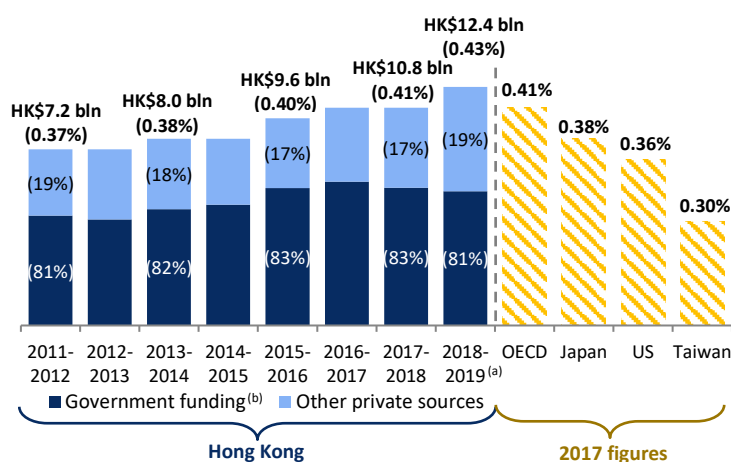


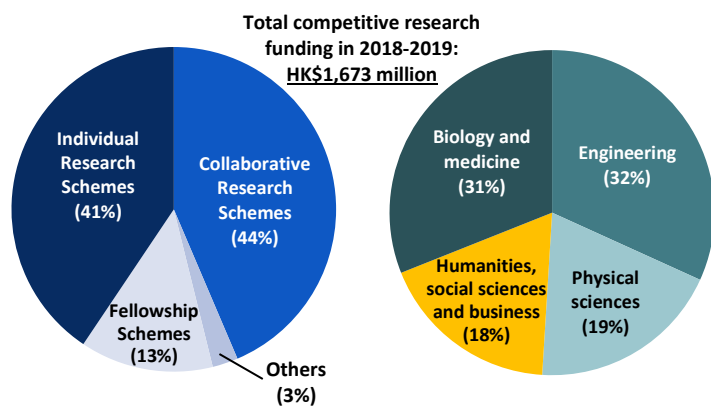
## Research in universities

**Figure 1 – University research expenditure**

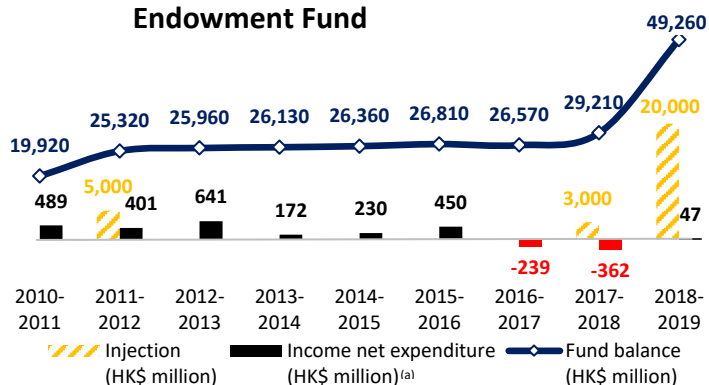


Notes: (a) The 2018-2019 figures are not directly comparable with those of earlier years as the former include the implicit user cost of research and development facilities.  
(b) The figures cover the research funding from UGC, the Research Grants Council, and other government sources.

**Figure 2 – Allocation of competitive research funding in 2018-2019**



**Figure 3 – Financial position of the Research Endowment Fund**



Note: (a) The figures refer to the interest income minus research grants disbursed by REF for the year.

## Highlights

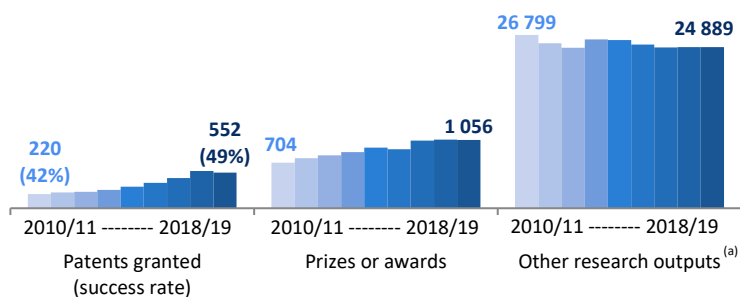
- Basic research in universities informs discoveries which may be developed into products that benefit the society. In Hong Kong, the research expenditure of University Grants Committee ("UGC")-funded universities as a percentage of gross domestic product has been on the rise since 2011-2012 (**Figure 1**). The percentage share stood at 0.41% in 2017-2018, which was higher than or equal to similar figures in the Organisation for Economic Co-operation and Development (0.41%), Japan (0.38%), the United States (0.36%) and Taiwan (0.30%).

- At present, UGC and its advisory body – the Research Grants Council ("RGC") – provide the bulk of funding for research in UGC-funded universities. UGC provides recurrent funding in the form of a block grant, about 23% of which was deployed by universities to sustain their research infrastructure in 2018-2019. Meanwhile, RGC administers four major types of research schemes, which are allocated on a competitive basis and provide the majority of funding for research projects. In 2018-2019, a total of HK\$1,673 million in competitive research funding was allocated, of which 85% was for individual and collaborative research schemes (**Figure 2**). On a discipline basis, the science-related disciplines accounted for most of the funding, at 82%, in 2018-2019.

- Since 2009, RGC's competitive research funding has been financed by the investment income from the Research Endowment Fund ("REF"). Yet, due to declining annual investment return, REF recorded deficits in 2016-2017 and 2017-2018 (**Figure 3**). Amid uncertainties such as the fluctuation in investment income, the Government injected an additional HK\$20 billion to REF in 2019, to render continued funding for university research. Nevertheless, according to a task force appointed by the Government, universities should also diversify their funding to include more private or philanthropic sources.

## Research in universities (cont'd)

**Figure 4 – Research output of UGC-funded universities**



Note: (a) The figures include the more traditional types of research outputs such as monographs, journal publications, and conference papers.

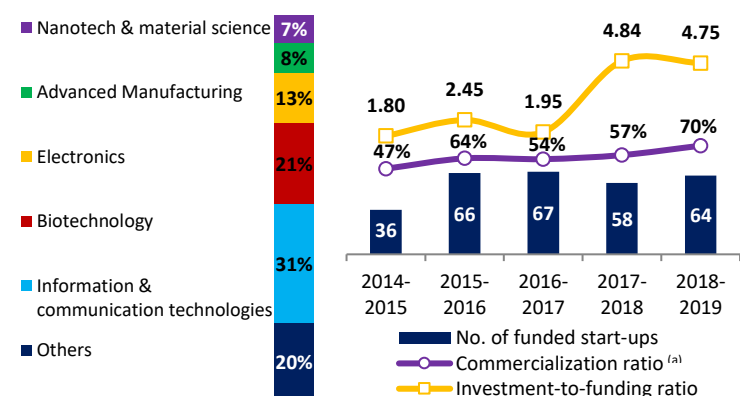
**Figure 5 – Funding for technology transfer and start-up**

	Technology Transfer Offices of designated universities <sup>(a)</sup>				
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020 <sup>(b)</sup>
No. of funded universities	6	6	6	6	7
Amount of funding (in HK\$ million)	23.9	24.0	23.8	24.0	56.0

	Technology Start-up Support Scheme for Universities <sup>(c)</sup>				
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020 <sup>(d)</sup>
No. of funded start-ups	66	67	58	64	93
Amount of funding (in HK\$ million)	22.6	24.0	24.0	24.0	45.0

Notes: (a) The designated universities include the University of Hong Kong, The Chinese University of Hong Kong, City University of Hong Kong, The Hong Kong University of Science and Technology, Hong Kong Baptist University, and The Hong Kong Polytechnic University. The Education University of Hong Kong has also been given support since 2019-2020.  
 (b) The maximum annual funding for each TTO was increased from HK\$4 million to HK\$8 million since 2019-2020.  
 (c) Under TSSSU, each start-up may be funded for no more than 3 years. From 2015-2016 to 2019-2020, a total of 240 start-ups associated with the universities were funded under TSSSU.  
 (d) The maximum annual funding for TSSSU was increased from HK\$24 million to HK\$48 million since 2019-2020.

**Figure 6 – Technology start-ups by universities**



Note: (a) This refers to the percentage of start-ups that have commercialized their research and rolled out their products or services in the market.

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 22 December 2020  
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## Highlights

- Amid the increase in funding for basic research, the number of patents awarded increased from 220 in 2010-2011 to 552 in 2018-2019, accompanied by an increase in the success rate from 42% to 49% over the same period (**Figure 4**). The number of research prizes/awards exhibited a similar rising trend from 704 to 1 056. However, the number of more traditional types of research output, such as journal publications, decreased modestly from 26 799 in 2010-2011 to 24 889 in 2018-2019.
- The Government also provides universities with funding to transfer their research results from the laboratory to the marketplace, which helps bridge the gap between basic and applied research. Since 2014, recurrent funding has been provided to the Technology Transfer Offices ("TTOs") of designated universities to commercialize their research, collaborate with industries, and provide professional support. Research teams in universities may also apply for the Technology Start-up Support Scheme for Universities ("TSSSU") to kick-start their own technology businesses. In 2019-2020, the Government provided HK\$56 million to seven TTOs and HK\$45 million to 93 university start-ups respectively (**Figure 5**).
- Since its inception in 2014, TSSSU has provided an impetus for research teams to commercialize their research outputs, especially in the fields of information and communication technologies (31%) and biotechnology (21%) (**Figure 6**). Reflecting this, the ratio of university start-ups that have commercialized their research increased from 47% in 2014-2015 to 70% in 2018-2019. Furthermore, the start-ups secured follow-up investments amounting to 4.75 times the original funding by TSSSU in 2018-2019, compared with just 1.8 times in 2014-2015. However, some of these start-ups were still in their infancy as only 51% of them generated business revenue as at end-2018.

Data sources: Latest figures from the Education Bureau, University Grants Committee, and Innovation and Technology Bureau.