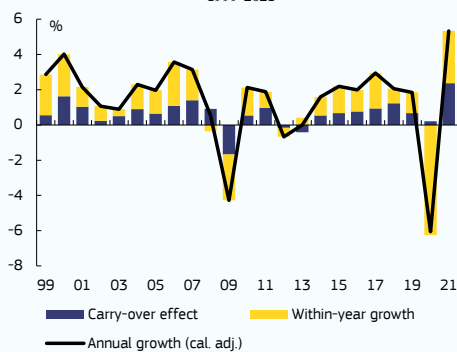


Box 1.2.1: Carry-over effects and the annual growth forecast for 2022

Annual growth rates depend not only on growth in the current year, but also on growth dynamics in the previous year. The carry-over effect shows how much GDP (or any of its components) would grow in the current year, on a year-on-year basis, if it remains at the same level as in the last quarter of the previous year. This concept can generally be applied to data with a frequency of less than one year, such as monthly and quarterly data. The difference between the annual growth rate in the current year and the carry-over effect from the previous year informs about growth dynamics within the current year. If quarterly data are calendar-adjusted but annual data are not, calendar effects need to be taken into account.

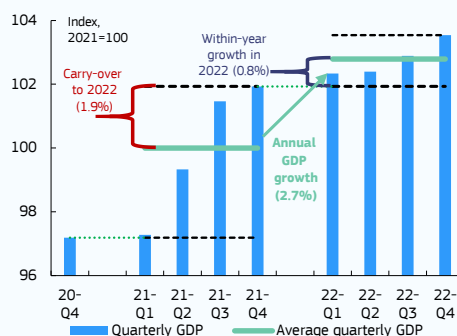
The growth forecast for 2022 looks strong, but includes only subdued growth dynamics within the year. In 2021, the re-opening phase fuelled GDP growth in the EU in particular in the second and third quarter, resulting in a strong carry-over to 2022 of 1.9%. This accounts for most of the projected annual growth in 2022, reflecting an outlook of subdued growth within 2022 (see Graph 2).

Graph 1: Composition of annual GDP growth rates, EU, 1999-2021



Carry-over effects can be particularly strong in times of sharp upturns and downturns. In the past two decades, economic activity fell most during the Global Financial Crisis (GFC) and when the pandemic started (see Graph 1), but the different timing and dynamics of the declines and the subsequent recoveries resulted in a different balance between carry-over effects and within-year growth. During the GFC, GDP in the EU started falling in the second quarter of 2008, resulting in a negative carry-over to 2009 that added to negative growth in that year. However, the recovery as of the third quarter of 2009 was sufficiently strong to result in a small carry-over effect to 2010. In 2020, due to the fast rebound after the two-quarter recession caused by the pandemic, the carry-over to 2021 was positive (2.4%). In the six years before the pandemic (2014-2019), the average GDP growth rate of 2.1% in the EU included on average carry-over effects of 0.8%.

Graph 2: Quarterly GDP levels and their implications for annual growth in 2022, EU



Carry-over effects are also important for GDP demand components. In the second half of 2020, the pandemic-related shift in spending from services to goods pushed goods imports and exports, resulting in high carry-overs to 2021 for the two components (see Graph 3). In 2021, the rebalancing between spending on goods and services brought high carry-overs for services trade. In addition, private consumption rebounded strongly, which explains the relatively high carry-over to 2022.

Graph 3: Carry-over effects of GDP components from 2020 and 2021, EU

