



## *The Smart Factory Project*

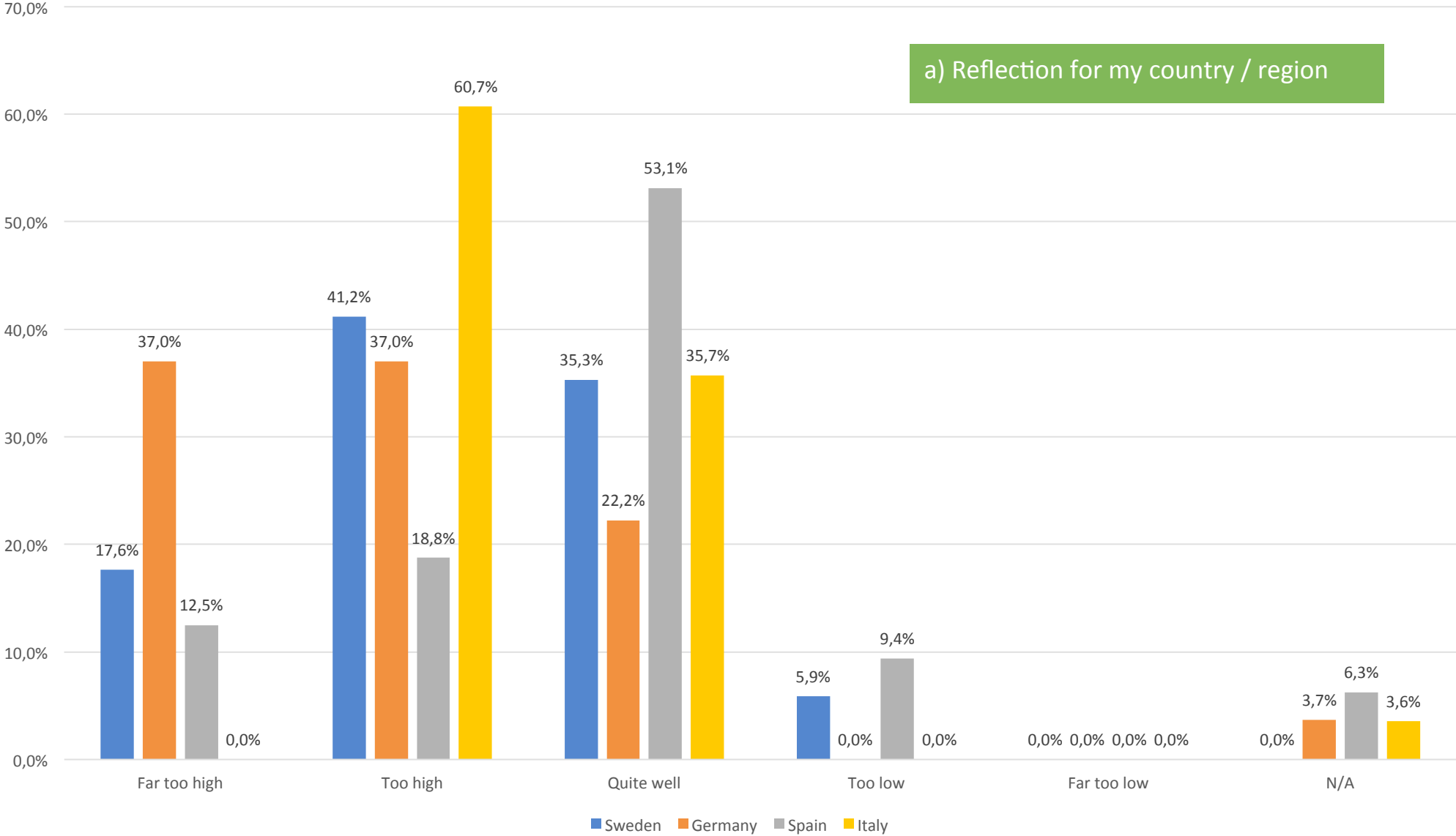
The Delphi Online Survey  
First Round on Macroeconomic Aspects

**First Results**

Question 1:

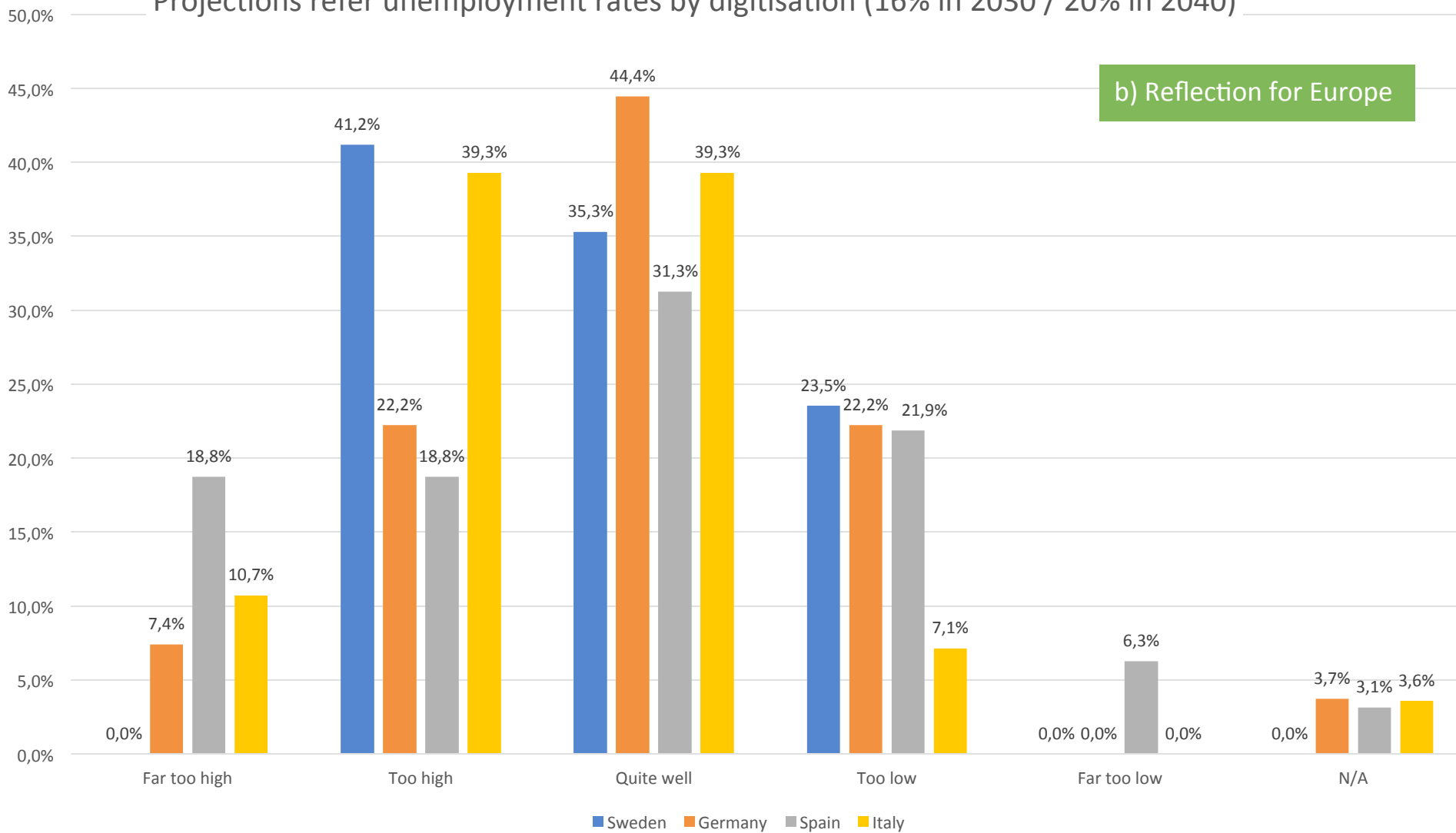
Projections refer unemployment rates by digitisation (16% in 2030 / 20% in 2040)

a) Reflection for my country / region

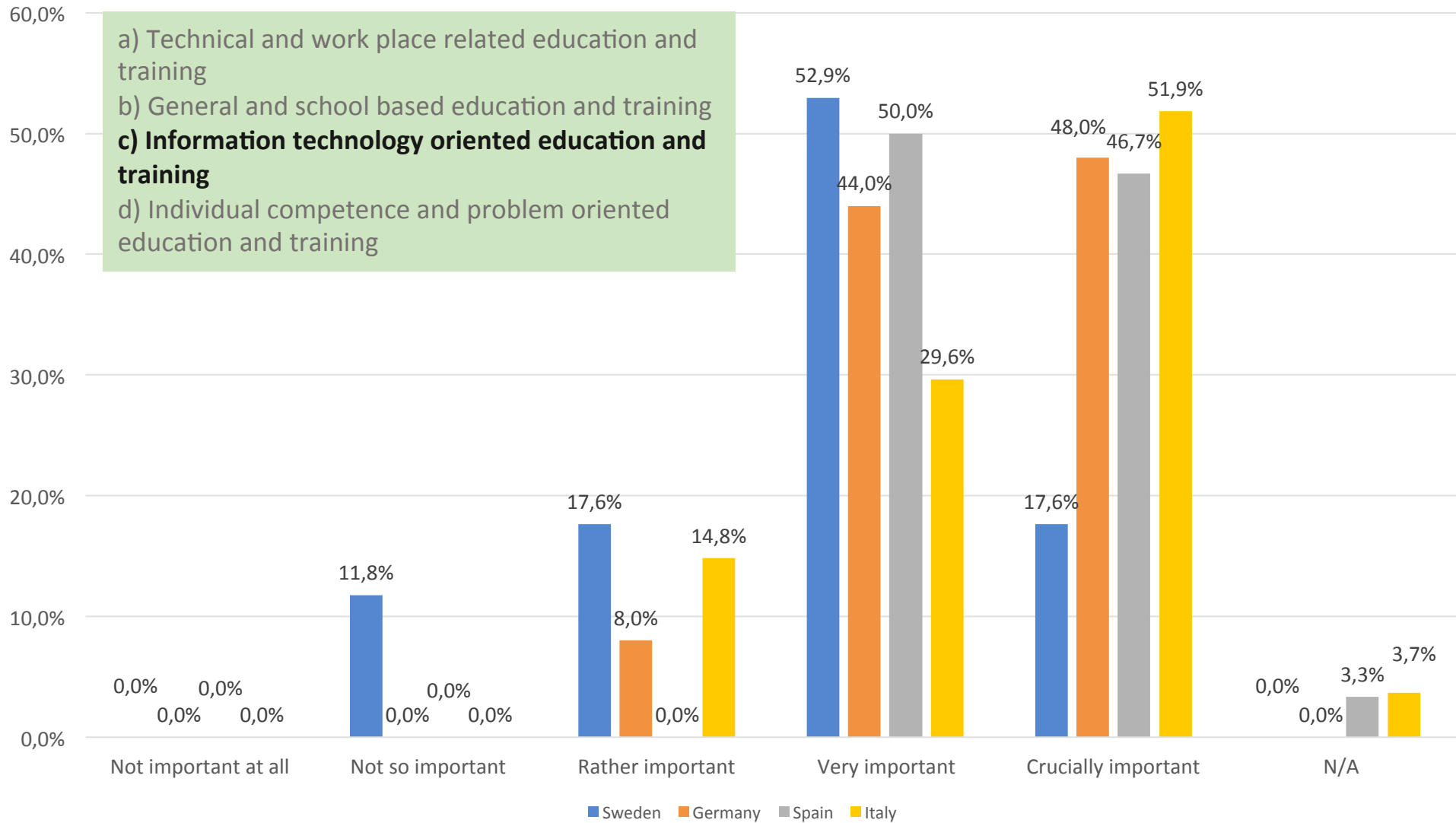


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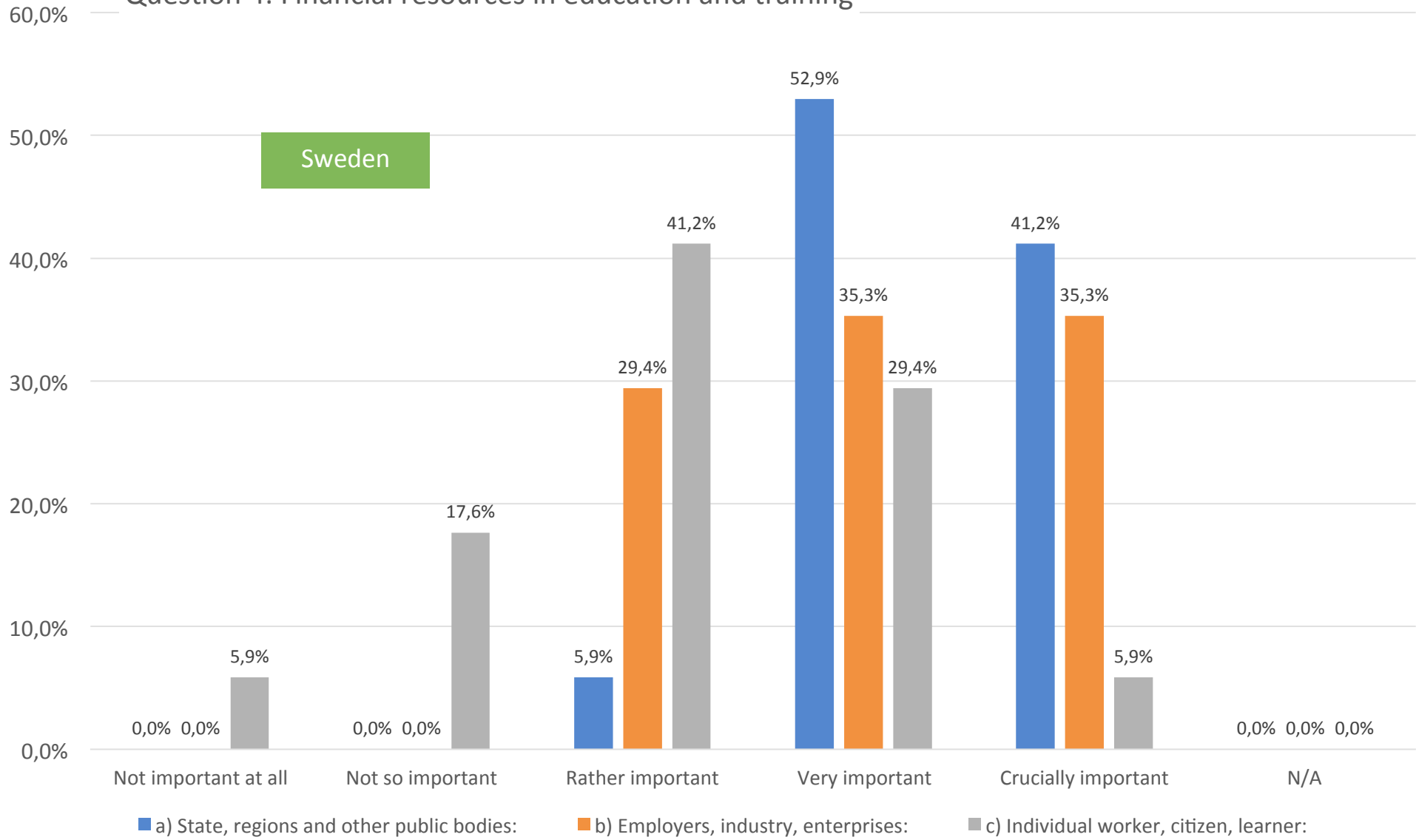
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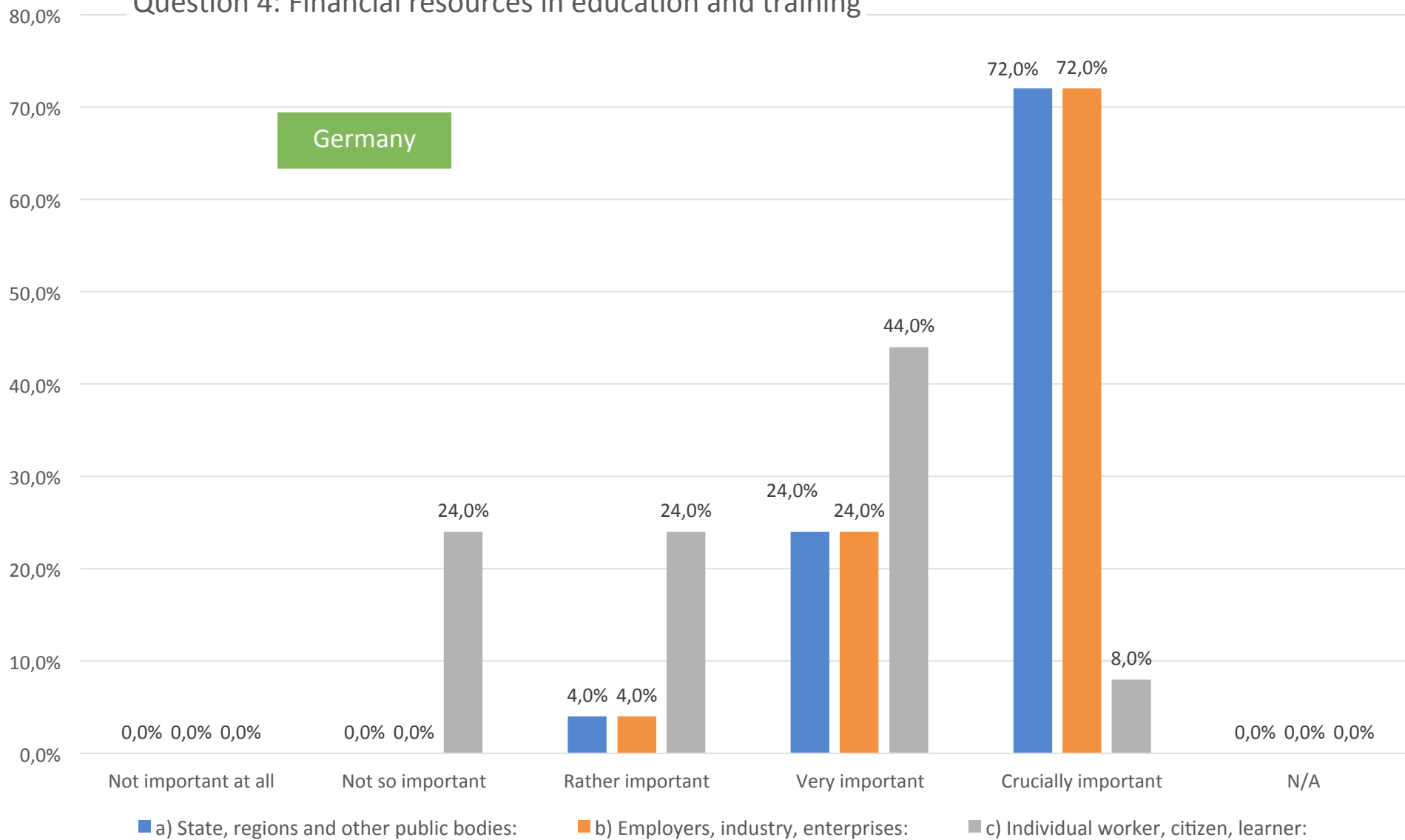
Question 3:  
Need of education and training - Perspective 2030



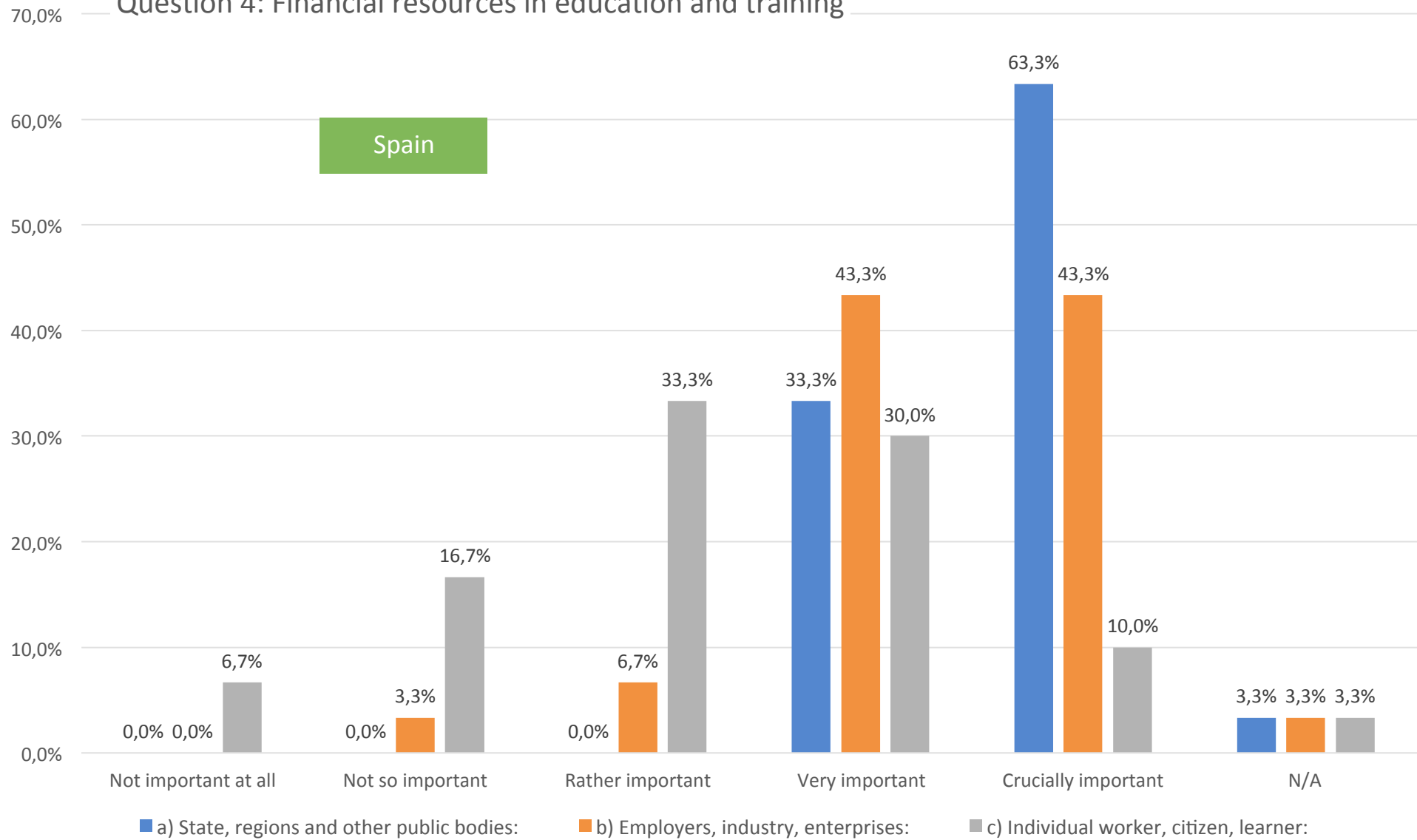
### Question 4: Financial resources in education and training



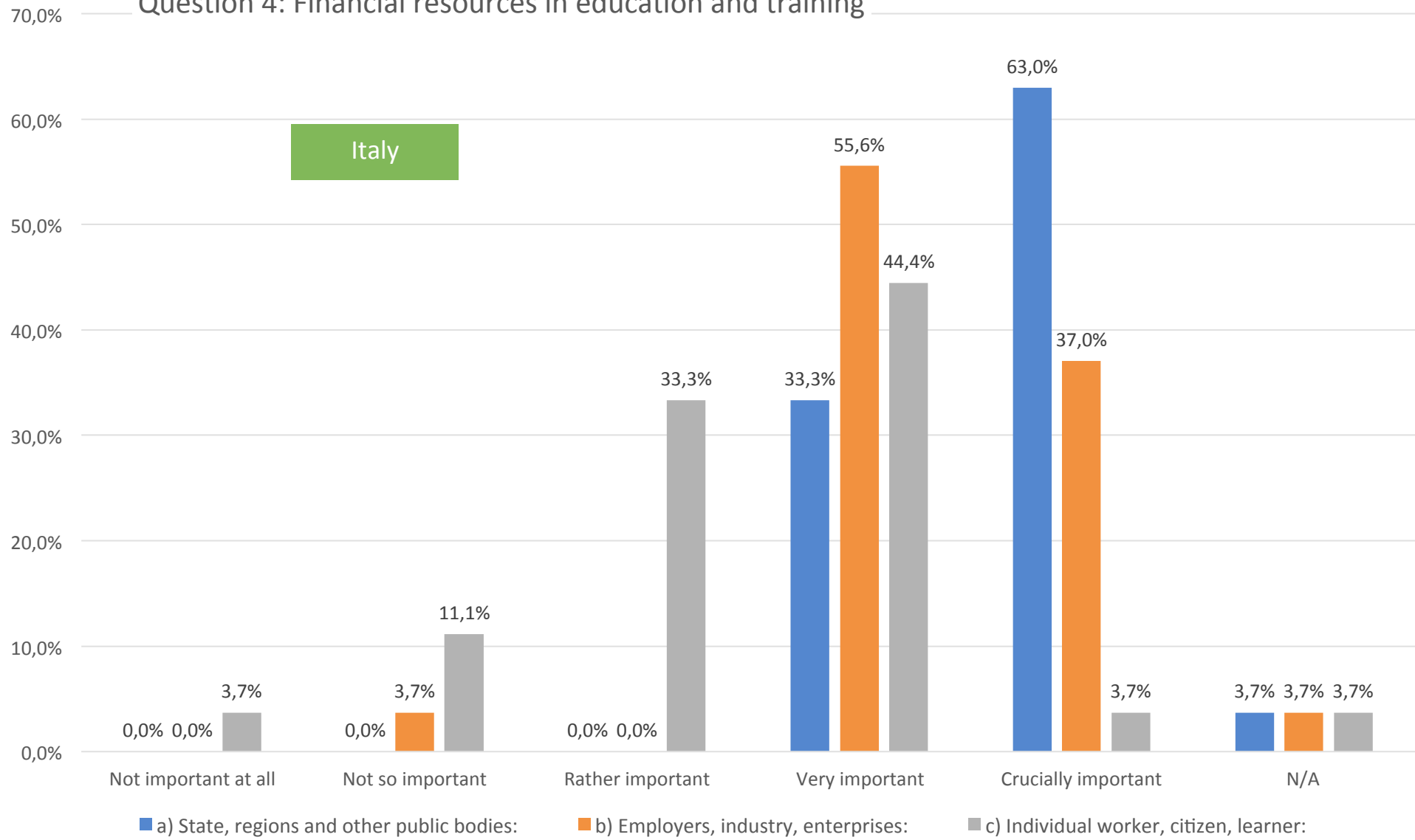
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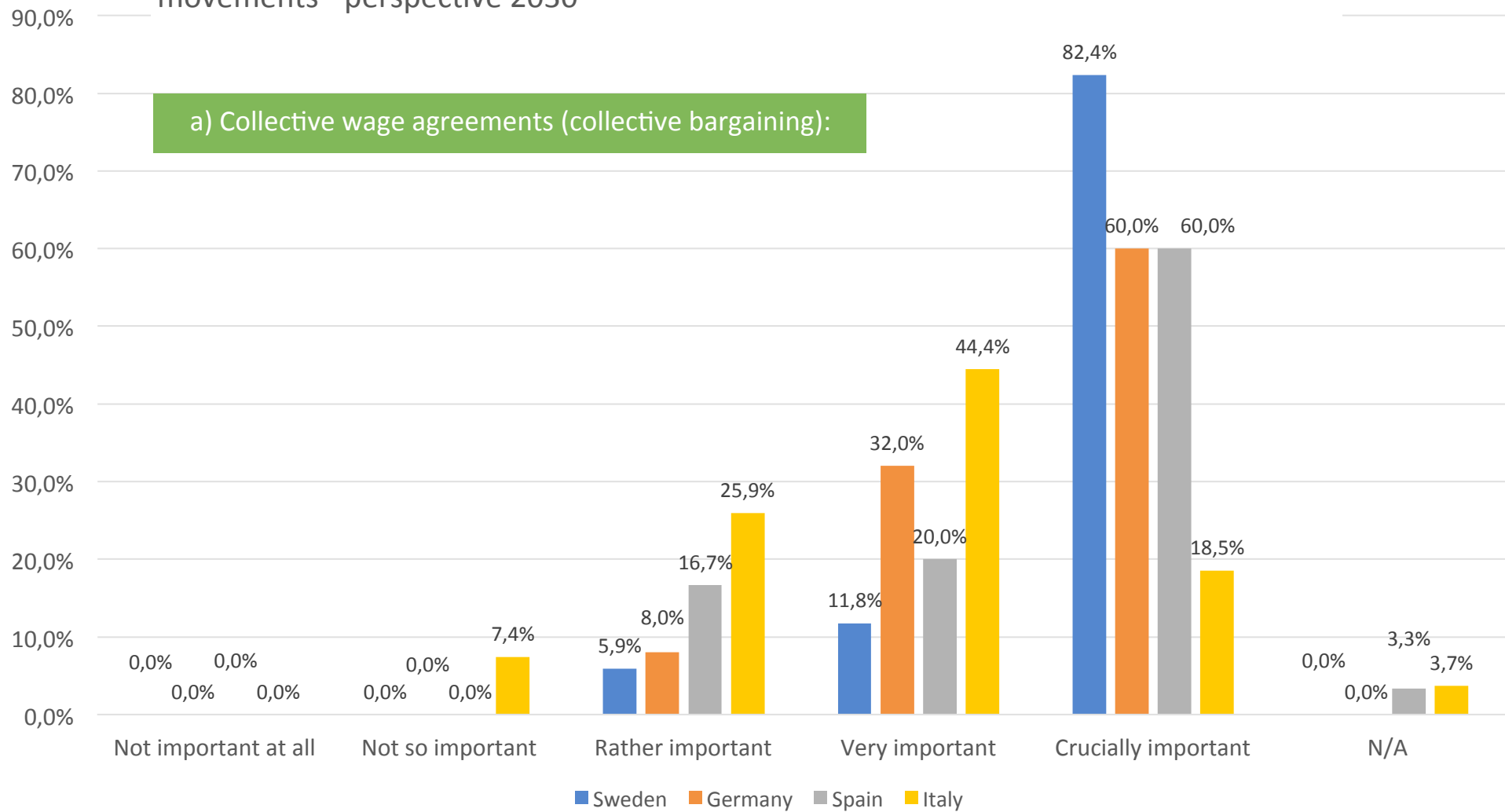
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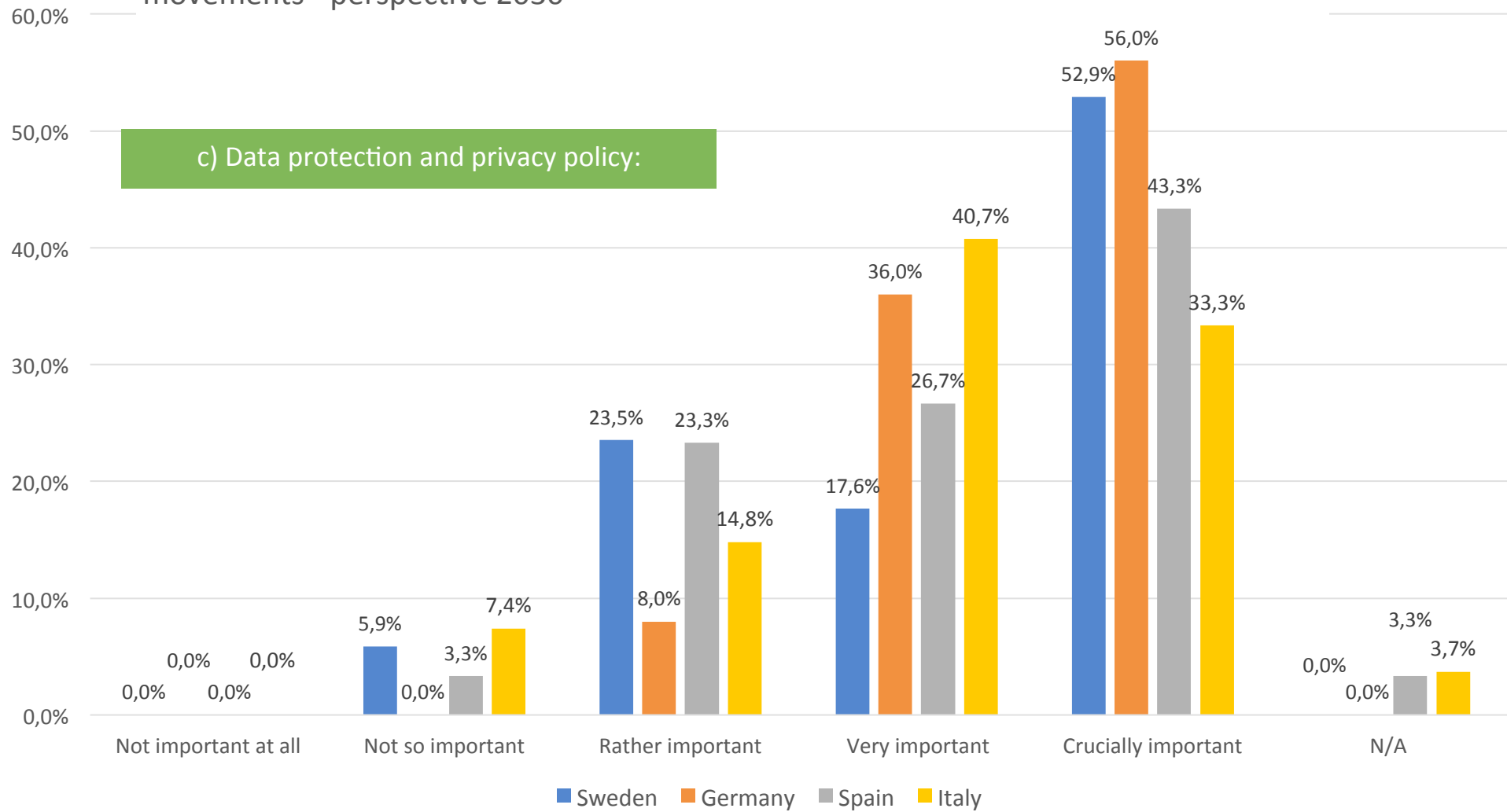
Question 5:

Essential activities of the representation of workers, the trade unions and the workers' movements - perspective 2030

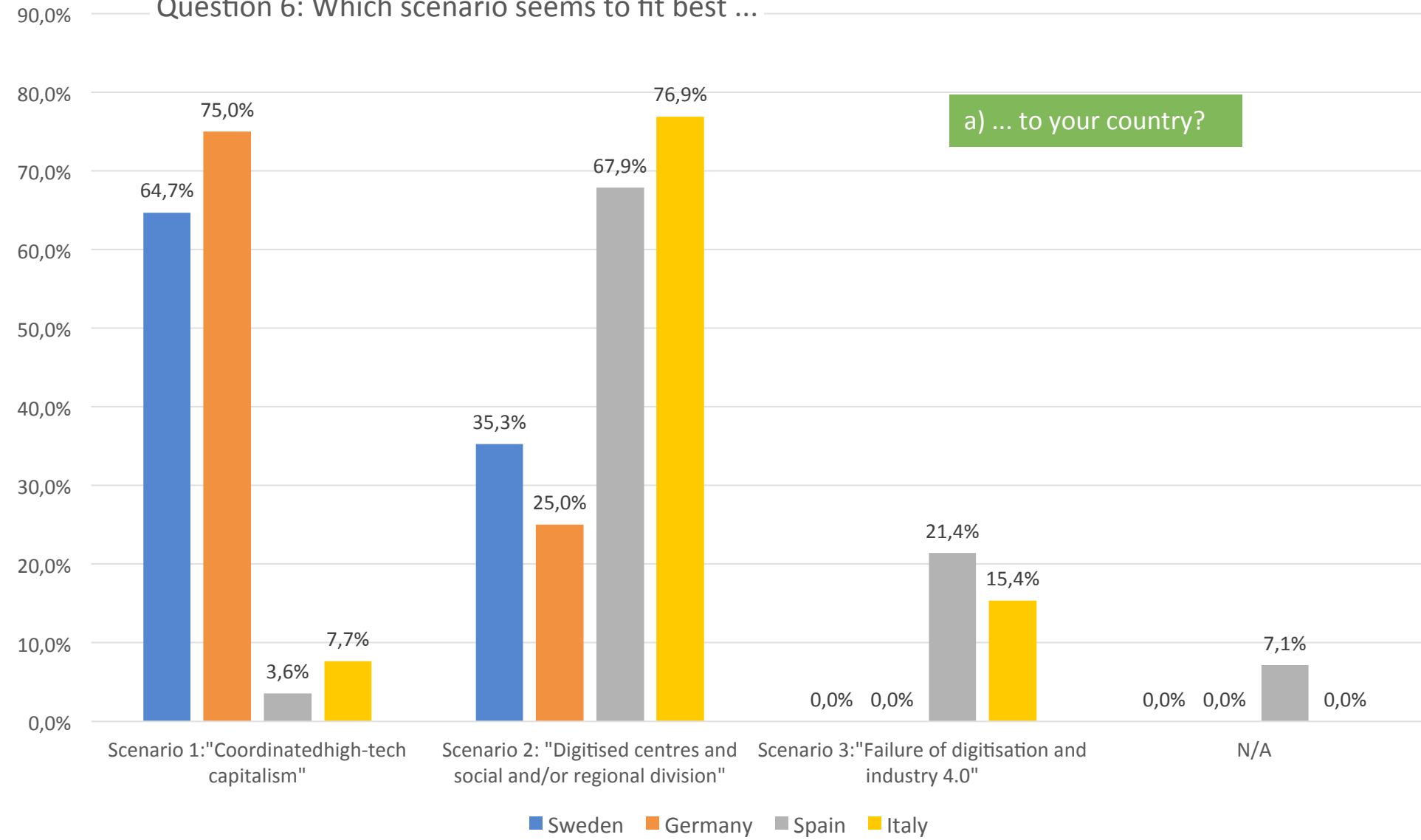


### Question 5:

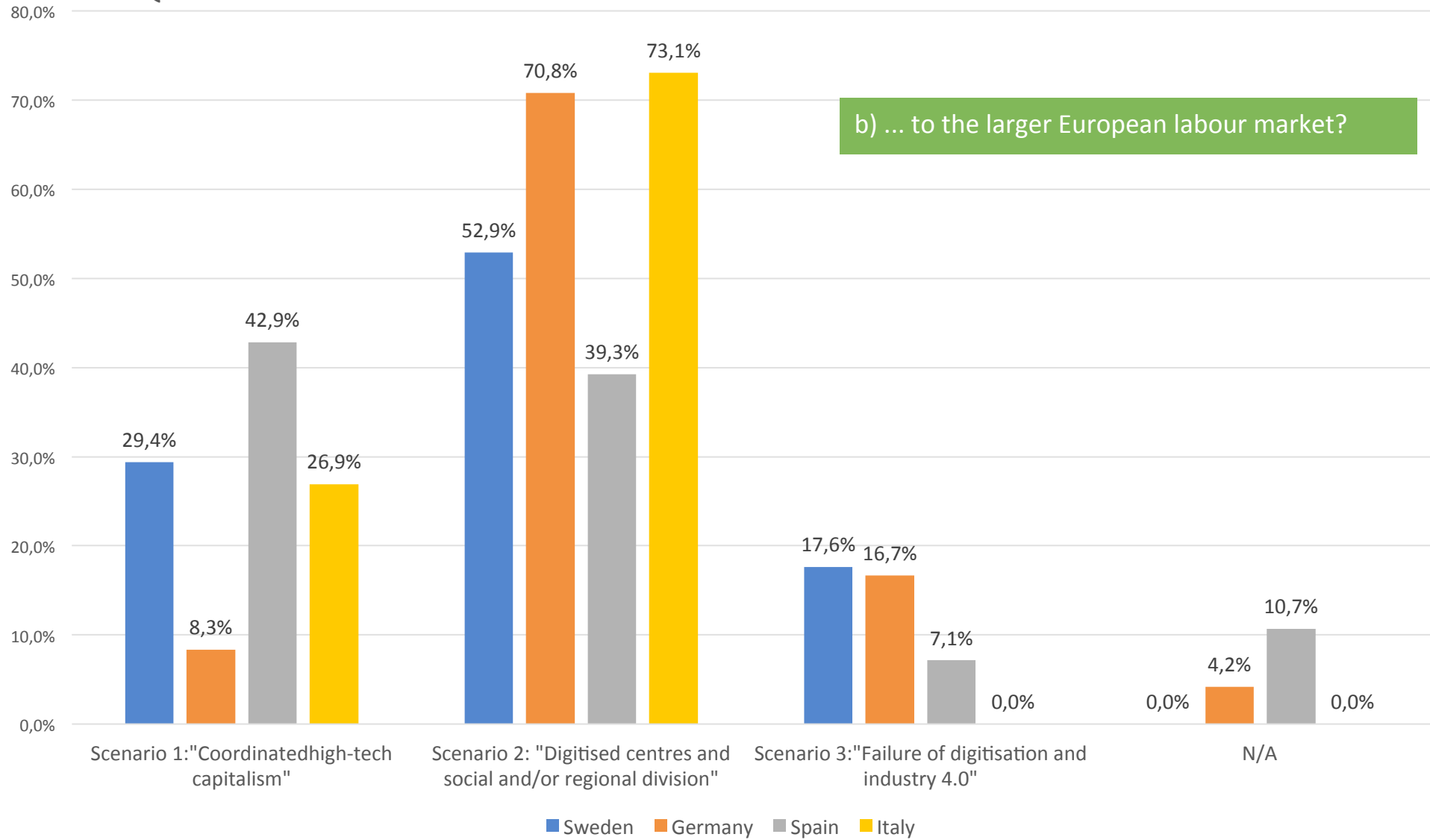
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Question 6: Which scenario seems to fit best ...



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***Open questions – all countries/regions:***  
**Important factors for the improvement  
of labour market and economy**

1. Qualification, education, vocational training, lifelong learning;
2. Responsibility of politics, providing a framework for the change: public investments, infrastructure, education, social security.

***Challenges for the own organisation:***

- Negotiating good collective agreements, which correspond to the new developments,
- But also to use the influence on solutions in the field of social policy.

## ***Open questions – priorities***

- Strengthening the trade unions, support for a proactive strategy (mainly Spain);
- Participation: including employees in the activities as well as participation of trade unions in “round tables” with all social actors (mainly Italy);
- Strategies on European level: networking of the trade unions, European negotiations (mainly Spain, Italy), a joint European social policy (mainly Sweden);
- Questions of distribution: distribution of the consequences of change, distribution of work, profits (mainly Spain).

## ***Digitalisation/automation – effects on employment: technical potentials are overvalued***

The debate of the last years based on the study of Frey/Osborne university of Oxford, which forecast that 47 per cent of all jobs in the US could be automated;

An adaption to German conditions with the result, that 42 per cent of jobs are considered “at risk”.

*But:*

- In the studies only the probabilities of automation are identified; the focus on the technological potential is reduced;
- Professions and vocations include different tasks; adjustments/ adaption seem possible to functions, which cannot be automated.

Studies, which are based on the analysis of tasks, show a lower risk for the workplaces: 12 per cent in Germany; similar results are available also for some OECD countries and the countries involved in the Smart Factory Project.

**The technical possibilities to digitalise and automate human work does not mean so much about the real current or future implementation or about how much time the change process will need**

*Factors of influence:*

- ***Economic factors***  
(for example how the companies estimate the efficiency on company level)
- ***Legal factors***  
(for example data protection and security)
- ***Social factors***  
(for example acceptance of robots in the care work)



**The impact on employment on the macroeconomic level is expected to be limited. Losses could be partly compensated by new work places.**

*But:*

Accelerated structural change and massive processes of adaption inside and between sectors, professions/vocations and levels of performance

According to the IAB Study 2016 for Germany:

- “Information and Communication” and “Education and Training” might become winning sectors;
- In the sector “Manufacturing” losses of workplaces are expected.

This forecast corresponds also to the results of our Smart Factory Online Survey.

## ***Higher Qualifications***

Especially tasks with a high part of routine work will be reduced, whereas tasks with a low part of routine work will increase, for example creative-intelligent or social- interaction-based tasks.

The risk of Employment is falling with a rising level of education

*But:*

Workplaces with lower qualification are not necessarily the most vulnerable.

Current developments and forecasts are showing:  
Employees with mid-level qualifications (for example office and commercial professions) as well as professions and vocations in the production are loosing.