

Dorn, Florian et al.

Research Report

The economic costs of the Coronavirus shutdown for selected European countries: A scenario calculation

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The Economic Costs of the Coronavirus Shutdown for Selected European Countries: A Scenario Calculation

Florian Dorn, Clemens Fuest, Marcell Götttert, Carla Krolage, Stefan Lautenbacher, Robert Lehmann, Sebastian Link, Sascha Möhrle, Andreas Peichl, Magnus Reif, Stefan Sauer, Marc Stöckli, Klaus Wohlrabe, Timo Wollmershäuser

Key Messages

- This paper presents scenarios of the shutdown costs in terms of lost value added for Austria, France, Italy, Germany, Spain, Switzerland and UK.
- The shutdown phase will lead to considerable production losses and large declines in GDP this year. Lasting longer than a month, the losses within the EU quickly reach dimensions well beyond the growth slump of previous recessions or natural disasters.
- Shutdown costs justify almost every conceivable investment in health policy measures which allow to combine a resumption of production with further fight against the epidemic.

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Introduction

The economic costs of many countries' decision to shut down in response to the coronavirus pandemic can be measured in different ways. These costs consist primarily of the loss of value added during the period of production interruption and potential consequential costs in the form of a delayed return to normal economic activity or permanent impairment. **The following analysis considers various shutdown scenarios for selected European countries**, using methodology based on Dorn et al. (2020a,b).¹ It considers the costs of the shutdown in terms of lost gross value added and differentiates the shutdown scenarios by economic sector (two-digit), based on national accounts data and data from current ifo Business Surveys.²

There are numerous indications that the shutdown will lead to a massive slump in economic development. Dorn et al. (2020a,b) present an estimate of the costs of the shutdown measured as lost value added for Germany as a whole. Such an estimate is necessarily subject to a very high degree of uncertainty.

¹ Florian Dorn, Clemens Fuest, Marcell Götttert, Carla Krolage, Stefan Lautenbacher, Sebastian Link, Andreas Peichl, Magnus Reif, Stefan Sauer, Marc Stöckli, Klaus Wohlrabe, Timo Wollmershäuser: The Economic Costs of the Coronavirus Shutdown for Germany: A Scenario Calculation, EconPol Policy Brief 21, March 2020, https://www.econpol.eu/publications/policy_brief_21

² The data on gross value added in the various economic sectors is based on Eurostat calculations and refers to the years 2016 and 2017; data on nominal GDP in 2019 was used to calculate the loss in value added.

Results

In this paper, we present a series of scenario calculations for selected European countries, using data on individual economic sectors from the national accounts and from the ifo Business Surveys. However, the results of these calculations are also dependent on a number of assumptions – specifically, assumptions about which economic sectors are reducing their activity to what extent and how quickly a return to normal economic activity will occur.¹ To make the scenarios comparable across countries, we assume that the shocks are the same for all countries in each of the scenarios. The only differences among countries arise from differences in the importance of certain industries. In other words, our analysis should not be seen as a macroeconomic forecast but rather a “what if” scenario analysis. Moreover, due to the high degree of uncertainty about the actual development of these variables, the scenarios considered provide information about approximate degrees of magnitude of the shutdown’s economic consequences. The results should be interpreted in the light of this uncertainty.

Our calculations lead us to conclude that the shutdown phase will lead to considerable production losses and thus to large declines in gross domestic product this year. If the shutdown lasts for more than a month, the production losses quickly reach dimensions that are well beyond the growth slump of previous recessions or natural disasters, at least in the history of the European Union.

Results

- With a shutdown duration of two months, the costs in **Germany** reach EUR 255–495 billion, depending on the scenario, and reduce the annual GDP growth rate by 7.2–14.0 percentage points; with a shutdown period of three months, the costs go up to EUR 354–729 billion (10.0–20.6 percentage points of lost growth). Of particular relevance for political decisions is the question of how high the costs of extending the shutdown are. The analysis shows that an extension of a single week in Germany incurs an additional EUR 25–57 billion in costs and thus a decline in GDP growth of 0.7–1.6 percentage points. An extension of one to two months increases the shutdown costs by up to EUR 230 billion euros (6.5 percentage points of lost growth).²
- In **Italy**, which has been particularly hard hit by the coronavirus, the costs of a two-month shutdown amount to EUR 143–234 billion, depending on the scenario,

¹ Details can be found in the online appendix available here: https://www.econpol.eu/publications/policy_brief_23

² Scenario calculations for the German state of Bavaria show that Bavaria is even more affected than Germany as a whole. See Dorn, Florian / Fuest, Clemens / Göttert, Marcell / Krolage, Carla / Lautenbacher, Stefan / Lehmann, Robert / Link, Sebastian / Möhrle, Sascha / Peichl, Andreas / Reif, Magnus / Sauer, Stefan / Stöckli, Marc / Wohlrabe, Klaus / Wollmershäuser, Timo: [Die volkswirtschaftlichen Kosten des Corona-Shutdown für Bayern: Eine Szenarienrechnung](#), ifo Institute, Munich, 2020, ifo Schnelldienst Digital, 2020, No. 02.

- and reduce the annual GDP growth rate by 8.0–13.1 percentage points; with a shutdown period of three months, the costs climb to EUR 200–342 billion (11.2–19.1 percentage points of lost growth). A one-week extension in Italy incurs additional costs of EUR 14–27 billion, which implies a drop in GDP growth of 0.8–1.5 percentage points. An extension of one to two months increases the shutdown costs by as much as EUR 108 billion (6.3 percentage points of lost growth).
- In **Spain**, a two-month shutdown incurs costs of EUR 101–171 billion and reduces the annual GDP growth rate by 8.1–13.8 percentage points; with a shutdown of three months, the costs reach EUR 141–250 billion (11.3–20.0 percentage points of lost growth). A single-week extension in Spain causes additional costs of EUR 10–20 billion and thus a decline in GDP growth of 0.8–1.6 percentage points. An extension of one to two months increases the shutdown costs by up to EUR 78 billion (6.1 percentage points of lost growth).
 - With a shutdown period of two months, the costs in **France** reach EUR 176–298 billion, depending on the scenario, and reduce the annual GDP growth rate by 7.3–12.3 percentage points; with a shutdown period of three months, the costs amount to EUR 247–436 billion (10.2–18.0 percentage points of lost growth). Extending by a single week causes additional costs of EUR 18–35 billion, which means a drop in GDP growth of 0.7–1.4 percentage points. An extension of one to two months increases the shutdown costs by up to EUR 138 billion euros (5.7 percentage points of lost growth).
 - In the **UK**, a two-month shutdown causes costs of EUR 193–328 billion and reduces the annual GDP growth rate by 7.7–13.0 percentage points; with a three-month shutdown, the costs go up to EUR 271–480 billion (10.7–19.0 percentage points of lost growth). A single-week extension in the United Kingdom incurs additional costs of EUR 19–38 billion, bringing GDP growth down by 0.8–1.5 percentage points. An extension from one to two months increases the shutdown costs by up to EUR 152 billion (6.0 percentage points of lost growth).
 - For **Austria**, the scenario calculation predicts costs of EUR 34–57 billion with a shutdown duration of two months, which reduces the annual GDP growth rate by 8.5–14.2 percentage points; for three months, the costs reach as much as EUR 47–83 billion (11.9–20.9 percentage points of lost growth). Extending the shutdown by one week causes additional costs of EUR 3–7 billion and thus a decline in GDP growth of 0.8–1.7 percentage points. An extension of one to two months increases the shutdown costs by up to EUR 26 billion (lost growth of 6.6 percentage points).
 - With a shutdown period of two months, the costs in **Switzerland** reach EUR 49–81 billion, depending on the scenario, and reduce the annual GDP growth rate by 7.8–12.9 percentage points; with a shutdown period of three months, the costs amount to EUR 69–119 billion (11.0–19.0 percentage points of lost growth). A single-week extension causes additional costs of EUR 5–10 billion and thus a decline in GDP growth of 0.8–1.5 percentage points. An extension of one to two months increases

Conclusion

the costs of the shutdown by up to EUR 38 billion (6.1 percentage points of lost growth).

The country comparison reveals that Germany could potentially be more affected by the coronavirus shutdown than its European neighbors would be. An important reason for this is the significance of manufacturing in Germany, where production is likely to be cut back on a larger scale. However, countries that have been severely affected by the coronavirus, such as Italy and Spain, may have to cut back their production to a greater extent, making a scenario with high losses in these countries more likely. Furthermore, economic sectors such as tourism – which is of particular importance to the economies of Austria, Italy, and Spain, for example – could be affected for a longer period than in our scenario calculations.

Conclusion

The astronomical costs of the shutdown imply that almost every conceivable investment in health policy measures is justified as it makes it possible to shorten the duration of the shutdown without impairing the fight against the pandemic.

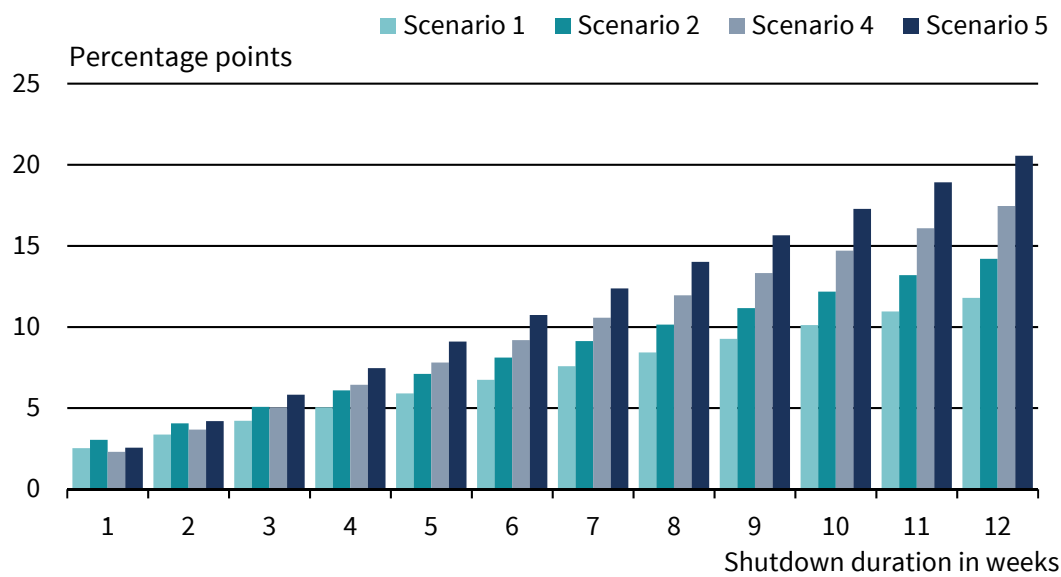
Debates based on the premise that economic recovery is strictly incompatible with fighting the pandemic are too simplistic and lead to a dead end. There is an urgent need to look for ways to combine the gradual lifting or easing of the shutdown with effective health protection. Current developments in other countries, especially in Asia, offer important lessons. These include, as epidemiologists repeatedly emphasize, extensive testing, special protection of vulnerable sections of the population, widespread use of face masks, disinfection measures in public spaces, and much more.

Percentage Decrease for the Year						
Duration of shutdown	1 week		1 month		2 months	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
Germany	2.5%	3.0%	5.1%	6.1%	8.4%	10.1%
Italy	2.4%	2.8%	4.8%	5.6%	8.0%	9.3%
Spain	2.4%	2.8%	4.9%	5.7%	8.1%	9.5%
France	2.2%	2.6%	4.4%	5.2%	7.3%	8.7%
UK	2.3%	2.8%	4.6%	5.5%	7.7%	9.2%
Austria	2.5%	3.0%	5.1%	6.1%	8.5%	10.1%
Switzerland	2.4%	2.8%	4.7%	5.6%	7.8%	9.4%

Loss of Value Added for the Year, EUR bn						
Duration of shutdown	1 week		1 month		2 months	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
Germany	89.4	107.7	178.9	215.4	298.2	359.0
Italy	42.8	49.9	85.6	99.9	142.6	166.5
Spain	30.2	35.4	60.5	70.7	100.8	117.9
France	52.9	63.5	105.8	126.9	176.4	211.5
UK	58.0	69.8	116.1	139.6	193.5	232.6
Austria	10.1	12.1	20.3	24.3	33.8	40.4
Switzerland	14.8	17.7	29.5	35.4	49.2	59.0

Source: Calculations by the ifo Institute.

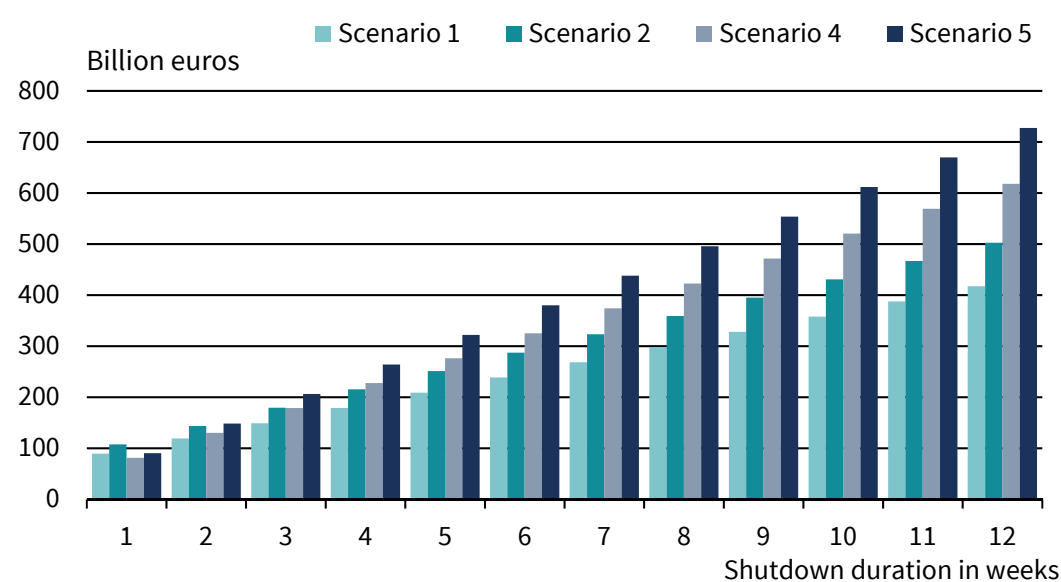
Germany: Decline in Annual GDP Growth Rate



Source: Calculations by the ifo Institute.

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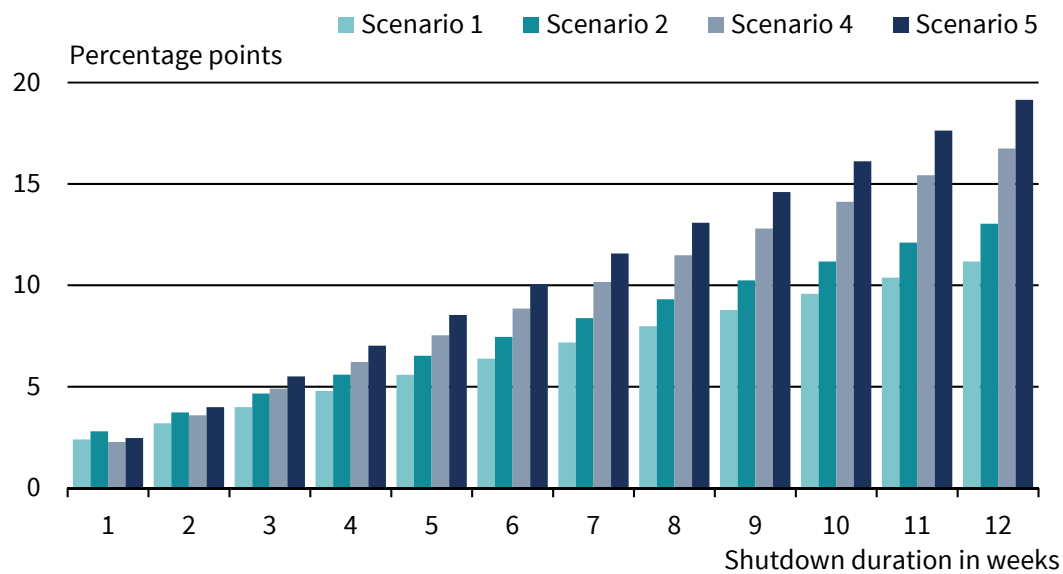
Germany: Loss of Value Added of the Year



Source: Calculations by the ifo Institute.

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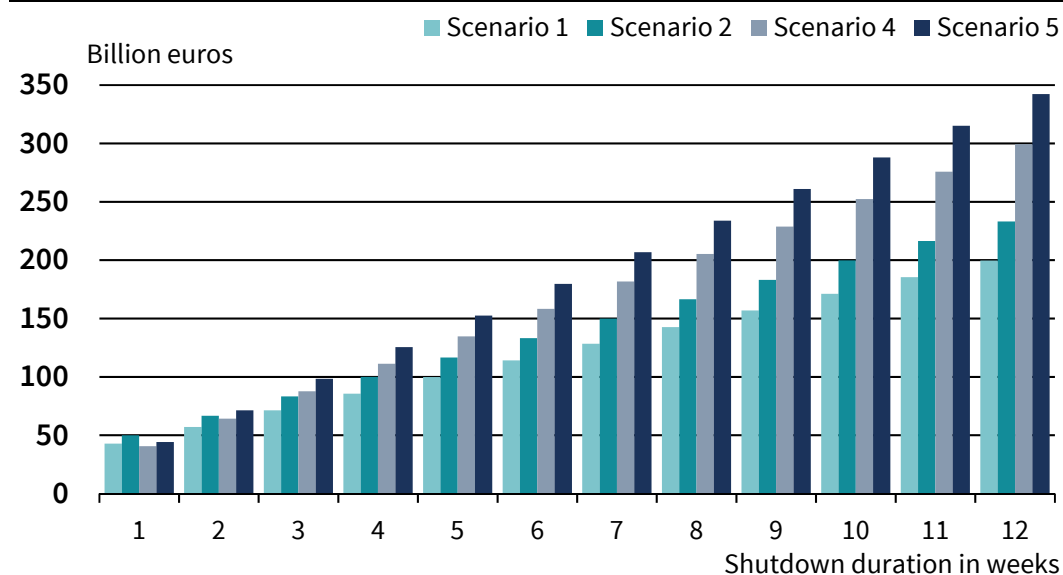
Italy: Decline in Annual GDP Growth Rate



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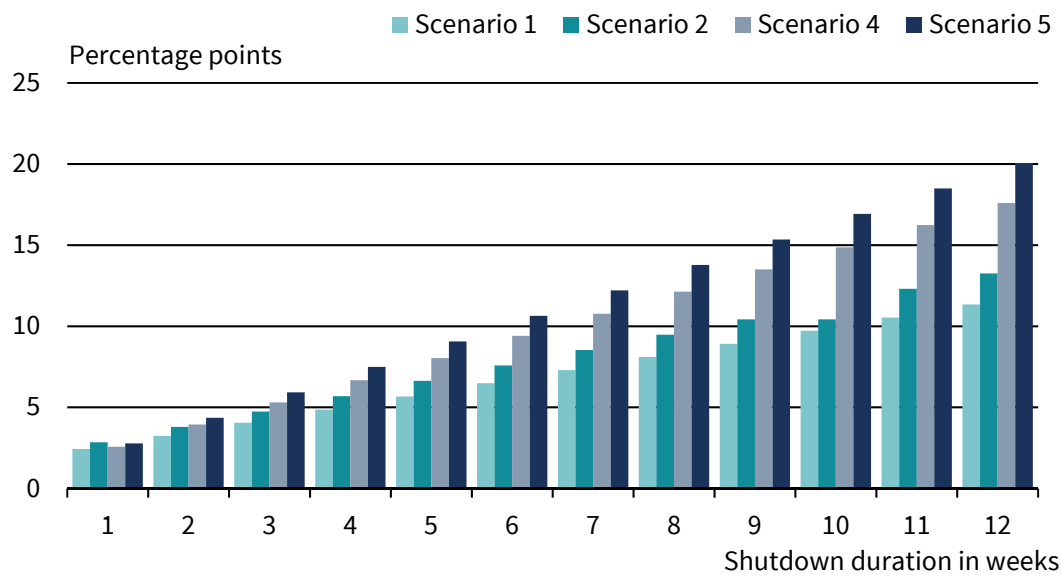
Italy: Loss of Value Added of the Year



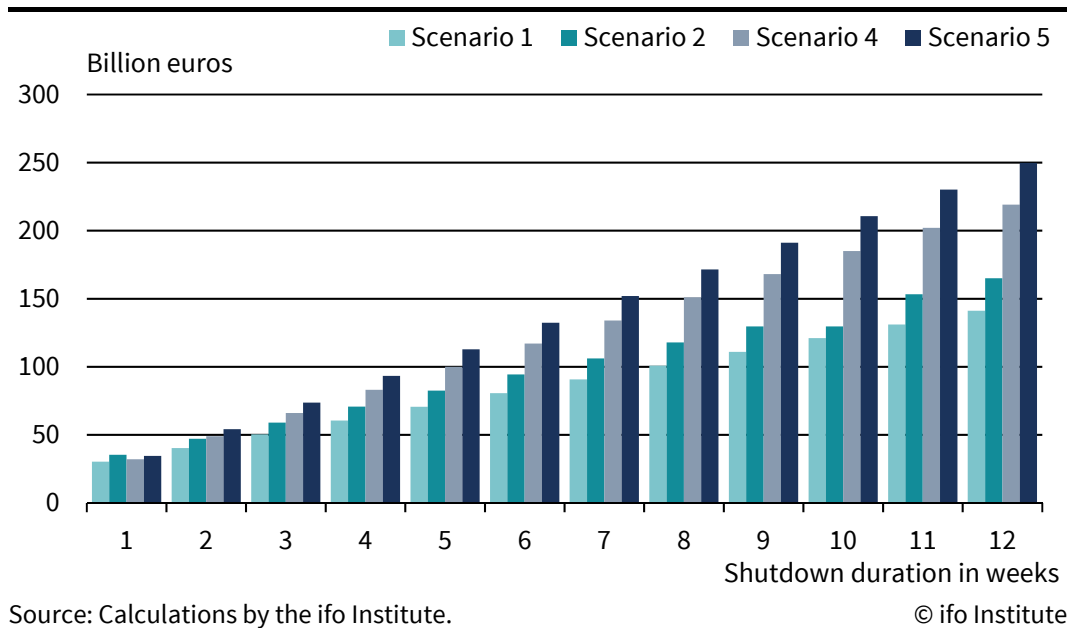
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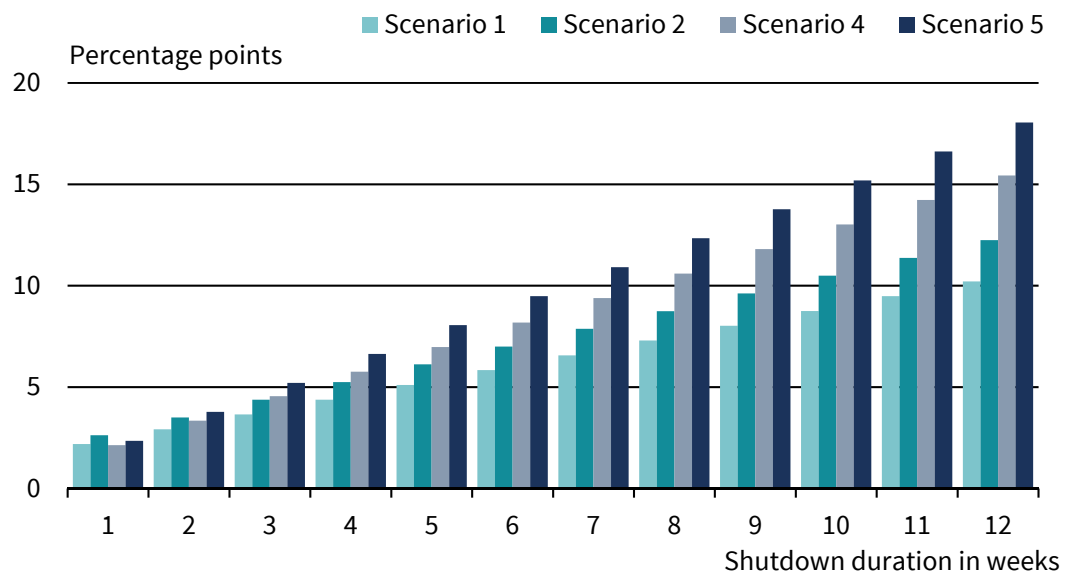
Spain: Decline in Annual GDP Growth Rate



Spain: Loss of Value Added of the Year



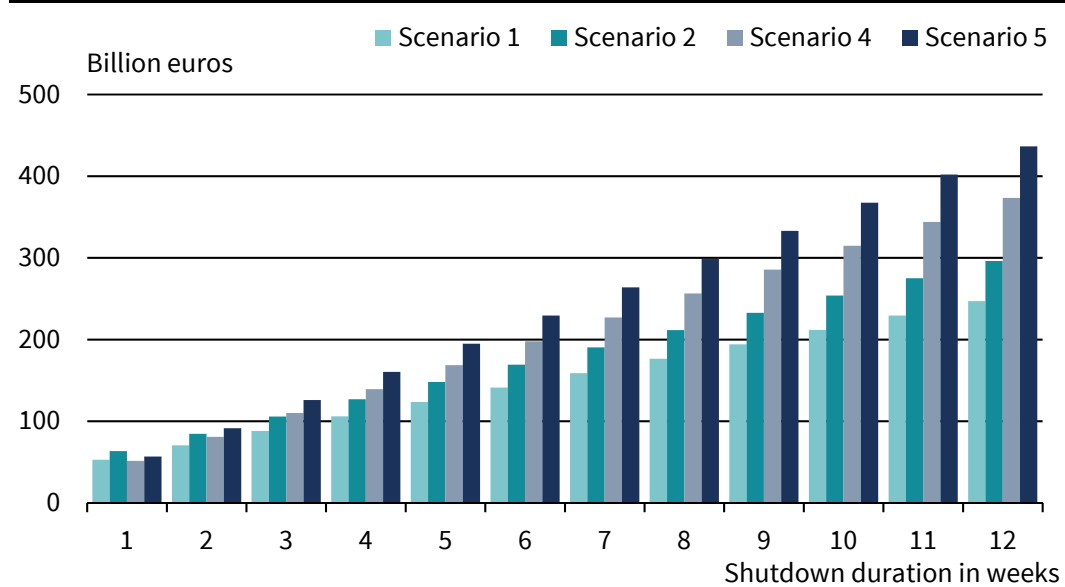
France: Decline in Annual GDP Growth Rate



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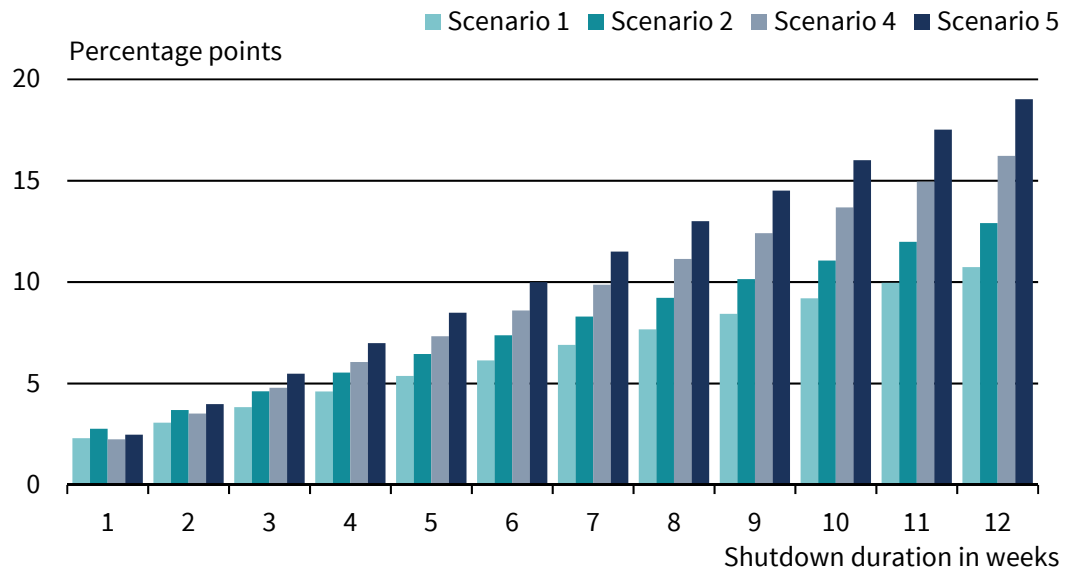
France: Loss of Value Added of the Year



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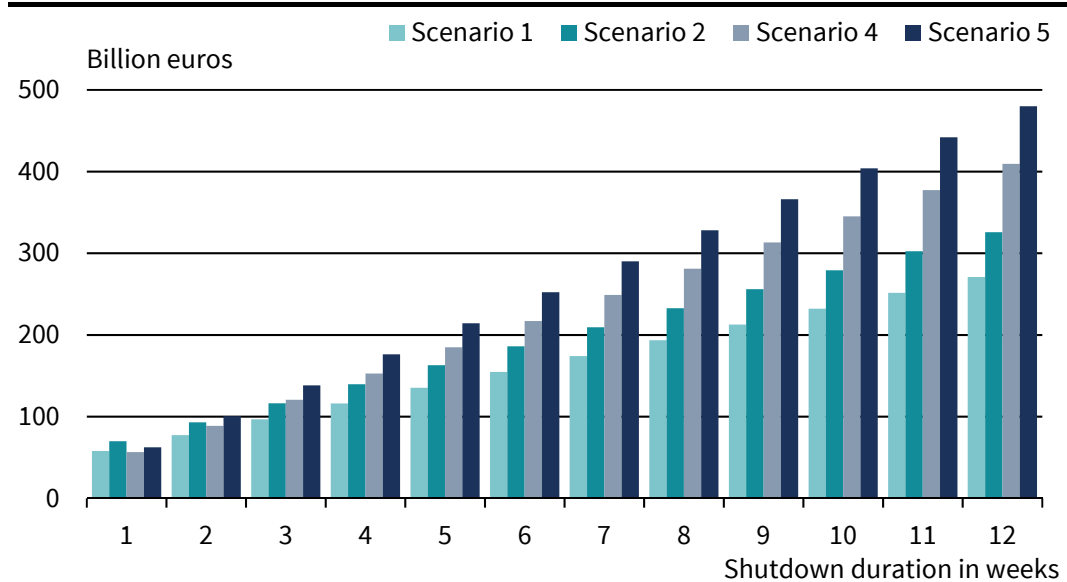
United Kingdom: Decline in Annual GDP Growth Rate



Source: Calculations by the ifo Institute.

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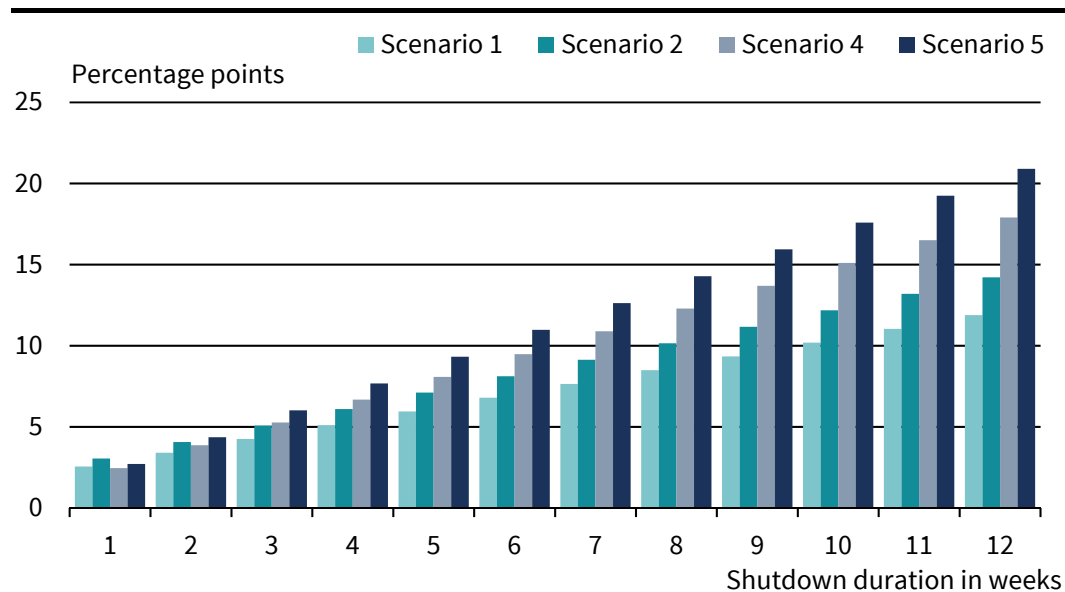
United Kingdom: Loss of Value Added of the Year



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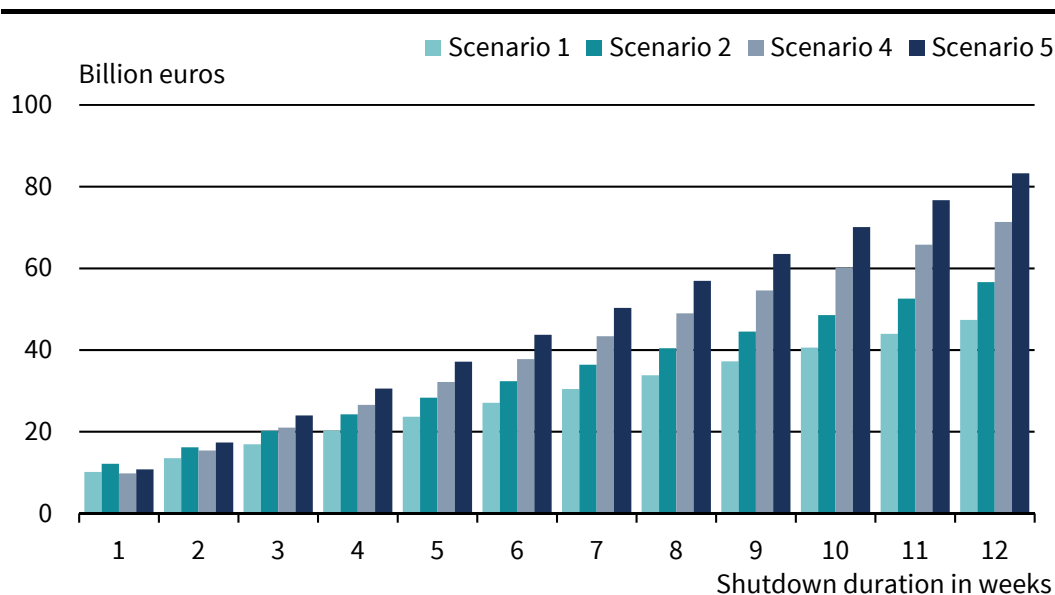
Austria: Decline in Annual GDP Growth Rate



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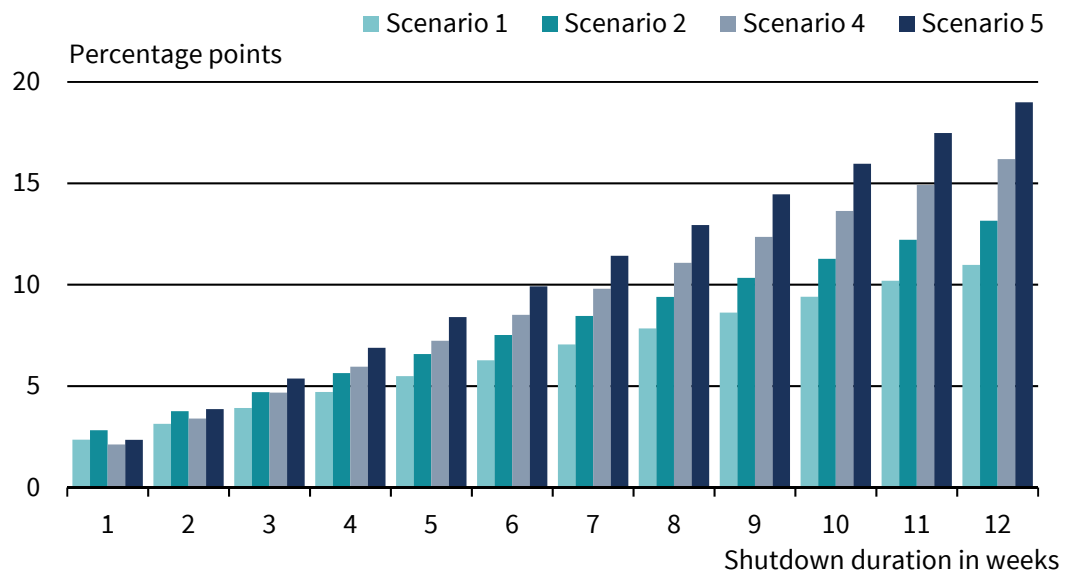
Austria: Loss of Value Added for the Year



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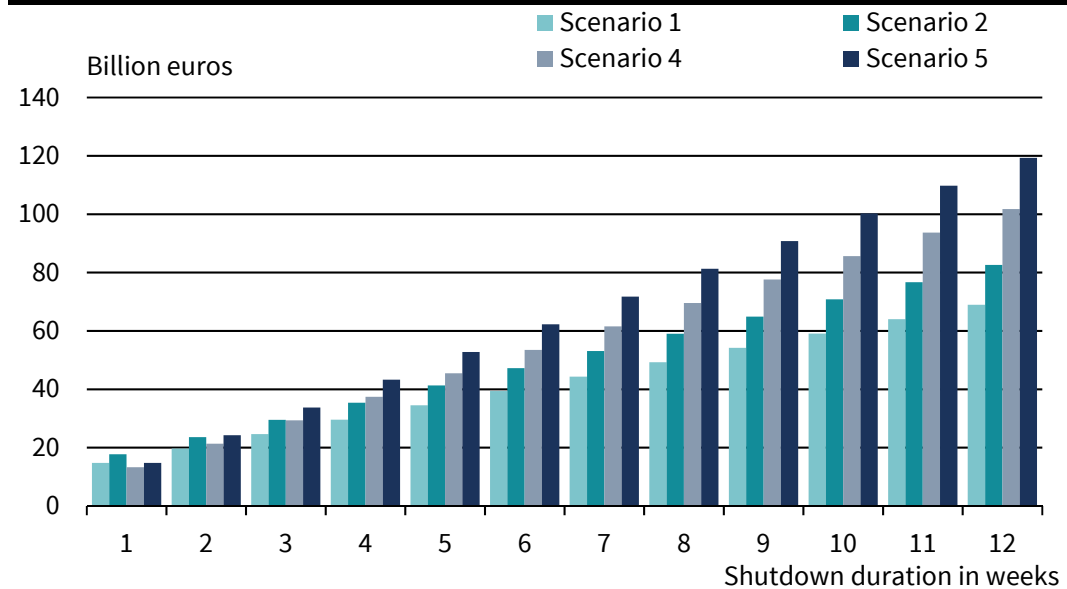
Switzerland: Decline in Annual GDP Growth Rate



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Switzerland: Loss of Value Added of the Year



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