26m)	(£244m)
Employment (headcount)				
Baseline	16,210	26,640	4,520	**47,370**
After pandemic	15,330	25,230	4,265	**44,825**
Difference	-880	-1,410	-255	-2,545

Note: Staff numbers are rounded to the nearest 5, and monetary estimates are rounded to the nearest £m.

Source: London Economics' analysis

[23] Specifically, we make use of economic multipliers estimated by Oxford Economics (2017) as part of an analysis of the economic impact of UK higher education institutions on the UK economy (for the 2014-15 academic year). The analysis indicates that every £1m of direct university expenditure generates an additional **£1.49 million** of economic output throughout the rest of the UK economy, and that every 1,000 staff employed directly by HEIs support an additional **1,070 jobs** throughout the UK economy as a whole.

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Annex 1 References

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Annex 2 Methodological Annex

A2.1 Overview of HEIs by cluster

Table 11 Presentation of university clusters (based on Boliver, 2015)

Cluster 1 (2 HEIs)	Cluster 3 (67 HEIs)	Cluster 3 continued
University of Cambridge[a]	Abertay Dundee University[d]	The University of Northampton[d]
University of Oxford[a]	Aberystwyth University[c]	Nottingham Trent University[f]
	Arts University Bournemouth[e]	Northumbria University[f]
	University of the Arts London[g]	Oxford Brookes University[f]
	Aston University[c]	Plymouth University[f]
Cluster 2 (38 HEIs)	Bangor University[c]	University of Portsmouth[f]
University of Aberdeen[c]	Bath Spa University[d]	Queen Margaret University[g]
University of Bath[b]	University of Bedfordshire[d]	Robert Gordon University[g]
University of Birmingham[a]	Birmingham City University[d]	University of Roehampton[g]
University of Bristol[a]	Bournemouth University[f]	University of Salford[f]
Cardiff University[a]	University of Bradford[f]	Sheffield Hallam University[f]
University of Dundee[c]	University of Brighton[g]	Staffordshire University[d]
Durham University[ab]	Brunel University London[c]	University of Stirling[c]
University of East Anglia[b]	Canterbury Christ Church University[d]	University of Sunderland[d]
The University of Edinburgh[a]	Cardiff Metropolitan University[f]	Swansea University[c]
University of Exeter[ab]	University of Central Lancashire[d]	Teesside University[f]
University of Glasgow[a]	University of Chester[g]	Ulster University[c]
Goldsmiths, University of London[b]	University of Chichester[e]	University of the West of England[f]
Heriot-Watt University[c]	City University[c]	University of West London[d]
Imperial College London[a]	Coventry University[f]	University of the West of Scotland[d]
University of Kent[c]	University for the Creative Arts[e]	University of Westminster[g]
King's College London[a]	De Montfort University[g]	The University of Winchester[e]
Lancaster University[b]	University of Derby[g]	University of Worcester[e]
University of Leeds[a]	Edinburgh Napier University[d]	
University of Leicester[b]	University of Essex[b]	
University of Liverpool[a]	Falmouth University[e]	**Cluster 4 (18 HEIs)**
University College London[a]	University of Glamorgan[f]	Anglia Ruskin University[d]
London School of Economics[ab]	Glasgow Caledonian University[f]	Bishop Grosseteste University[e]
Loughborough University[b]	University of Gloucestershire[g]	University College Birmingham[e]
The University of Manchester[a]	University of Greenwich[f]	University of Bolton[d]
Newcastle University[a]	Harper Adams University[e]	Buckinghamshire New University[e]
The University of Nottingham[a]	University of Hertfordshire[f]	University of Cumbria[d]
Queen Mary University of London[ab]	Univ. of the Highlands & Islands[g]	University of East London[d]
Queen's University Belfast[a]	University of Huddersfield[f]	Edge Hill University[g]
University of Reading[b]	The University of Hull[c]	Glyndwr University[e]
Royal Holloway, University of London[b]	Keele University[c]	Leeds Trinity University[e]
University of St Andrews[b]	Kingston University[f]	Liverpool Hope University[g]
The University of Sheffield[a]	Leeds Beckett University[d]	London Metropolitan University[d]
University of Southampton[a]	University of Lincoln[f]	University of St Mark and St John[g]
University of Strathclyde[c]	Liverpool John Moores University[f]	Southampton Solent University[e]
University of Surrey[b]	London South Bank University[g]	University Campus Suffolk[g]
University of Sussex[b]	Manchester Metropolitan University[f]	University of Wales Trinity Saint David[c]
The University of Warwick[ab]	Middlesex University[d]	University of Wolverhampton[d]
The University of York[ab]	Newman University, Birmingham[e]	York St John University[e]

a. Russell Group;
b. 1994 Group;
c. Unaffiliated Old (pre-1992) universities;
d. Million+;
e. GuildHE;
f. University Alliance;
g. Unaffiliated New (post-1992) universities.

Note: *SOAS University of London (originally in Cluster 2) was excluded from the above list due to a lack of financial data available from HESA for this institution. In addition, we excluded the University of Wales, Newport (originally in Cluster 4), as it no longer exists (as it merged with the University of Glamorgan to create the University of South Wales, in 2013) .

Source: Boliver (2015)

A2.2 Assumed differential impacts of the pandemic by university cluster

A2.2.1 Impact of the expected economic recession

As outlined above, to estimate the impact of the expected decline in global economic growth on first-year **international students** (from EU and non-EU countries), based on previous work undertaken for the Higher Education Policy Institute, we assumed that a 1% reduction in global GDP is associated with a **0.485%** reduction in first-year international undergraduate enrolments. To understand the differential effect across different university clusters, we made use of the 95% confidence intervals from the econometric analysis undertaken as part of the previous analysis. We split these confidence intervals into four equal segments, calculated the mid-point of each segment, and multiplied these mid-points by the estimated **4.8%** decline in global GDP estimated by the World Bank (2014). We then assigned the resulting estimates to the four university clusters, assuming that institutions in Cluster 1 would face the relatively *smallest decline* in the number of (both full-time and part-time) undergraduate international students (**-1.9%**), while HEIs in Cluster 4 would face the relatively *largest decline* instead (**-2.8%**, see Table 12)[24].

Table 12 Assumed changes in first-year students due to economic recession, by student domicile, level, mode and university cluster

	UG full-time	UG part-time	PG full-time	PG part-time
UK students				
Cluster 1	0.6%	-6.4%	0.6%	-6.4%
Cluster 2	0.5%	-7.5%	0.5%	-7.5%
Cluster 3	0.5%	-8.6%	0.5%	-8.6%
Cluster 4	0.4%	-9.6%	0.4%	-9.6%
International students				
Cluster 1	-1.9%	-1.9%	-	-
Cluster 2	-2.2%	-2.2%	-	-
Cluster 3	-2.5%	-2.5%	-	-
Cluster 4	-2.8%	-2.8%	-	-

Source: London Economics' analysis

For **UK domiciled students**, we followed a similar approach to estimating differential changes by university cluster. Our analysis of the UK Labour Force Survey suggested that a 1 percentage point reduction in UK GDP growth per annum is associated with a **0.03%** increase in **full-time enrolment** (at both undergraduate and postgraduate level). To estimate a differential effect by cluster, we assumed the same variation around this central elasticity (in percentage terms) as for international students (i.e. based on the above-discussed confidence interval estimated for international students' response to changes in global GDP). Again, we then split the resulting elasticity range into four equal segments, and multiplied the mid-point of each segment by the **14.8 percentage point** decline in UK GDP growth in 2020 (as compared to 2019) predicted by the Office for Budget Responsibility (2020). We then assigned the resulting estimates to each cluster, assigning the relatively *largest increase* in UK full-time students to Cluster 1 (**0.6%**), and the *smallest increase* to Cluster 4 (**0.4%**).

[24] Note again that no effect was identified for international postgraduate students, as the econometric results for postgraduate international students estimated on behalf of the Higher Education Policy Institute (2017) were statistically insignificant.

We proceeded similarly to estimate the impact of the recession on first-year UK **part-time students** (assigning the *smallest decline* (**-6.4%**) to Cluster 1 and the *largest decline* (**-9.6%)** to Cluster 4).

A2.2.2 Impact of deferrals

The analysis of the impact of deferrals on **UK domiciled** students assumes that approximately **14%** of first-year domestic students (both full-time and part-time, and at all levels) would defer their place as a result of the current pandemic[25]. To estimate differential effects by cluster, we assume a 5 percentage point variation around this central estimate, again divide the resulting range (**-11.5%** to **-16.5%**) into four equal segments, and assign the mid-points to different clusters, so that HEIs in Cluster 1 would face the *smallest decline* (**-12.1%**) in first-year UK students, and HEIs in Cluster 1 would face the *largest decline* (**-15.9%**).

Table 13 Assumed changes in first-year students due to deferrals, by student domicile, level, mode and university cluster

	UG full-time	UG part-time	PG full-time	PG part-time
UK students				
Cluster 1	-12.1%	-12.1%	-12.1%	-12.1%
Cluster 2	-13.4%	-13.4%	-13.4%	-13.4%
Cluster 3	-14.6%	-14.6%	-14.6%	-14.6%
Cluster 4	-15.9%	-15.9%	-15.9%	-15.9%
International students				
Cluster 1	-44.9%	-44.9%	-44.9%	-44.9%
Cluster 2	-46.1%	-46.1%	-46.1%	-46.1%
Cluster 3	-47.4%	-47.4%	-47.4%	-47.4%
Cluster 4	-48.6%	-48.6%	-48.6%	-48.6%

Source: London Economics' analysis

Similarly, using the expected **47%** deferral rate for **international** first-year students[26] (again across all levels and study modes), and again assuming a 5 percentage point variation around this estimate, we assume that institutions in Cluster 1 would face a decline in international first-year students of approximately **-44.9%**, compared to **-48.6%** for HEIs in Cluster 4.

[25] See UCAS and YouthSight (2020).

[26] See British Council (2020).

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