

A closer look at the budget figures for Horizon 2020 and Horizon Europe

“Everything should be made as simple as possible, but not simpler”

Albert Einstein

Since the European commission presented its proposal for the next Framework Programme “Horizon Europe” for the period from 2021 to 2028, the proposed budget is a very controversial issue.

This paper is an attempt to put this debate on a more solid ground by trying to calculate truly comparable budget figures for the initial Horizon 2020 proposal from 2011, the actual Horizon 2020 regulation from 2013 and the new Horizon Europe proposal. The results show a somewhat different overall picture compared to the media coverage and public debate so far.

0. Intro

On 7 June 2018, the European Commission presented the official documents proposing “Horizon Europe”, the next Framework Programme for Research and Innovation for the years 2020 to 2027. One of the headline messages from the press material is a total budget of 100billion € and a massive increase in funding for research and innovation over the years to come, making Horizon Europe “the most ambitious programme ever”.

Journalists and observers had some difficulties in understanding all the figures presented, so Commissioner Moedas took the opportunity to express his view on the issue in an interview with the DG RTD magazine “Horizon EU”¹:

¹ https://horizon-magazine.eu/article/horizon-europe-will-connect-public-european-science-carlos-moedas_en.html

“The numbers are quite simple. Horizon 2020 was around €77 billion. If you subtract the United Kingdom, because the United Kingdom was a big part of the programme, that would be €67 billion. And today the programme we are putting forward is €100 billion. €100 billion for 27 countries compared with €67 billion for 27 countries. You are talking about the biggest increase in absolute amounts ever.”

Simplification is a top priority of the European Commission, but here it might have been pushed a bit far, as comparing the funding streams from Horizon 2020, the current framework Programme running from 2014 to 2020, with the future Horizon Europe programme is not so straightforward as suggested here.

1. Factors shaping the comparison

This paper will analyse how three factors influence – and alter – the calculations:

- Inflation

Horizon 2020 was presented in 2011, and Horizon Europe will run until 2027. Even with comparatively low inflation rates, a comparison based on “current prices” over a time span of 18 years would be misleading. A recalculation into “constant prices” is hence mandatory.

- Brexit

The Horizon 2020 budget is provided by all current EU Member States, whereas the budget for Horizon Europe will be based on the contribution from 27 Member States, not including the United Kingdom.

For some purposes it might be appropriate to recalculate the Horizon 2020 figures to exclude the contributions from the UK and to allow a comparison with Horizon Europe. However, it might also be useful in some contexts to just compare the absolute amount of EU funding, not considering the actual number of Member States.

- Research Funding

Both Framework Programmes are presented as covering research and innovation. Although the official rhetoric implies that both activities are very much interconnected, one might also take the view that funding mechanisms in both areas are profoundly different and that money going to finance the growth of innovative companies is not (directly) supporting research.

In some contexts, it might therefore be useful to analyse the “research” and “innovation” parts of both programmes separately.

The technical details of the calculations carried out to take these factors into account are presented in full detail in the annex.

It is important to stress that the figures presented should be regarded as “solid estimates”, as the calculations cannot be carried out with a highest level of precision but are based on bold and plausible approximations.

Table 1 presents the results obtained for three sets of data:

- H20 Proposal, the initial Horizon 2020 proposal presented in 2011
- H20 Regulation, the final Horizon 2020 budget agreed in 2013
- HEU Proposal, the initial Horizon Europe proposal presented in 2018

Table 1:

Comparative table for Horizon 2020 (H20) and Horizon Europe (HEU) budgets (in bn €)

			H20 Proposal	H20 Regulation	HEU Proposal
	Units	Coverage			
Total budget	Current prices	EU-28	87,7	77,0	
	Current prices	EU-27			94,1
	Constant prices 2011	EU-28	77,7	68,2	
	Constant prices 2018	EU-28	85,4	75,0	
	Constant prices 2018	EU-27	73,9	64,9	83,5
Research Funding	Current prices	EU-28	83,0	73,6	
	Current prices	EU-27			83,6
	Constant prices 2011	EU-28	73,6	65,2	
	Constant prices 2018	EU-28	80,8	71,7	
	Constant prices 2018	EU-27	70,0	61,9	74,1
ERC	Current prices	EU-28	15,0	13,1	
	Current prices	EU-27			16,6
	Constant prices 2011	EU-28	13,3	11,6	
	Constant prices 2018	EU-28	14,6	12,8	
	Constant prices 2018	EU-27	12,6	11,0	14,7
MSCA	Current prices	EU-28	6,5	6,2	
	Current prices	EU-27			6,8
	Constant prices 2011	EU-28	5,8	5,5	
	Constant prices 2018	EU-28	6,3	6,0	
	Constant prices 2018	EU-27	5,5	5,2	6,0

2. Budgets in constant prices 2018

Using constant prices for the year 2018 as common denominator for all budgetary figures under consideration leads to the following results:

1. The proposal for Horizon Europe, as presented by Commissioner Moedas in June 2018, is in total real terms smaller than the initial Commission proposal for Horizon 2020, presented by Commissioner Geoghegan-Quinn back in 2011 ...
2. Compared to the final Horizon 2020 budget after negotiations with Council and Parliament, the proposed budget for Horizon Europe represents an increase of 8% in real absolute terms.

Not surprisingly, the calibration of budgetary figures on the common 2018 price basis leads to considerably less impressive increases in the budget numbers, or even to the somewhat disappointing conclusion that in total volume the FP9 proposal is even lower than the initial proposal for FP8.

3. Horizon 2020 without the UK

While looking at the total budgetary figures for both programmes is meaningful when analysing the total size of the endeavour, an adjustment might be useful to compare Horizon 2020, which runs with the full participation of the UK, with Horizon Europe, which for the time being leaves out the UK. Since for the moment predicting possible future UK funding for Horizon Europe is impossible, the only way out is to calculate fictive budgetary figures for Horizon 2020 which do not include the financial contribution from the UK (some 13.45% of the total EU 28 funding). These calculations lead to the following results:

1. The budget in the Horizon Europe proposal is roughly 10 bn € (in constant 2018 prices) or some 14% higher than the hypothetical Horizon 2020 proposal without the UK.
2. When comparing with a fictive final Horizon 2020 budget “ex UK”, the increase corresponds to some 16 bn € or 23%.

These are impressive figures, yet remarkably lower than the figures (in current prices ...) Commissioner Moedas was referring to in the interview quoted above – as his remarks alluded to an increase of 50% in relative terms and 33 bn € in absolute terms.

4. Just the Research Programme ...

Horizon 2020 was the first Framework Programme for research and Innovation, whereas all previous programmes had an almost exclusive focus on research. The plans for Horizon Europe indicate a substantial increase in the funding of innovation related activities, notably the creation of a European Innovation Council with a budget of almost 9 bn € (in 2018 prices; 10 bn € in current prices ...).

A comparison based on the best possible common denominators (2018 constant prices, no UK contribution in both programmes) shows the following results:

1. The research funding envisaged in Horizon Europe (74.1 bn €) is just 6% higher than the research funding initially proposed for Horizon 2020 (70.0 bn €).
2. Compared to the finally agreed Horizon 2020 research budget (61.9 bn €), the real increase in research funding proposed for Horizon Europe is just 20%.

5. Some first conclusions

To start with the good news: there is a real funding increase in the Horizon Europe proposal over the current Horizon 2020 budget. In times of fiscal austerity and additional tasks for the European Union, this is remarkable and positive.

Compared to the public presentations and the accompanying political spin, presenting the proposal as a real boost for research and innovation in Europe, the increase is however relatively modest and does not convincingly reflect the claimed ambitions.

While innovation funding will increase substantially with Horizon Europe, the situation regarding the “classical” research funding is far less positive. Considering the high-flying ambitions in this part – notably several “missions” to achieve specific societal objectives – one is inclined to assume that these new tasks will not be funded exclusively from additional funding made available but will have to tap into the financial reservoirs of the existing research schemes. Considering this, hopes to see “better” success rates again soon might evaporate quickly. The situation might aggravate for classical schemes like collaborative research projects or training networks, where future funding will be basically flat – at best...

Finally, it is very revealing to compare the original Commission proposal for Horizon 2020 with the current proposal for Horizon Europe – as they present surprisingly similar absolute figures in real terms.

In other words: Most of what is presented today in the Horizon Europe proposal as a “gain” compared to the current Horizon 2020 budget corresponds in reality to the “losses” in the negotiations of the final Horizon 2020 budget...

This is an alarming signal, and better strategies are needed to avoid a repetition of the poor outcome of the Horizon 2020 negotiations – and to make sure that at the end Horizon Europe will really bring a substantial increase in real funding for European research.

Version 1.0 – 20.06.2018 - Feedback: mail@peter-fisch.eu

Annex

Sources:

H20 Proposal

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52011PC0809>

H20 Regulation

http://ec.europa.eu/research/participants/data/ref/h2020/legal_basis/fp/h2020-eu-establact_en.pdf

HEU Proposal

https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-horizon-europe-regulation_en.pdf

Calculations:

Current prices H20 to Constant prices 2011:

Own calculations based on http://ec.europa.eu/budget/mff/figures/index_en.cfm

Constant prices 2011 to Constant prices 2018

Own calculations based on <http://fxtop.com/en/inflation-calculator.php>

(EU-wide Inflation rate from mid-2011 to mid-2018 9.9%)

Current prices HEU to constant prices 2018

Own calculations based on

https://eur-lex.europa.eu/resource.html?uri=cellar:c2bc7dbd-4fc3-11e8-be1d-01aa75ed71a1.0023.02/DOC_1&format=PDF

(MFF Proposal, comparative tables page 25)

EU-28 to EU-27

Own calculations based on

<https://www.statista.com/statistics/316691/european-union-eu-budget-share-of-contributions/>

(Share of UK in total UK budget estimated at 13.45%)

Research Funding

Total funding – Access to risk finance – Innovation in SME (H20)

Total funding – EIC funding (HEU Proposal)