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Research and Development in the EU Framework Programmes

Lecture 5

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INVESTING IN YOUR FUTURE

Framework Programmes

Lecture 5

In this lecture you will learn about:

- What framework programmes are
- A bit of history on the framework programmes

What are Framework Programmes?

For the EU research and development and innovation has key importance since the beginning. Because of their significance, the EU has special funding programmes to enhance R&D&I activity. These funding programmes are called Framework Programmes abbreviated with FP1, FP2...FP7, Horizon 2020 and Horizon Europe.

Framework Programmes are the main research related policy instruments in the EU. They are funding programmes created by the European Commission to foster R&D&I in the European Research Area. Each framework programme has specific objectives and these objectives vary between funding periods.

Framework Programmes are important elements in the European R&D since 1984 as that was the first the European Commission introduced the first such funding instrument. At that time, its budget was limited, and it only lasted for 4 years. In 2020, the eighth framework programme (Horizon 2020) is running but getting close to its end. The ninth programme is already defined and is called Horizon Europe.

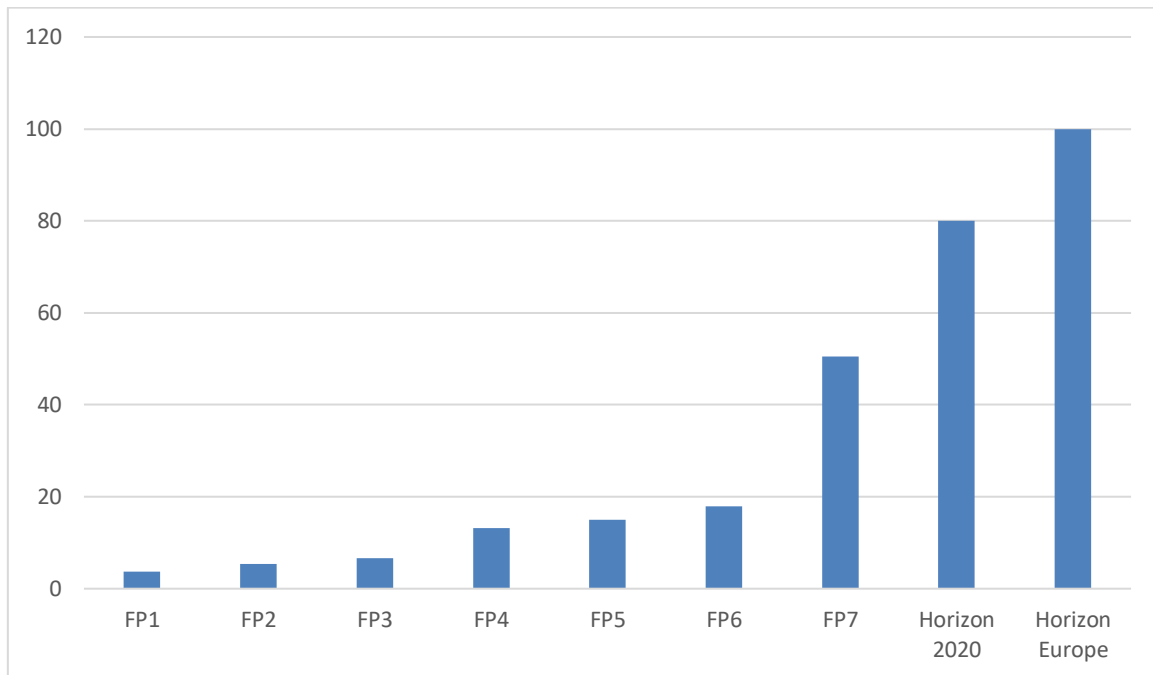
Over the years the Commission realised that in order to enhance R&D and innovation, the budget has to be increased, so in each funding period it got bigger and bigger. A big turning point came with the seventh framework programme (FP7), when in one hand the lengths of the funding period was increased from 4 years to 7 years. The leaders of the EU realised that 4 years might not be enough to successfully carry out research projects. Moreover, not only the funding period became longer, but the devoted budget also grew significantly. The biggest increase in budget (so far) happened from the sixth to the seventh framework programme, as

it more than doubled. The detailed time period and budget for each framework programme can be found in Table 1.

Table 1. Framework programmes and their time period and budget

Framework Programme	Period	Budget
First (FP1)	1984-1988	€ 3.750 bn
Second (FP2)	1987-1991	€ 5.396 bn
Third (FP3)	1990-1994	€ 6.600 bn
Fourth (FP4)	1994-1998	€13.215 bn
Fifth (FP5)	1998-2002	€14.960 bn
Six (FP6)	2002-2006	€17.883 bn
Seventh (FP7)	2007-2013	€ 50.521 bn
Horizon 2020 (Eighth)	2014-2020	€ 80.000 bn
Horizon Europe (Ninth)	2021-2027	€100.000 bn

Figure 1. The evolution of Framework Programme budgets (in bn euros)



Source: own construction

Some history of the previous Framework Programmes

We will cover Horizon 2020 and Horizon Europe in Lecture 6, but it is useful to look back on the previous framework programmes and see what the EU has achieved thanks to them.

The **FIRST** framework programme lasted between 1984 and 1987 and compared to later FPs it had a small budget (3.750 bn euros), yet it was a very important milestone. This framework programme defined 7 scientific and technical objectives:

- improving the energy resources' management (got the majority of resources: 47.2% of the budget)
- promoting industrial competitiveness (this was the second biggest priority and had 28.2% of the budget)
- improving living and working conditions (it was the third biggest objective with 10.3% of the budget)
- promoting agricultural competitiveness
- improving raw materials management
- stepping up development aid

- improving the effectiveness of the European Community's scientific and technical potentials.

The **SECOND** framework programme lasted between 1987-1991 and had a budget of 5.396 bn euros. With this FP a new criterion, new priority field appeared – social and economic cohesion. This FP had 3 major objectives, major areas of improvement:

- A larger market and information and communication society (42.2% of budget)
- Energy (21% of budget)
- Modernization of the industrial sectors (15.7% of budget).

The **THIRD** framework programme run between 1990 and 1994 with the budget of 6.6 bn euros. The main goal of this FP was to strengthen the scientific and technological base of the European industry and to encourage the European industries' competitiveness on the global level, doing it through the support of enterprises, research centres and universities.

The **FOURTH** framework programme run between 1994 and 1998 and had a budget of 13.215 bn euros. With this framework programme some major changes have been introduced, some new fields were added to the existing research fields. Such new fields were for instance information and communication technologies, life sciences and technologies, environment, or transport research). Moreover, in this framework programme, the Commission tried to stimulate the mobility of researchers and the creation of European research networks. Europe wanted to provide researchers knowledge sharing opportunities across borders and disciplines. These actions also aimed at extending the excellence of European research.

The **FIFTH** framework program lasted between 1998 and 2002 with a budget of 14.96 bn euros. This FP brought again major changes because the main aim of this FP was to respond to socio-economic challenges in a way that the previous 4 FPs were not able. It concentrated on 4 main thematic programmes:

- Quality of life and management of living resources
- User friendly information society,
- Competitive and sustainable growth
- Energy
- Environment and sustainable development.

Besides the thematic programme it had three horizontal programmes too:

- Confirming the international role of European Community research
- Promoting innovation and encouraging the participation of SMEs
- Improving human research potential and the socio-economic knowledge base.

One big innovative feature of the fifth framework programme was the introduction of the concept of key actions.

Key actions can be defined as a cluster of projects varying from scientific to technological disciplines addressing specific problems.

The **SIXTH** framework programme run between 2002 and 2006 with the budget of 17.883 bn euros. In this FP a main objective was the contribution to the creation of the European Research Area (ERA)¹. This FP was divided into 3 main blocks of activities two of which were centred around ERA:

- Focusing and Integrating European Research
- Structuring the ERA
- Strengthening the foundations of ERA.

The **SEVENTH** framework programme run between 2007 and 2013 with the budget of 50.521 bn euros. As it was already mentioned, this FP brought changes regarding the length of the funding period and the budget too. The main aims of this FP were to meet Europe's need regarding jobs and competitiveness and to maintain the EU's leadership in the global knowledge economy. It was divided into 5 main blocks:

- Cooperation
- Ideas (to reinforce excellence, dynamism and creativity in and across all fields of research)
- People
- Capacities
- Nuclear Research.

¹ „The European Research Area (ERA) is the ambition to create a single, borderless market for research, innovation and technology across the EU. It helps countries be more effective together, by strongly aligning their research policies and programmes. The free circulation of researchers and knowledge enables: better cross-border cooperation, building of critical mass, continent-wide competition.”

A specific feature of FP6 and FP7 is that their projects were financed through instruments like Integrating Project, Network of Excellence or Scientific Targeted Research Projects.

“Integrating Project (IP)

- *Medium- to large-sized collaborative research projects funded in FP6 and FP7. They are composed of a minimum of three partners coming from three countries from Associated states but can join several tens of partners. The typical duration of such projects is three to five years but there is not a defined upper limit. The budget granted by the Commission can reach several tens of million euros, paid as a fraction of the actual costs spent by the participants.*
- *IPs specifically aim at fostering European competitiveness in basic research and applied science with a focus on "addressing major needs in society" defined by the Priority Themes of the Framework Programme. Like STRePs (see below), IPs ask for a strong participation of small or medium-sized enterprises (SMEs) to ascertain the translation of research results into commercially viable products or services.”*

“Network of Excellence (NoE)

- *Medium-sized research projects co-funded by the European Commission in FP6 and FP7. These projects are designed to strengthen scientific and technological excellence on a particular research topic through the durable integration of the research capacities of the participants.*
- *NoE projects require the minimum participation of three EU member-nations, however, projects are usually expected to involve at least six countries. Projects are provided grants for a maximum of seven years. The budget granted by the Commission is €1–6 million per year depending upon the number of researchers involved.*
- *An NoE project should not strictly be considered as a research project, since its aim is not to conduct research, but rather to contribute to the clarification of the concepts in the covered field”*

“Specific Targeted Research Projects (STReP)

- *Medium-sized research projects funded by the European Commission in the FP6 and FP7 funding programs. STReP projects involve a minimum of three partners coming from three countries from Associated states. The typical duration of such projects is two to three years. In FP6, they generally involved between six and 15 partners. The budget granted by the Commission is in average around €2 million”*

Questions for self-study

- What is a Framework Programme in European research & development policy? When did the certain framework programmes run? How did the covered time period and budget evolve over time?
- What were the main instruments of Framework Programme 6 and Framework Programme 7?

References:

European Research Area definition: https://ec.europa.eu/info/research-and-innovation/strategy/era_en

Framework programmes and their time period and budget (Table 1):
<http://www.jeupiste.eu/horizon-2020-and-around/historical-timeline-framework-programme>

Framework Programmes definition: <http://www.jeupiste.eu/horizon-2020-and-around/historical-timeline-framework-programme> and
https://en.wikipedia.org/wiki/Framework_Programmes_for_Research_and_Technological_Development

The description and short introduction of FP1, FP2, FP3, FP4, FP5, FP6 AND FP7:
<http://www.jeupiste.eu/horizon-2020-and-around/historical-timeline-framework-programme>

The description of Integrating Project, Network of Excellence and Specific Targeted Research Projects:
https://en.wikipedia.org/wiki/Framework_Programmes_for_Research_and_Technological_Development