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ABBREVIATIONS

APP	asset purchase programme
BCI	Business Conditions Index
BLS	Bank Lending Survey
CPI	consumer price index
EBTN	European Banking and Financial Services Training Association
ECB	European Central Bank
EER	effective exchange rate
EONIA	Euro OverNight Index Average
ERM II	exchange rate mechanism II
ESI	economic sentiment indicator
EU	European Union
EURIBOR	Euro Interbank Offered Rate
FCI	Financial Conditions Index
FOMC	Federal Open Market Committee
GDP	gross domestic product
GRTU	General Retailers and Traders Union
GVA	gross value added
HCI	harmonised competitiveness indicator
HICP	Harmonised Index of Consumer Prices
IFS	Institute of Financial Services
IIP	Individual Investor Programme
ILO	International Labour Organisation
IMF	International Monetary Fund
KPI	key performance indicator
LFS	Labour Force Survey
MFI	monetary financial institution
MFSA	Malta Financial Services Authority
MGS	Malta Government Stocks
MIA	Malta International Airport
MONEYVAL	Anti-Money Laundering Measures and the Financing of Terrorism
MRO	main refinancing operation
MSE	Malta Stock Exchange
NACE	statistical classification of economic activities in the European Community
NEIG	non-energy industrial goods
NFC	non-financial corporation
NPISH	non-profit institutions serving households
NRA	National Risk Assessment
NSO	National Statistics Office
OECD	Organisation for Economic Co-operation and Development
PPI	Producer Price Index
ROW	Rest of World
RPI	Retail Price Index
SME	small and medium-sized enterprises
ULC	unit labour cost

FOREWORD

In the third quarter of 2018, the pace of economic expansion in Malta accelerated, with real gross domestic product (GDP) rising by 7.5% in annual terms, following a 6.2% increase in the preceding quarter. Growth was underpinned by a strong increase in domestic demand, particularly private consumption. Net exports also contributed, albeit to a lesser extent.

In contrast, potential output growth decelerated during the quarter under review, although it remained relatively high from a historical perspective. The output surplus, measured as a four-quarter moving average, widened compared with the second quarter. However, it remained similar to the level estimated for the same quarter of 2017 and well below 2015 and 2016 levels.

Meanwhile, the Bank's Business Conditions Index (BCI) continued to indicate above-average conditions, with an improvement to 1.0 in the third quarter of 2018, from 0.7 in the second quarter of the year.

Labour market conditions remained favourable in the third quarter of 2018, as employment grew strongly and the unemployment rate fell compared with the preceding year, notwithstanding a further increase in labour market participation rates and rising foreign employment. At 3.7%, the unemployment rate remained below the Bank' structural measure of 4.2% and thus continued to suggest a degree of tightness in the labour market.

Annual inflation based on the Harmonised Index of Consumer Prices (HICP) accelerated to 2.5% in September from 2.0% in June. The pick-up was largely driven by a higher contribution from food prices, although non-energy industrial goods and energy inflation also edged up. Inflation based on the Retail Price Index (RPI), which only takes into account purchases by Maltese households, stood at 1.6% in September, up from 1.0% three months earlier.

Cost pressures for producers moderated, with the annual growth in the Producer Price Index falling to 3.8% in September, from 6.6% in June, reflecting weaker increases in the prices of intermediate goods. Malta's unit labour cost index, measured on a four-quarter moving average basis, also decelerated. In contrast, Malta's Harmonised Competitiveness Indicators indicated a further deterioration in external competitiveness, owing to unfavourable exchange rate and relative price developments.

In the third quarter of 2018, the surplus on the current account of the balance of payments widened when compared with a year earlier. This was entirely attributable to a higher net surplus from trade in services. When measured on a four-quarter moving sum basis, the current account surplus was equivalent to 10.6% of GDP. The cyclically-adjusted measure was also estimated at 10.6%. This indicates that the surplus largely reflects factors other than the economy's cyclical position.

As regards public finances, in the third quarter of 2018, the general government surplus decreased compared with the same period a year earlier, due to a substantial increase in primary expenditure, which offset that in revenue. When measured as a four-quarter moving sum, the general government sector remained in surplus. However, the government surplus-to-GDP ratio declined from 3.9% of GDP in the second quarter of 2018, to 3.6% in the third. Meanwhile, general government debt as a share of GDP declined by 3.1 percentage points to 45.9%.

Residents' deposits with monetary and financial institutions in Malta continued to expand. The shift towards overnight deposits persisted, in an environment of low interest rates. Meanwhile, credit growth continued to pick up, reflecting faster growth in credit to residents outside general government. Growth in mortgage loans to households remained strong, while growth in bank loans to non-financial corporations continued to recover. Meanwhile, the Bank's Financial Conditions Index improved, although it continued to signal tight conditions by historical standards.

The Governing Council of the European Central Bank (ECB) kept an accommodative monetary policy stance in the third quarter of 2018. The interest rates on the main refinancing operations, on the marginal lending facility and on the deposit facility remained at 0.00%, 0.25% and -0.40%, respectively. The Governing Council also reiterated that it continued to expect key ECB interest rates to remain at their present levels at least through the summer of 2019.

In line with the Council's decision, purchases under the asset purchase programme (APP) continued at the monthly pace of €30 billion until the end of September 2018. As of October, these purchases were carried out at a monthly pace of €15 billion. Asset purchases continued until the end of December and then ended.

The Council also re-affirmed that it intends to continue reinvesting in full the principal payments from maturing securities purchased under the APP for an extended period of time after the end of the net asset purchases, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation. In December, it clarified that this policy will continue for an extended period of time past the date when it starts raising the key ECB interest rates, and in any case for as long as necessary.

Reflecting, the accommodative monetary conditions, the weighted average interest rate on deposits held by Maltese residents with domestic banks fell marginally in September compared with June. The weighted average lending rate also declined. In September, the spread between the two was narrower than that recorded in June, but remained marginally above its year ago level. The yield on Treasury bills stood unchanged from the rate prevailing at the end of June, while that on ten-year Malta Government Stocks rose. Meanwhile, in the equity market, domestic share prices ended September at higher levels.

ECONOMIC SURVEY

1. THE EXTERNAL ENVIRONMENT AND THE EURO AREA

In the third quarter of 2018, economic growth as measured by real gross domestic product (GDP) slowed down in the euro area and the United States but picked up in the United Kingdom. The three-month average unemployment rate edged down in the United States and the euro area, but was stable in the United Kingdom.

In the euro area, annual consumer price inflation rose marginally to 2.1% in September from 2.0% in June. On the other hand, inflation in the United States decelerated to 2.3% from 2.9%. Meanwhile, at 2.4%, inflation in the United Kingdom was unchanged from June. In all the three economies monetary policy remained accommodative. While the European Central Bank (ECB) kept its key interest rates unchanged, the Federal Reserve and the Bank of England raised their key policy rates.

Brent oil prices decreased somewhat and slipped below the USD 70 mark in mid-August as the trade dispute between the United States and China escalated and the Chinese economy showed signs of slowing down. Thereafter, energy prices generally rose to end the quarter 8.4% higher than the level prevailing at end-June. In contrast, non-energy commodity prices ended the quarter under review lower compared with June.

Key advanced economies

US economy grows at a slower pace

In the third quarter of 2018, economic activity in the United States grew at a slower pace, with quarter-on-quarter real GDP growth standing at 0.8%, down from 1.0% in the previous quarter (see Table 1.1).

The deceleration in real GDP growth mainly reflected slower growth in non-residential fixed investment and personal consumption expenditure. At the same time residential investment contracted at a faster pace. Meanwhile, the contribution of net exports turned negative. These movements were partly offset by a recovery in private inventories.

In the labour market, the participation rate averaged 62.8% in the third quarter of 2018, unchanged compared with the previous quarter. At the same time, employment grew at a slower pace, with the annual rate of increase falling to 1.3% from 1.5% in the second quarter.

Table 1.1
REAL GDP GROWTH IN SELECTED ADVANCED ECONOMIES
Quarter-on-quarter percentage changes; seasonally and working day adjusted

	2016	2017				2018		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
United States	0.4	0.4	0.7	0.7	0.6	0.5	1.0	0.8
Euro area	0.8	0.7	0.7	0.7	0.7	0.4	0.4	0.2
United Kingdom	0.7	0.4	0.3	0.5	0.4	0.1	0.4	0.6

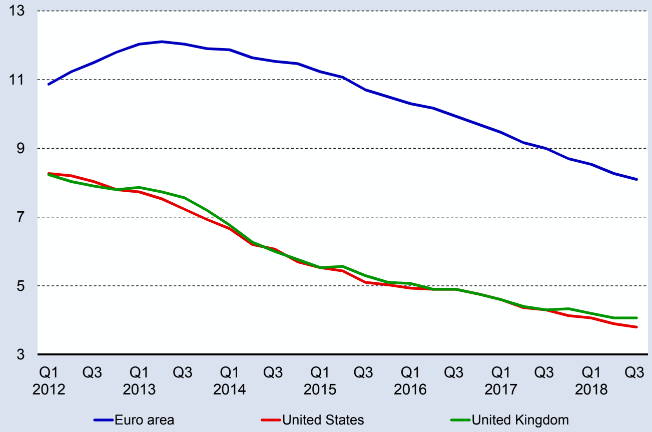
Sources: Bureau of Economic Analysis, US; Eurostat; Office for National Statistics, UK.

Non-farm payroll data suggest that there was a slowdown in the pace of job creation in the mining and logging, retail, leisure and hospitality sectors. The average unemployment rate over the three months to September stood at 3.8%, marginally below 3.9% in the previous quarter (see Chart 1.1).

The annual rate of change of the US consumer price index (CPI) edged down to 2.3% in September from 2.9% in June (see Chart 1.2). The fall in the inflation rate during the quarter was mainly spurred by a strong decrease in energy inflation, although inflation excluding food and energy also slowed down marginally. The latter stood at 2.2% in September, down from 2.3% three months earlier.

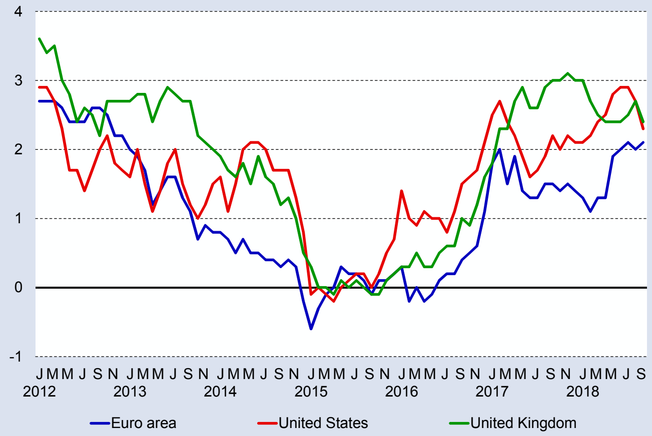
In its meeting held at the end of July and the beginning of August the Federal Open Market Committee (FOMC) maintained the target rate for the federal funds rate unchanged at 1.75% and 2.00% (see Chart 1.3). The FOMC reiterated that the stance of monetary policy remains accommodative, thereby supporting strong labour market conditions and a sustained return to the 2 per cent inflation target. In September, though, the Committee increased the range for the federal funds rate to between 2.00% and 2.25%, in view of realised and expected labour market conditions and inflation. In particular, employment continued to grow and activity rose

Chart 1.1
UNEMPLOYMENT RATE
(percentage of the labour force; quarterly average; seasonally adjusted)



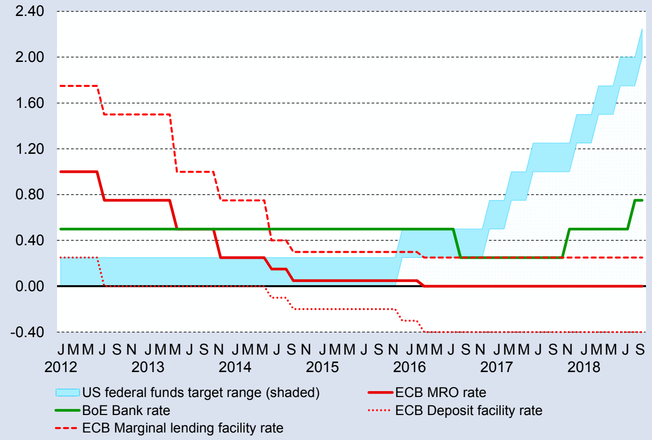
Sources: Eurostat; US Bureau of Labor Statistics; Office for National Statistics, UK.

Chart 1.2
CONSUMER PRICE INFLATION
(annual percentage changes)



Sources: Eurostat; US Bureau of Labor Statistics; Office for National Statistics, UK.

Chart 1.3
OFFICIAL INTEREST RATES
(percentages per annum; end of month)



Sources: ECB; Federal Reserve; Bank of England.

at a fast rate, while both inflation and inflation for items other than food and energy remained close to 2%. At the same time, inflation expectations were broadly stable.

The FOMC also stated that in determining the timing and size of future adjustments to the target range for the federal funds rate, it will assess realised and expected economic conditions relative to its maximum employment objective and its inflation objective. The Committee also maintained its existing policy of reinvesting principal payments from its agency debt and agency mortgage-backed security holdings in agency mortgage-backed securities, and rolling over maturing Treasury securities at auction.[1]

UK economic growth increases further

In the United Kingdom, quarter-on-quarter GDP growth rose to 0.6% in the third quarter from 0.4% in the second (see Table 1.1). Investment growth turned positive as did export growth. In contrast, imports increased at a faster pace and private consumption grew at the same annual rate. Meanwhile, government consumption continued to fall.

In the labour market, employment increased at a slightly faster annual pace of 1.1% in the third quarter of 2018, from 1.0% in the preceding quarter. Unemployment averaged 4.1% in the three months to September and was unchanged compared with the previous three-month period (see Chart 1.1).

Consumer price inflation remained unchanged at 2.4% in September compared with June (see Chart 1.2). The rate of increase in the prices of food and non-energy industrial goods decelerated. This was counterbalanced by faster growth in energy prices. Meanwhile services price inflation remained unchanged. Inflation excluding energy, food, alcohol and tobacco remained constant at 1.9%.

In August, the Bank of England's Monetary Policy Committee voted unanimously to increase the Bank Rate by 0.25 percentage point, to 0.75% (see Chart 1.3). The Committee stated that "*data appeared to confirm that the dip in UK output in the first quarter had been temporary, with momentum recovering in the second quarter. The labour market had continued to tighten and unit labour cost growth had firmed*." The central projections moreover embedded a small widening margin of excess demand that was expected to feed into higher growth in domestic costs than seen over recent years. Given these developments, a 0.25 percentage point increase in Bank Rate to 0.75% was warranted to return inflation sustainably to the target. All members agreed that any future increases in Bank Rate were likely to be at a gradual pace and to a limited extent. The Committee also noted that "*were the economy to continue to develop broadly in line with its Inflation Report projections, an ongoing tightening of monetary policy over the forecast period would be appropriate to return inflation sustainably to the 2% target at a conventional horizon*."

The Committee voted unanimously to maintain the stock of sterling non-financial investment-grade corporate bond purchases, and the stock of UK government bond purchases, financed by the issuance of central bank reserves, at GBP 10 billion and GBP 435 billion, respectively.[2]

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[1] This assessment was broadly confirmed at the FOMC's meeting held in November. In December, however, the FOMC increased the target range of the federal funds rate again, to between 2.25% and 2.50%.

[2] The Bank of England's Monetary Policy Committee kept the rate on hold in the fourth quarter of 2018.

The euro area

Euro area economic growth moderates

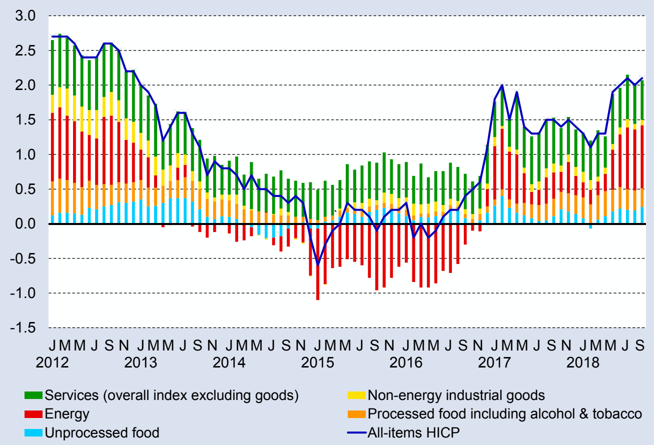
The rate of economic expansion in the euro area moderated during the third quarter of 2018; with real GDP rising by 0.2% on a quarterly basis following two quarters of constant growth of 0.4% (see Table 1.2). This appears to have been mainly driven by temporary bottlenecks in car production as a result of the introduction of new vehicle emissions standards and carmakers trying to avoid stocks of untested models.

The slowdown in GDP growth during the third quarter of 2018 reflected a negative contribution from external demand with net exports shedding 0.4 percentage point off GDP growth, after having a broadly neutral contribution in the previous quarter. On the other hand, domestic demand continued to lift GDP growth, remaining its sole driver. The largest contribution stemmed from changes in inventories which added 0.3 percentage point to real GDP growth. The contribution from private consumption and government consumption remained marginal and broadly unchanged from the previous quarter, whilst gross fixed capital formation added 0.2 percentage point to growth.

Euro area inflation rises marginally above 2%

The annual rate of inflation in the euro area, measured on the basis of the Harmonised Index of Consumer Prices (HICP), increased marginally to 2.1% in September from 2.0% in June (see Chart 1.4). Slower growth in the prices of processed food and non-energy industrial goods was offset by faster growth in unprocessed food and energy prices, while services inflation remained unchanged at 1.3%.

Chart 1.4
CONTRIBUTIONS TO YEAR-ON-YEAR HICP INFLATION IN THE EURO AREA
(percentage points; annual percentage change)



Source: Eurostat.

Table 1.2
CONTRIBUTIONS TO QUARTERLY REAL GDP GROWTH IN THE EURO AREA[1]
Seasonally and working day adjusted

	2017		2018		
	Q3	Q4	Q1	Q2	Q3
	Percentage point contributions				
Private consumption	0.3	0.1	0.3	0.1	0.1
Government consumption	0.1	0.0	0.0	0.1	0.1
Gross fixed capital formation	0.0	0.3	0.0	0.3	0.2
Changes in inventories	-0.2	-0.1	0.2	-0.1	0.3
Exports	0.6	1.0	-0.3	0.6	0.1
Imports	-0.1	-0.8	0.2	-0.6	-0.4
GDP	0.7	0.7	0.4	0.4	0.2

[1] Figures may not add up due to rounding.
Source: Eurostat.

In fact, HICP excluding energy and food remained constant during the quarter, standing at 0.9% in both June and September.

Labour market conditions improve further

Labour market conditions in the euro area continued to improve over the quarter under review. The seasonally-adjusted unemployment rates declined marginally to 8.0% in September from 8.2% in June and from 8.9% a year earlier (see Chart 1.1). The three-month average rate also fell, from 8.3% in the second quarter of 2018 to 8.0% in the third quarter of 2018. Moreover, employment continued to grow, although the annual growth rate eased to 1.3% in the quarter under review, from 1.6% in the previous quarter.[3]

Euro area recovery to continue

According to the latest Eurosystem staff macroeconomic projections, published in December 2018, growth in real GDP has surprisingly weakened in the quarter under review, partly due to temporary production impediments experienced by car manufacturers, particularly in Germany, and partly due to weaker domestic demand. Staff expected a recovery in the coming months, in the context of a still accommodative monetary policy stance, rising net worth, stronger balance sheets and some degree of fiscal loosening.

Activity should also benefit from continued growth in lending to the private sector, favourable interest rates and lending conditions, lower deleveraging needs and sound labour market conditions. Additionally, the ongoing expansion of global economic activity should support foreign demand for euro area exports.

On the other hand, economic growth is forecasted to slow down over the projected horizon, mainly reflecting weaker foreign demand, less supportive financial conditions and increasing labour supply constraints. Business investment growth is projected to weaken against lower growth in overall demand, tightening financing conditions, the termination of fiscal incentives and adverse structural changes. Real GDP growth is projected to stand at 1.9% in 2018 as a whole, before decelerating to 1.7% in the following two years, and further to 1.5% in 2021 (see Table 1.3).

Table 1.3
MACROECONOMIC PROJECTIONS FOR THE EURO AREA[(1)]
Annual percentage changes

	2018	2019	2020	2021
GDP	**1.9**	**1.7**	**1.7**	**1.5**
Private consumption	1.4	1.7	1.6	1.4
Government consumption	1.1	1.6	1.4	1.4
Gross fixed capital formation	3.5	3.3	2.6	2.1
Exports	2.8	3.5	3.8	3.4
Imports	2.7	4.2	4.2	3.6
HICP	**1.8**	**1.6**	**1.7**	**1.8**

(1) ECB staff macroeconomic projections (December 2018).
Source: ECB.

3 Employment data for the euro area are based on the national accounts.

Although private consumption growth moderated over the third quarter, it is projected to continue growing strongly, supported by favourable consumer confidence, a further enhancement in labour market conditions and rising real wages. Private consumption should also benefit from favourable bank lending conditions, progress in deleveraging and rising household net worth, even though gross household indebtedness remains at levels prevailing prior to the global financial crisis. Furthermore, the household savings ratio is projected to undergo a gradual normal increase over the coming quarters, in response to an ongoing cyclical expansion, including direct tax cuts and temporary upsurges in public transfers.

Residential investment is forecasted to expand further, while losing some momentum. This reflects increasing supply-side constraints in some euro area countries, broad-based labour shortages, as well as tightening of financing conditions, adverse demographic trends and a gradual slow-down in real disposable income growth.

Business investment is also expected to continue to recover, but is set to decelerate from 2019 onwards. Growth is anticipated to be supported by above-average business confidence, as reflected in favourable production expectations and order books. Additionally rates of capacity utilisation are high, profitability is increasing and leverage ratios among firms have declined. In addition, companies are expected to increase investment in response to labour supply constraints. Slower growth in the outer years of the projection horizon reflects a deceleration in domestic and foreign demand as well as a rise in non-financial corporations' (NFC) lending rates and the end of certain fiscal incentives.

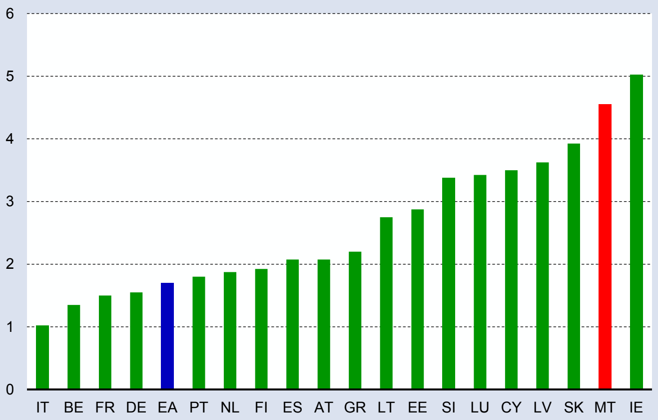
Government consumption growth is expected to remain relatively constant over the forecasted period.

On the external side, extra-euro area exports are forecasted to outpace foreign demand in 2019, implying some market gains in export market shares as a result of improved competition prices in the euro area. Extra-euro area imports are set to benefit from positive developments in domestic demand over the medium term, owing to a stronger euro. Eventually, they are expected to grow in line with foreign demand. Net trade contributions to economic growth are projected to neutralise over the coming years, following a minimal positive contribution during 2018.

Compared with the ECB staff projections published in September 2018, euro area real GDP growth was revised downwards by 0.1 percentage point in 2018 and 2019, reflecting the lower data out-turn in the quarter under review.

Country projections indicate that growth in the euro area is expected to be broad-based across Member States, but the expansion is set to moderate gradually in all countries (see Chart 1.5). Nonetheless, average

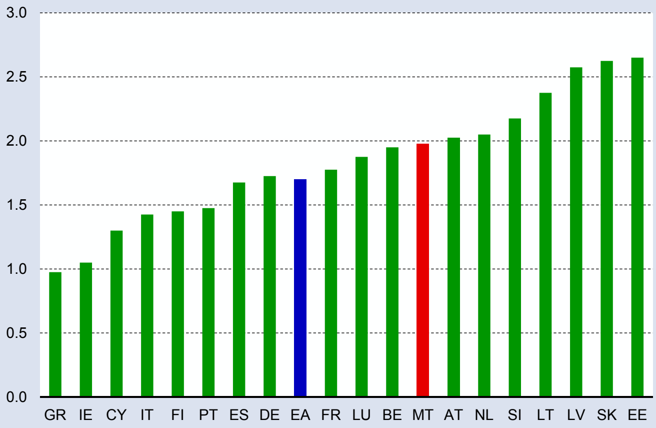
Chart 1.5
AVERAGE REAL GDP GROWTH 2018-2021
(annual percentage changes)



Source: Eurosystem.

growth rates over the projection horizon are anticipated to be quite diverse, ranging from a low of 1.0% in Italy to a high of 5.0% in Ireland.

Chart 1.6
AVERAGE HICP INFLATION 2018-2021
(annual percentage changes)



Source: Eurosystem.

HICP inflation is set to fall from 1.8% in 2018 to 1.6% in 2019 but is set to reach 1.8% by 2021. HICP energy inflation is set to decrease as the impact of recent strong increases in oil prices dissipates. The profile of energy inflation also reflects the decrease of futures prices for oil over the projection horizon. Moreover, food inflation is projected to remain broadly flat.

In contrast, HICP inflation excluding energy and food is set to rise progressively over the forecast horizon, as tighter conditions in the labour market should push wage growth upwards, consequently feeding into consumer prices and an improved cyclical position. It is set to increase steadily from 1.0% in 2018 to 1.8% in 2021.

Overall inflation was revised upwards by 0.1 percentage point in 2018 compared with the projections published in September. In contrast, it was revised downwards by 0.1 percentage point in 2019. Meanwhile, the December projections for inflation excluding energy and food were revised down throughout the projection horizon, with the strongest revision, of 0.2 percentage point arising in 2020.

From a cross-country perspective, inflation is expected to decelerate in the majority of euro area countries over the projection horizon. The lowest average inflation rate between 2018 and 2021 is expected to be recorded in Greece, at 1.0%, while the highest average rate is projected in Estonia, at 2.7% (see Chart 1.6). Inflation in Malta is set to average 2.0% over the forecast horizon, marginally above the average of 1.7% for the euro area as a whole.

ECB maintained its accommodative monetary policy stance

The ECB's Governing Council continued with its accommodative monetary policy stance during the third quarter of 2018. The interest rates on the main refinancing operations (MRO), on the marginal lending facility and on the deposit facility remained at 0.00%, 0.25% and -0.40%, respectively (see Chart 1.3). The Council reiterated that it expected key ECB interest rates to remain at their present levels at least through the summer of 2019 and in any case for as long as necessary to ensure the continued sustained convergence of inflation at levels below but close to 2% over the medium term.

The Council also continued with the current comprehensive package of non-standard measures. In line with the Council's decision, purchases under the asset purchase programme (APP) continued at the monthly pace of €30 billion until the end of September 2018. As of October, net asset purchases were carried out at a monthly pace of €15 billion. The Council stated that net purchases would continue at this pace until the end of December and then end.

It also reaffirmed its intention to maintain its policy of reinvesting the principal payments from maturing securities under the Programme for an extended period of time after the end of the net asset purchases, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

The Council also recalled that it stands ready to adjust all of its instruments as required, to ensure that inflation continues to converge to its price stability objective in a sustained manner.[4]

Money market rates remained at historical lows

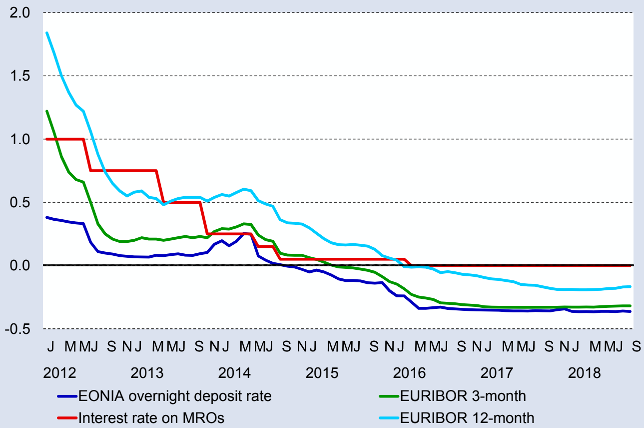
Money market rates in the euro area remained at historical lows during the third quarter of 2018, reflecting the accommodative monetary policy stance of the ECB. The EONIA overnight deposit rate remained set at -0.36% in September (see Chart 1.7), whilst the three-month EURIBOR stood unchanged at -0.32%. Meanwhile, the twelve-month EURIBOR rate fell to -0.17% in September from -0.18% in June.[5]

Euro area bond yields rise

Ten-year benchmark government bond yields in the euro area generally rose during the September quarter. The strongest rise was registered in Italian bond yields which rose by 22 basis points to 2.96%, amid political concerns arising from the Italian Government's announcement of new fiscal loosening measures. Spanish, German and French bond yields followed, rising by 9, 4 and 2 basis points to 1.46%, 0.37% and 0.77%, respectively. On the other hand, Greek bond yields declined by 22 basis points, to 4.17%, as the international bailout programme came to an end in August. In Portugal and in Ireland, the long-term government bond yield rose marginally over the quarter.

As in most countries government bond yields rose to a lesser extent than in Germany, or even declined, spreads between yields in the euro area and the ten-year German bond yields generally decreased over the third quarter, with the largest

Chart 1.7
KEY INTEREST RATES
(percentages per annum; monthly averages)



Source: ECB.

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[4] The Governing Council kept the key interest rates unchanged during its October and December 2018 monetary policy meetings. However, in December the Council clarified that the reinvestment of principal payments from maturing securities purchased under the APP will continue for an extended period of time past the date when it starts raising the key ECB interest rates.

[5] EURIBOR is an interest rate benchmark indicating the average rate at which principal European banks lend unsecured funds on the interbank market in euro for a given period. The EONIA (Euro Over Night Index Average) is an effective overnight interest rate, measured as the weighted average of the interest rates on unsecured overnight lending transactions, in euro denomination, as reported by a panel of contributing banks.

compression recorded in Greece (see Chart 1.8).

The euro appreciates further

The euro exchange rate appreciated further against a number of major currencies during the third quarter of 2018, with the nominal effective exchange rate against the effective exchange rate of a group of 19 trading partners (EER-19) rising by 0.2% between end-June and end-September.[6]

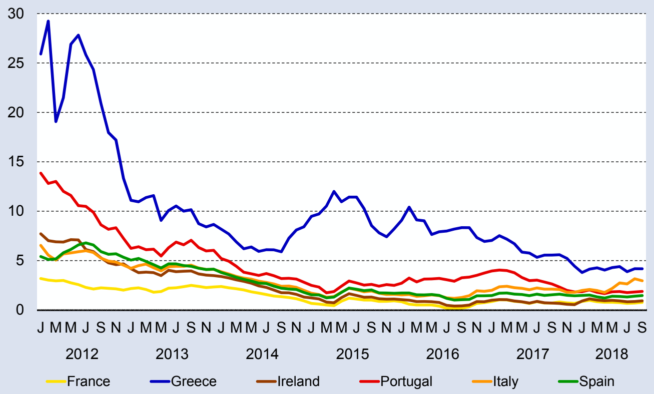
The euro fell by 2.8% against the US dollar amid signs of weakening economic growth in the euro area and insufficient evidence to support an upward adjustment in financial market participants' interest rate expectations (see Chart 1.9). It also weakened against a number of other currencies, including the Japanese yen and a number of other European currencies. On the other hand, the euro strengthened by 1.4% against the pound sterling and by 5.9% against the Chinese yuan renminbi.

Commodities

Oil prices end the quarter at a higher level

The price of Brent crude oil fell somewhat from USD 77 per barrel at the end of June to USD 69 per barrel by mid-August, as the trade dispute between the United States and China escalated and the Chinese economy showed signs of slowing down (see Chart 1.10). Subsequently, however, oil prices regained some of their

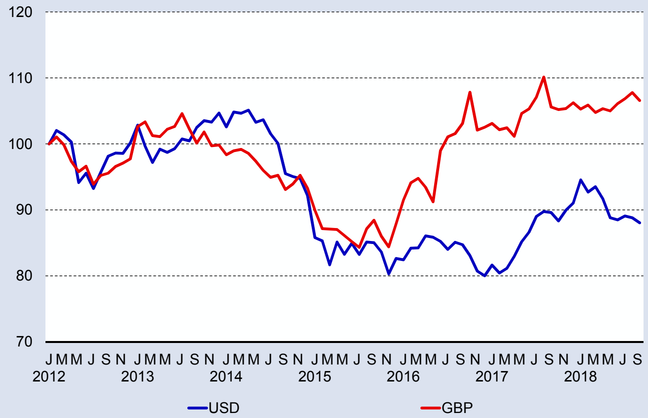
Chart 1.8
EURO AREA TEN-YEAR GOVERNMENT BOND YIELD SPREADS (1)
(vis-a-vis German ten-year government bond yields)



(1) Since there was no data for Greece for July 2015 due to market closure, the spread was left equal to that of the previous month.

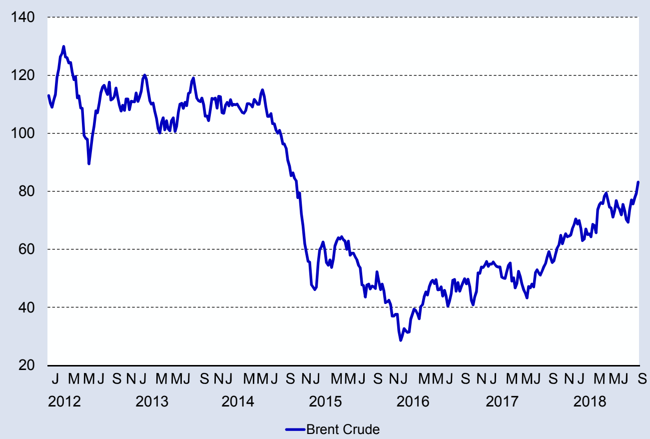
Source: ECB.

Chart 1.9
EXCHANGE RATE MOVEMENTS OF THE EURO AGAINST OTHER MAJOR CURRENCIES
(index of end of month rates; Jan. 2012=100; an increase in the index implies euro appreciation)



Source: Eurostat.

Chart 1.10
PRICE OF OIL
(end of week; US dollars per barrel)



Source: Reuters.

[6] The EER-19, is based on the weighted averages of the euro exchange rate against the currencies of Australia, Bulgaria, Canada, China, Croatia, Czech Republic, Denmark, Hong Kong, Hungary, Japan, Norway, Poland, Romania, Singapore, South Korea, Sweden, Switzerland, the United Kingdom and the United States.

earlier losses on the back of an unexpected drop in US crude inventories. The price of Brent crude oil stood at USD 83.22 per barrel at the end of September, 8.4% above the price prevailing three months earlier.

As regards non-energy commodity prices, World Bank data show that these decreased by 7.7% during the third quarter.

2. OUTPUT AND EMPLOYMENT

The Bank's Business Conditions Index (BCI) continued to indicate above-average conditions, with an improvement to 1.0 in the third quarter of 2018, from 0.7 in the second quarter of the year. Potential output growth eased slightly during the September quarter, although it remained relatively high from a historical perspective. Growth in potential output decelerated to 5.4%, from 5.7% in the second quarter of 2018.

In contrast, growth in real gross domestic product (GDP) accelerated during the third quarter of 2018. Real GDP rose by 7.5% in annual terms, following a 6.2% increase in the second quarter of the year. Growth was mostly driven by domestic demand, although the contribution from net exports was also positive. During the quarter under review, gross value added (GVA) continued to be largely supported by services.

The output surplus, measured as a four-quarter moving average, widened compared with the second quarter. However, it remained similar to the level estimated for the same quarter of 2017 and well below 2015 and 2016 levels.

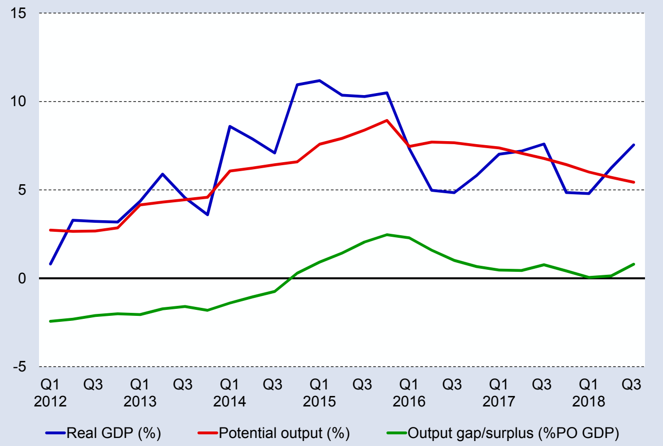
Labour market conditions remained favourable in the third quarter of 2018, as employment grew strongly. The unemployment rate based on the Labour Force Survey (LFS) fell compared with the preceding year, notwithstanding a further increase in labour market participation rates and rising foreign employment. In part, this reflects the robust pace of economic expansion and improved job matching in the context of a buoyant economy. The unemployment rate remained below the structural measure and thus continued to suggest a degree of tightness in the labour market during the quarter under review.

Potential output and Business Conditions Index

Positive output gap widens[1,2]

In the third quarter of 2018, potential output growth eased slightly, although it remained relatively elevated from a historical perspective (see Chart 2.1). Potential output growth is estimated to have moderated to 5.4%, from 5.7% in the second quarter of 2018. Meanwhile, GDP growth accelerated to 7.5% from 6.2%.

Chart 2.1
CYCLICAL POSITION OF THE MALTESE ECONOMY
(annual percentage change; percentage of potential GDP)



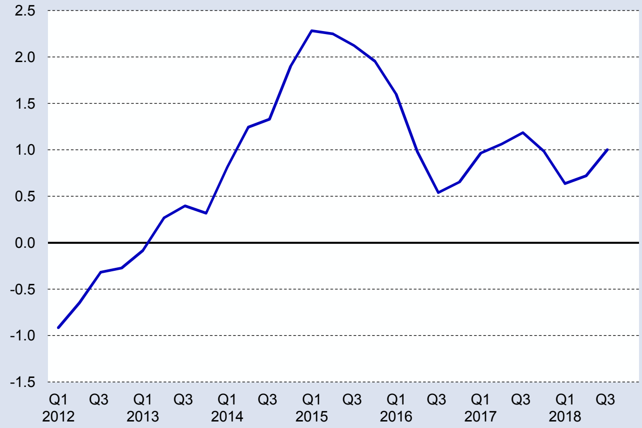
Source: NSO; Central Bank of Malta estimates.

[1] Potential output measures the medium-to-long-term level of real output which is sustainable in an economy. The estimates presented here are derived using a production function approach. For further details on the methodology adopted see Micallef, B. and Ellul, R. (2017), "Medium-term Estimates of Potential Output Growth in Malta", in Grech, A. G. and Zerafa, S. (Eds.), Challenges and Opportunities of Sustainable Economic Growth: the Case of Malta, Central Bank of Malta.

[2] Real GDP and potential output are reported as annual growth rates in the respective quarter. The output gap/surplus is expressed as a percentage of potential output on the basis of four-quarter moving averages.

The positive output gap, measured as a four-quarter moving average, is estimated at 0.8% in the third quarter, above the marginal surplus recorded in the second quarter but in line with the output gap estimated for the third quarter of 2017. Although the degree of overutilisation of the economy's productive capacity has increased compared with the second quarter of the year, it remains well below levels seen in 2015 and 2016.[3] Potential growth continues to be boosted by an increasing number of foreign workers and higher labour participation, with the labour contribution remaining close to its historical highs.

Chart 2.2
BUSINESS CONDITIONS INDEX
(standardised)



Source: Central Bank of Malta.

Central Bank's Business Conditions Index improves[4]

The Central Bank's BCI continued to signal above-average conditions (see Chart 2.2). The index stood at 1.0 in the third quarter of the year, higher than the revised value of 0.7 measured in the second quarter of the year and only marginally below its value of 1.2 a year earlier. The latest change in the index reflected a decrease in unemployment and an increase in tourism offsetting slower growth in industrial production. The latest estimates suggest that economic conditions appear to be broadly stable over the quarter, even if less strong than in 2014 and 2015.

GDP and industrial production

Real economy grows at a faster pace

The pace of economic activity accelerated during the third quarter of 2018, with real GDP rising by 7.5% on an annual basis, following a 6.2% increase in the previous quarter.[5]

The expansion was underpinned by a strong increase in final domestic demand, which contributed 5.2 percentage points to GDP growth in the quarter (see Table 2.1). All domestic demand components rose on a year earlier. However, growth was principally driven by private consumption and changes in inventories. Net exports contributed 2.4 percenatge points to growth, partly reversing the negative contribution recorded in the second quarter, as exports accelerated while imports slowed down.

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[3] The output gap may be viewed as a gauge of over or underutilisation of the productive capacity of the economy over the business cycle. A positive gap signals overutilisation of resources, whereas a negative one indicates underutilised resources.

[4] The BCI is a synthetic indicator, which includes information from a number of economic variables such as the term-structure of interest rates, industrial production, an indicator for the services sector, economic sentiment, tax revenues and private sector credit. By construction it has an average value of zero over the estimation period since 2000. A full time series can be found at https://www.centralbankmalta.org/business-conditions-index. For further details on the methodology underlying the BCI, see Ellul, R. (2016), "A real-time measure of business conditions in Malta," Working Paper 05/2016.

[5] The analysis of GDP in this Chapter of the *Quarterly Review* is based on data published in NSO *News Release* 193/018 and released on 6 December 2018.

Table 2.1
GROSS DOMESTIC PRODUCT[1]

	2017		2018		
	Q3	Q4	Q1	Q2	Q3
	Annual percentage changes				
Private final consumption expenditure	3.6	2.9	5.2	8.8	8.1
Government final consumption expenditure	18.9	1.9	2.2	10.2	1.9
Gross fixed capital formation	-6.8	0.9	-16.9	12.6	0.6
Domestic demand	**2.6**	**3.7**	**1.8**	**14.3**	**6.1**
Exports of goods and services	4.5	6.3	1.9	0.3	2.6
Imports of goods and services	-0.3	4.8	-1.0	4.3	1.2
Gross domestic product	**7.6**	**4.9**	**4.8**	**6.2**	**7.5**
	Percentage point contributions				
Private final consumption expenditure	1.6	1.3	2.4	3.9	3.4
Government final consumption expenditure	2.5	0.3	0.4	1.6	0.3
Gross fixed capital formation	-1.4	0.2	-3.9	2.3	0.1
Changes in inventories	-1.9	0.1	1.4	3.6	1.3
Domestic demand	**0.7**	**1.9**	**0.3**	**11.4**	**5.2**
Exports of goods and services	6.6	9.2	3.0	0.4	3.7
Imports of goods and services	0.3	-6.3	1.5	-5.6	-1.3
Net exports	**6.9**	**2.9**	**4.5**	**-5.2**	**2.4**
Gross domestic product	**7.6**	**4.9**	**4.8**	**6.2**	**7.5**

[1] Chain-linked volumes, reference year 2010.
Sources: NSO; Central Bank of Malta calculations.

Private consumption expenditure grew by 8.1% and added 3.4 percentage points to real GDP growth. It continued to be sustained by a buoyant labour market and, consequently, in compensation of employees. Nominal data show a rise in expenditure across all categories. Although growth in private consumption moderated in the third quarter, it remained very high from a historical perspective.

Following double-digit growth in the second quarter, real gross fixed capital formation increased by 0.6% in the third quarter of 2018 and contributed 0.1 percentage point to real GDP growth. Although dwelling investment rose strongly, this was largely offset by a decrease in total machinery investment. This decrease partly reflected heavy capital outlays in the aviation sector in the third quarter of 2017 that were not repeated this year. Capital outlays on non-residential buildings and on intellectual property and cultivated biological resources rose mildly and did little to offset this decline.

Government consumption expenditure rose by 1.9% in the third quarter and added 0.3 percentage point to real GDP growth. This was mainly due to higher outlays on compensation of employees in the public administration and education sectors, which offset a small decrease in intermediate consumption. At the same time, revenue from sales, which is netted against expenditure in national accounts, declined in the period under review. This was partly due to lower receipts related to the Individual Investor Programme (IIP).

Changes in inventories also supported GDP growth, although their contribution decreased compared with the second quarter.

Imports rose by 1.2% on a year earlier, while exports rose by 2.6%. This led to a positive contribution from net exports to real economic activity of 2.4 percentage points. This followed a negative contribution of net exports to the GDP in the preceding quarter. Such development reflected trade in goods.

Nominal GDP growth accelerates; services remain the main driver of growth

Nominal GDP rose by 9.5% in annual terms during the third quarter of 2018, after increasing by 8.8% in the previous quarter (see Table 2.2). The acceleration partly reflected that in GVA, which rose at an annual rate of 8.4% in the third quarter of 2018, after growing by 7.9% in the second quarter. In the quarter under review, GVA contributed 7.3 percentage points to nominal growth.[6]

Services remained the main driver of activity, contributing 6.0 percentage points to nominal GDP growth. The largest addititions within the services sector came from the sectors specialising in professional and scientific activities, arts and entertainment as well as public administration. Together, these three sectors contributed 4.3 percentage points to nominal GDP growth. Wholesale and retail trade, financial and insurance activities, real estate as well as information and communication jointly added a further 1.7 percentage points. The contribution from manufacturing stood at 0.6 percentage point, while those from construction and utilities sectors was relatively lower, at 0.4 and 0.3 percentage points respectively. Meanwhile, the agriculture and fishing sector had a negligible impact on nominal growth for the second consecutive quarter.

Table 2.2
CONTRIBUTION OF SECTORAL GROSS VALUE ADDED TO NOMINAL GDP GROWTH
Percentage points

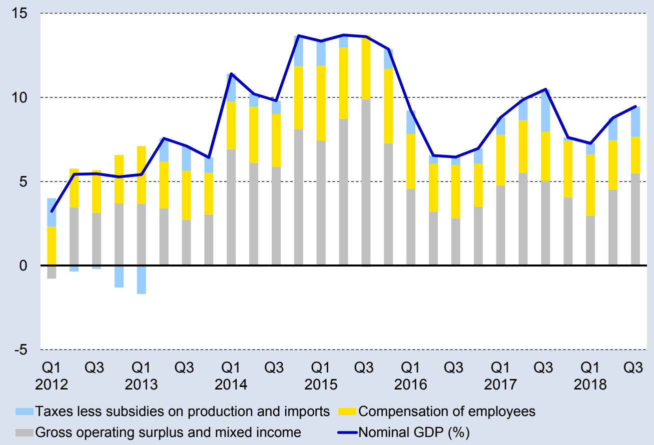
	2017		2018		
	Q3	Q4	Q1	Q2	Q3
Agriculture, forestry and fishing	0.0	-1.2	0.2	0.0	0.0
Mining and quarrying; utilities	-0.1	0.8	0.2	0.2	0.3
Manufacturing	0.9	0.8	0.1	0.6	0.6
Construction	0.3	0.3	0.2	0.2	0.4
Services	7.3	6.7	6.1	6.0	6.0
of which:					
Wholesale and retail trade; repair of motor vehicles; transportation; accommodation and related activities	2.4	0.9	1.0	0.6	0.5
Information and communication	0.3	0.6	0.4	0.2	0.3
Financial and insurance activities	0.1	0.3	0.3	0.7	0.5
Real estate activities	-0.1	-0.2	0.4	0.5	0.5
Professional, scientific, administrative and related activities	2.1	2.5	1.1	1.2	1.7
Public administration and defence; education; health and related activities	1.2	1.4	1.6	1.1	1.0
Arts, entertainment; household repair and related services	1.2	1.1	1.3	1.6	1.6
Gross value added	**8.3**	**7.4**	**6.8**	**7.1**	**7.3**
Taxes less subsidies on products	**2.2**	**0.2**	**0.4**	**1.7**	**2.1**
Annual nominal GDP growth (%)	**10.5**	**7.6**	**7.3**	**8.8**	**9.5**

Source: NSO.

6 The difference between nominal GDP and GVA is made up of taxes on products, net of subsidies.

GDP data by income distribution show that gross operating surplus has accelerated further during the third quarter, rising by 11.2% on an annual basis, from 9.3% in the second quarter, and contributing 5.5 percentage points to nominal GDP growth (see Chart 2.3). Compensation of employees also continued to rise robustly, although the pace of growth moderated to 5.5% from 7.2% in the June quarter. The latter added 2.2 percentage points to nominal growth. Net taxes on production and imports increased stongly and explain the remaining 1.8 percentage points to nominal GDP growth.

Chart 2.3
NOMINAL GDP AND ITS MAIN COMPONENTS
(percentage point contribution)



Source: NSO.

Almost all sectors registered higher gross operating surplus when compared with the same quarter a year earlier. The largest increases in absolute terms were recorded in arts, entertainment and recreation as well as in administrative and support services.

Compensation of employees continued to grow strongly in all sectors, with the largest absolute increases registered in the sectors of public administration, wholesale and retail, professional, scientific and technical activities as well as in arts, entertainment and recreation.

Industrial production declines for the third consecutive quarter

During the third quarter of 2018, industrial production contracted by 3.7% when compared with the same quarter a year earlier.[7] This followed a 0.8% year-on-year decline in the second quarter (see Table 2.3).

This contraction solely reflected a 3.8% decrease in the manufacturing sector, which accounts for over 80% of the index. On the other hand, output rose by 0.3% in the energy sector and by 19.9% in the quarrying sector. However, this sector has a very small weight in the overall industrial production index.

Within the manufacturing sector, output declined strongly among producers of pharmaceuticals. In this sub-sector output almost halved compared with the same quarter of the preceding year. Smaller declines in production were registered among manufacturers of beverages, among firms involved in repair and installation of machinery and equipment, within the rubber and plastics sub-sector as well as within the “other manufacturing” sub-sector, which includes medical and dental instruments, toys and related products. These declines offset strong increases among

[7] Methodological differences may account for divergences between developments in GVA in the manufacturing sector and industrial production. GVA nets input costs from output to arrive at value added, and is expressed in nominal terms. Industrial production is a measure of the volume of output and takes no account of input costs. The sectoral coverage between the two measures also differs, since industrial production data also include the output of the energy and, water collection, treatment and supply sectors.

Table 2.3
INDUSTRIAL PRODUCTION[(1)]
Percentages; annual percentage changes

		2017		2018		
	Shares	Q3	Q4	Q1	Q2	Q3
Industrial production	**100.0**	**5.2**	**1.9**	**-2.7**	**-0.8**	**-3.7**
Manufacturing	**87.1**	**4.1**	**1.1**	**-4.6**	**-1.4**	**-3.8**
of which:						
Food products	15.4	6.6	3.6	-15.4	-14.7	2.3
Repair and installation of machinery and equipment	7.9	3.6	1.0	5.3	5.6	-8.7
Basic pharmaceutical products and pharmaceutical preparations	7.3	5.5	5.4	9.6	-1.6	-45.1
Printing and reproduction of recorded media	7.3	-11.3	5.3	9.2	45.3	49.7
Beverages	5.6	3.0	5.4	2.4	4.1	-12.4
Rubber and plastic products	5.4	5.9	-5.6	-7.6	-10.2	-11.7
Computer, electronic and optical products	5.0	-12.8	-20.8	-28.1	-24.4	3.5
Energy	**12.5**	**8.0**	**3.1**	**1.2**	**4.2**	**0.3**
Mining and quarrying	**0.5**	**-20.3**	**22.7**	**-0.4**	**35.4**	**19.9**

(1) The annual growth rates of the industrial production index are averages for the quarter based on working-day adjusted data. The annual growth rates of the components are based on unadjusted data.

Sources: NSO; Eurostat.

producers involved in the printing and reproduction of recorded media. Moderate increases were also recorded in the production of computer, electronic and optical products as well as food products.

BOX 1: DEVELOPMENTS IN THE WHOLESALE AND RETAIL SECTOR[1]

The wholesale and retail sectors are major employers in the Maltese economy. Although their share in total value added is declining due to the stronger growth in other service-related industries, activity in these sectors has remained quite robust and continues to have significant indirect effects on the rest of the economy. This Box aims to better understand long-term trends in wholesale and retail activities and their role in the Maltese economy, using various data sources.[2]

Business structure[3]

According to business demographics data published by the National Statistics Office (NSO), there were almost 7,500 registered legal entities within the wholesale trade sector and over 9,000 entities within the retail trade sector in 2017 (see Chart 1). Together, they amount to around 16% of the total business units registered in Malta that year. The majority of the

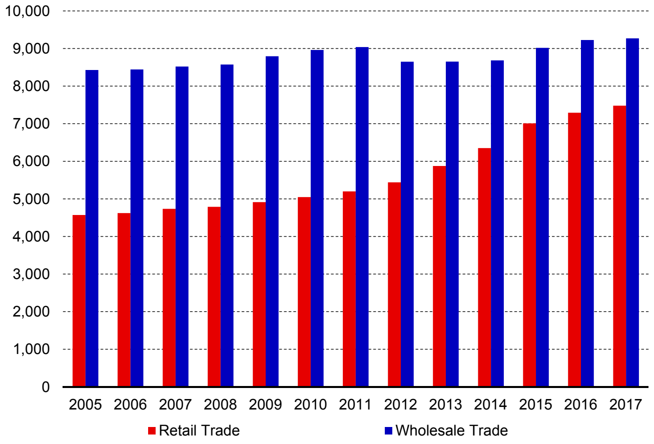
[1] Prepared by Joanna Borg Caruana. The author is a senior economist in the Economic Analysis Department of the Central Bank of Malta. The views expressed are those of the author and do not necessarily reflect those of the Central Bank of Malta.

[2] In this Box, data for the Wholesale and Retail sector include the firms operating in Wholesale Trade and Retail Trade, except of Motor Vehicles and Motorcycles (G46 and G47), unless specified otherwise. The cut-off date for information is 15 October 2018.

[3] According to the NACE Rev. 2 classification by Eurostat, the difference between wholesale and retail trade is based on the type of customer. *"Wholesale is the resale (sale without transformation) of new and used goods to retailers, business-to-business trade, such as to industrial, commercial, institutional or professional users, or resale to other wholesalers, or involves acting as an agent or broker in buying merchandise for, or selling merchandise to, such persons or companies."* Retailing is *"the resale (sale without transformation) of new and used goods mainly to the general public for personal or household consumption or utilisation, in shops, department stores, stalls, mail-order houses, door-to-door sales persons, hawkers, consumer cooperates auction houses etc."*

firms in both areas are considered micro enterprises, as they employ less than 10 employees.

Chart 1
NUMBER OF REGISTERED LEGAL ENTITIES
(number of business units)



Source: NSO.

Chart 2
BUSINESS STRUCTURE IN WHOLESALE AND RETAIL TRADE IN 2017
(percentage of total)

(1) Other type of enterprise legal structures may include corporations, cooperatives and joint ventures.
Source: NSO.

Slightly more than three quarters of businesses within the wholesale sector in 2017 were limited liability companies or public limited companies (see Chart 2). These accounted for 86% of employment in wholesale activities. Around one-fifth constituted of sole traders or partnerships and these generated slightly more than one-tenth of employment in the sector.

In contrast, within the retail trade sector, three quarters of entities operated as sole proprietors or were in a partnership agreement, while less than a quarter were limited liability or public liability companies. In this sector, employment was more evenly distributed between different business types. Sole proprietors and partnerships generated 43% of employment, while companies employed the remainder. The structure of these businesses has evolved over the years. Since 2005, the importance of corporate organisations has increased in both wholesale and retail.

Data on the number of births and deaths within the wholesale and retail trade sectors show that in general, since 2005 the number of newly registered entities was higher than deregistered ones.[4] In 2017, there were 1,281 new firms in these two sectors, while 759

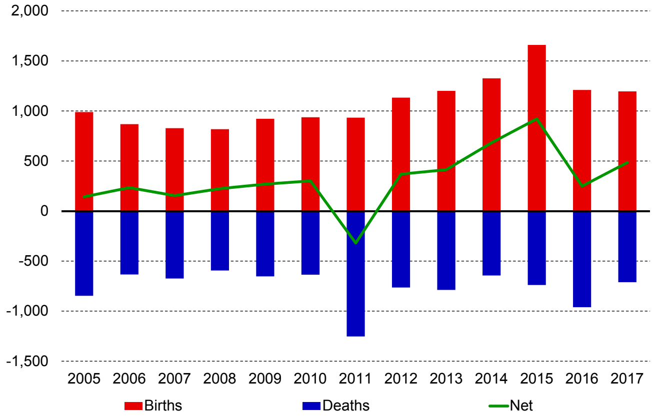
[4] Business demographic data from 2011 exclude units with a turnover of less than €7,000, in line with a new VAT Regulation that came into force on 1 January 2011, as notified in Legal Notice 524 of 2010. Additionally, data from 2015 include new or re-activation of registrations according to another new VAT Regulation that came into force on 1 January 2015, as notified in Legal Notice 67 of 2015 and revoking the 2010 Regulations exempting VAT registration. Therefore, data for 2011-2014 may not be strictly comparable with data for other years.

units were deregistered, giving a net increase of 522 businesses during that year (see Chart 3).[5]

Developments in activity

National accounts data show that GVA in the wholesale and retail sectors more than doubled since 1995 (see Chart 4). The absolute increase over the years was larger in retail, where the level of GVA almost tripled.

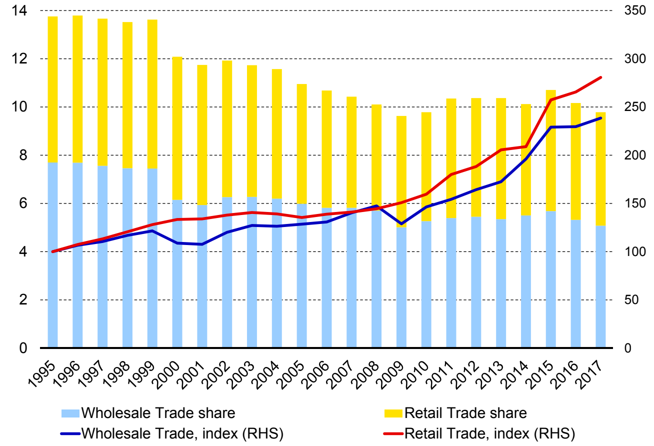
Chart 3
BUSINESS BIRTHS AND DEATHS IN THE WHOLESALE AND RETAIL SECTORS
(number of business units)



Source: NSO.

Both wholesale and retail activities increased strongly in the late nineties. In 2000 and 2001, though, GVA slowed down in the retail sector and fell in the wholesale sector. The wholesale sector managed to recover the losses in the following years, before registering another dip in 2009 as the global financial crisis unfolded. In contrast, GVA in retail trade remained resilient and was almost unaffected by the recent global turmoil. GVA in wholesale and retail trade grew by 16.9% and 23.2%, respectively, in 2015 before moderating slightly in the following two years. In 2017, both registered a rate of growth of around 5%.

Chart 4
GROSS VALUE ADDED IN THE WHOLESALE AND RETAIL SECTORS
(percentage of total economy; index)



Source: NSO.

The wholesale and retail sectors were important contributors to economic activity during the nineties, together generating around one seventh of the whole economy GVA in 1995. However, over the next two decades their share in GVA declined, standing at around 10% in 2017, as the Maltese economy became more diversified, and other sectors, such as remote gaming and business services, grew more rapidly. Additionally, the retail sector in particular faced strong competition from overseas online retailers. According to a 2016 study

[5] NACE G constitutes of sector G45 (wholesale and retail trade and repair of motor vehicles and motorcycles) together with sector G46 (wholesale trade, except of motor vehicles and motorcycles) and sector G47 (retail trade, except of motor vehicles and motorcycles).

published by PwC Malta, online competition was the second most major concern for local retail businesses, and was particularly important for firms selling ICT equipment.[6] Sales lost to online shopping was also the factor cited most frequently by members of the General Retailers and Traders Union (GRTU) which reported a decrease in sales in recent years. The rapid increase in online purchases is confirmed by payments data. The value of online transactions by means of cards issued by the major domestic credit and payment institutions that operate in Malta reached almost €600 million in 2017, equivalent to around 12% of nominal private consumption. This share was broadly double that recorded two years earlier.

Although relatively small in terms of GVA, the wholesale and retail sectors have linkages with other sectors of the economy. This can be seen from the latest, albeit dated, input-output tables, which refer to 2010 (see Table 1).[7] To generate an output worth €1 billion, the distribution sector, which includes wholesale trade, retail trade and repair of motor vehicles and motorcycles, utilised more than 80%, or €355 million, in domestic production, mainly services, particularly those related to transport, as well as financial and insurance services.

On the other hand, the distribution sector has a very low import content, with imports (€65 million) constituting only 15% of intermediate consumption in 2010. This share is lower compared with those for the construction and manufacturing sectors, which in 2010 amounted to 27% and 70%, respectively. This may reflect the lower capital intensity of operations in wholesale and retail as well as a higher dependency on certain domestically-generated services such as transport and advertising.

Table 1
INTERMEDIATE CONSUMPTION IN THE DISTRIBUTION SECTOR (G45-47), 2010
EUR millions

	2010
Output as basic prices	**1,047**
Total intermediate consumption	**428**
Domestic Production	355
Agriculture, forestry and fishing	0
Mining and quarrying; utilities	33
Manufacturing	20
Construction	16
Services	287
some of which:	
Wholesale and retail; repair of motor vehicles	21
Transport	95
Financial and insurance	69
Real estate	28
Professional services	34
Imported products	65
Taxes less subsidies on products	8
Gross value added at basic prices	**618**

Source: NSO.

[6] PwC Malta Middle Market Barometer, available at https://www.pwc.com/mt/en/publications/assets/barometer-march-2016.pdf
[7] The input-output data refer to the wholesale and retail trade, including the repair of motor vehicles and motorcycles (sectors G45, G46 and G47).

Around 70 per cent of the output generated in the wholesale and retail trade sectors during 2010 was in the form of final demand, largely final consumption (€501 million) (see Table 2). Exports and gross capital formation together constituted less than 30% of the final demand generated during that year. The rest of output, or €345 million, was used as intermediate demand by the economy, primarily by the transport sector.

A study by the Central Bank of Malta, using the 2010 input-output framework, puts forward industry-specific accounting multipliers (see Table 3).[8] The wholesale and retail trade sector as a whole generated the fifth highest output and income multipliers, and the third highest value added and employment multipliers. This shows that although the sector is relatively small in GVA terms, it creates strong direct and indirect effects in the Maltese economy. In fact, the accounting multipliers in the wholesale and retail sector exceed those generated in sectors comprising of transportation and storage, real estate as well as information and communication.

Table 2
OUTPUT IN THE DISTRIBUTION SECTOR (G45-G47), 2010
EUR millions

	2010
Intermediate demand	345
Final demand	701
Final consumption	501
Gross capital formation	71
Exports	130
Output at basic prices	**1,047**

Source: NSO.

Table 3
ACCOUNTING MULTIPLIERS FOR SPECIFIC SECTORS OF THE ECONOMY

	Accounting Multipliers			
	Output	Income	Value added	Employment
Wholesale and retail trade, including repair of motor vehicles and motorcycles	6.0	8.8	9.3	10.6
Wholesale and retail trade and repair of motor vehicles and motorcycles	0.7	1.0	1.0	1.2
Whoelsale trade, except of motor vehicles and motorcycles	2.2	3.3	3.4	3.5
Retail trade, except of motor vehicles and motorcycles	3.1	4.6	4.9	6.4
Manufacturing	14.9	13.7	14.1	14.2
Transportation and storage	4.8	5.3	5.1	4.5
Accommodation and food services	6.1	7.5	7.0	10.7
Real Estate	2.6	0.7	5.3	0.7
Information and communication	3.9	4.0	4.9	3.3

Source: Rapa, N. (2017).

[8] The industry-specific accounting multipliers consists of Type I and Type II multipliers that capture the direct and indirect impact (on output, income, value added and employment) of an increase in final demand in one industry on the rest of the economy, whilst also taking into account the size of the sector that is generating the final demand.

Developments in the labour market, wages and productivity

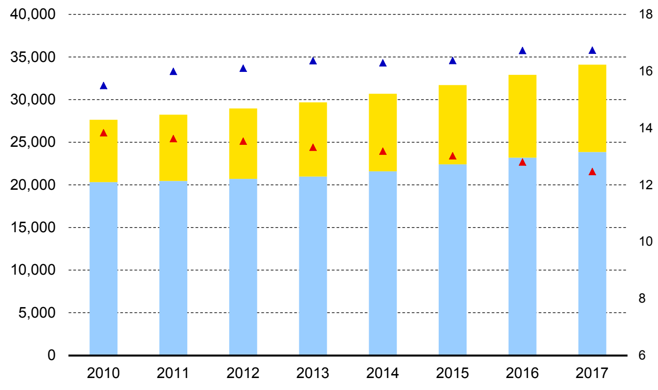
Gainfully occupied data show that there were 34,101 jobs in the wholesale and retail sector in 2017, of which 23,850 persons held full-time jobs and 10,250 were in part-time jobs (see Chart 5). This accounted for 12.5% and 16.7% of full-time and part-time employment in the economy, respectively. Retail activities generated the majority of employment, accounting for three-fifths of the full-timers and slightly more than the 70% of part-timers in wholesale and retail.

From the mid-nineties to 2017, full-time employment in wholesale and retail trade increased by almost 50% with the sector remaining the largest full-time employer in Malta, accounting for almost 13% of full-time employment. Part-time jobs more than doubled since 1995, and in 2017 the sector offered the largest number of part-time jobs in Malta according to administrative data.

In line with other sectors of the economy, wholesale and retail trade activities registered an increase in foreign workers in the last few years. Data from Jobsplus show that the number of foreigners working in full-time and part-time jobs in the sector almost doubled since 2014, slightly exceeding 3,500 persons in 2017 (see Chart 6). This was equivalent to almost 10% of total employment in wholesale and retail. Around 78% of these foreign workers come from countries within the European Union.

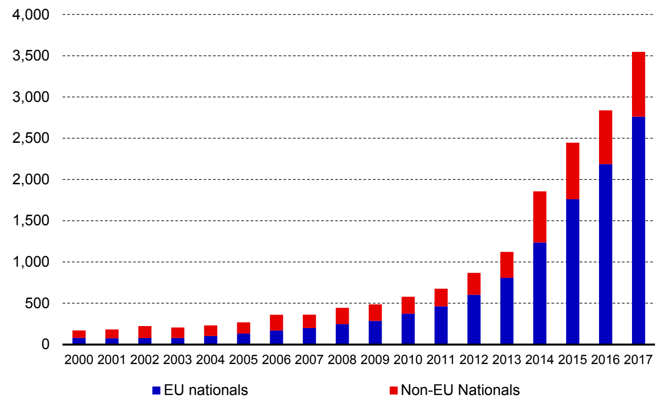
Labour costs (wages and salaries) in the wholesale and retail sector stood at €9.6 per hour in 2017 (see Chart 7). This stood well below the hourly costs in other sectors, such as arts and entertainment, which includes remote gaming, as well as the

Chart 5
FULL-TIME AND PART-TIME GAINFULLY OCCUPIED POPULATION
(levels; per cent)



Source: NSO.

Chart 6
NUMBER OF FOREIGN WORKERS IN THE WHOLESALE AND RETAIL SECTORS[(1)]
(actual)



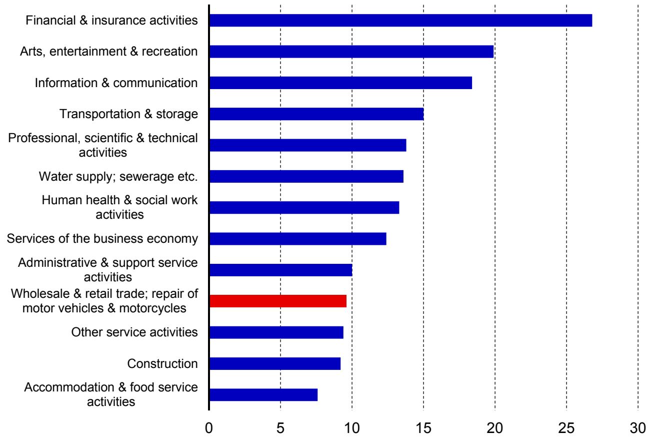
(1) This sector also includes data on the repair of motor vehicles and motorcycles.
Source: Jobsplus.

sector comprising of professional, scientific and technical activities. On the other hand, the wholesale and retail trade sector offered a higher rate per hour than construction as well as accommodation and food activities. Labour costs of Maltese wholesalers and retailers stood towards the lower end of the range for the euro area. In 2017 the rate in Malta was almost half of the euro area average (see Chart 8).

A similar conclusion is drawn on the basis of compensation per employee data. In 2017, average compensation per employee in sector G, which includes wholesale and retail as well as repair of motor vehicles and motorcycles, was around €20,156. This is almost 30% less than the whole economy average of €27,818.

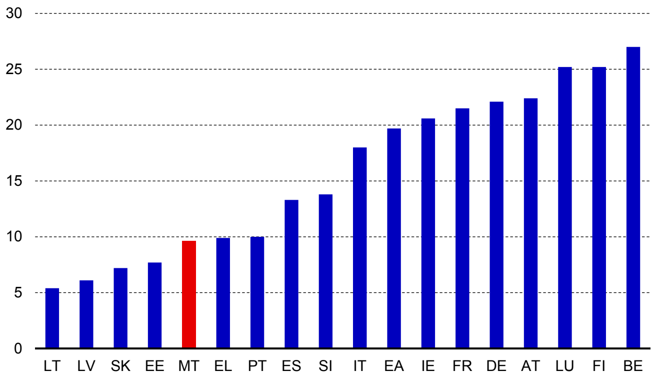
In terms of productivity per worker, which is here being approximated by nominal GVA per person employed, the wholesale and retail sector shows relatively weak results when compared with other sectors, especially those in high value added services (see Chart 9). Sectors that

Chart 7
AVERAGE LABOUR COST PER HOUR IN 2017
(EUR)



Source: Eurostat.

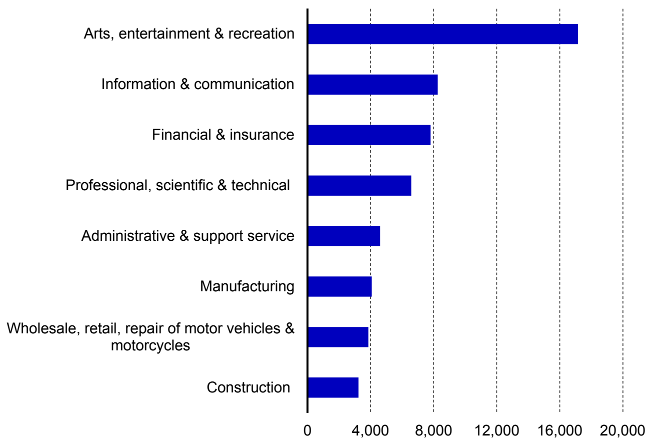
Chart 8
AVERAGE LABOUR COST PER HOUR IN THE WHOLESALE AND RETAIL SECTORS IN EURO AREA COUNTRIES (2017)[(1), (2)]
(EUR)



(1) Data for Cyprus were not available.
(2) Data include sectors G45, G46 and G47.

Source: Eurostat.

Chart 9
PRODUCTIVITY IN 2017
(EUR per person employed)

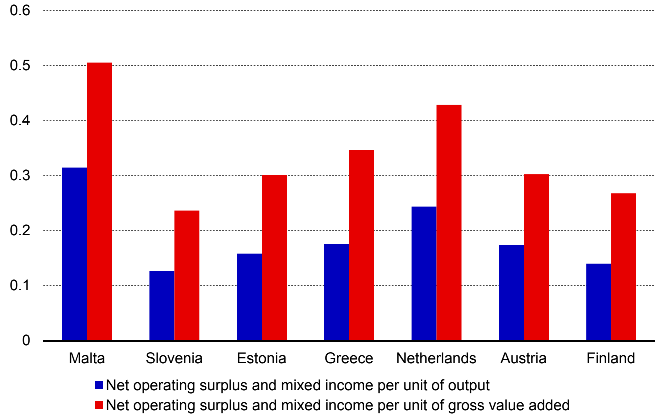


Source: Author's calculations.

are characterised by higher productivity include those specialising in arts, entertainment and recreation, information and communication, financial and insurance, administrative services as well as the manufacturing sector. On the other hand, the construction sector registered a lower productivity than the wholesale and retail sector during 2017.

While wholesale and retail activities are characterised by relatively low labour costs per person and low productivity, the two sectors jointly exhibit a relatively high degree of profitability. National accounts data show that net operating surplus and mixed income in these sectors is relatively high when compared with that in other countries (see Chart 10).[9] It is also relatively high when compared with other domestic sectors (see Chart 11). This suggests that the rather low productivity in this sector is being cushioned partly by high mark-ups.

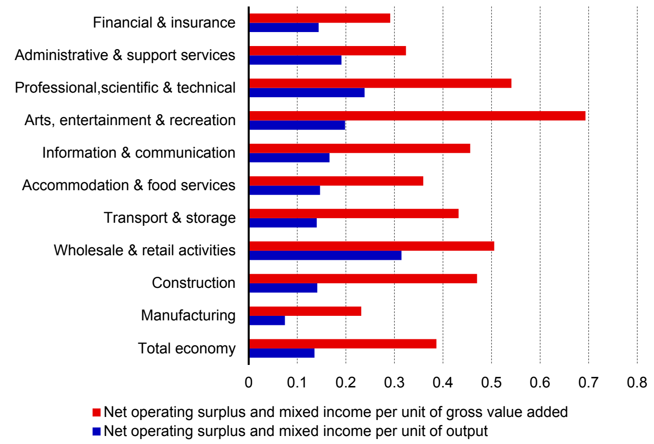
Chart 10
PROFITABILITY IN THE WHOLESALE AND RETAIL SECTORS IN SELECTED COUNTRIES IN 2017
(EUR)



Source: Eurostat.

The confidence indicator for retail trade, published every month by the European Commission, has been positive for three consecutive years. Although the indicator has been easing, it remains well above the historical average (see Chart 12).[10]

Chart 11
PROFITABILITY IN SELECTED SECTORS IN 2017
(EUR)



Sources: Eurostat; NSO.

In recent years, respondents have continued to see positive business conditions, as both the business activity indicator and the business activity expectations index have been positive in the last three years,

9 Data for the euro area and for euro area countries other than those shown in Chart 10 are not available for 2017.

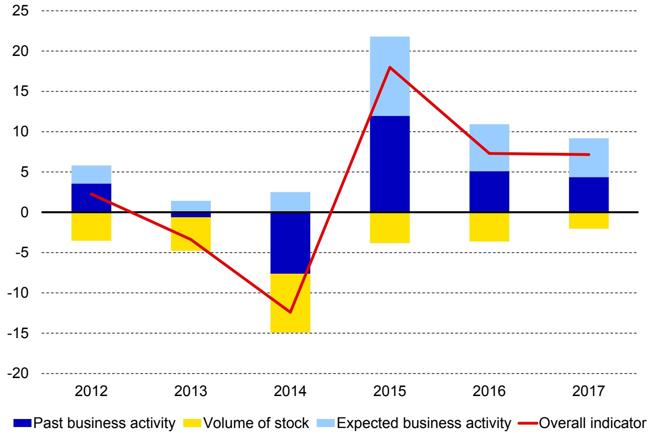
10 This is a sub-sectoral indicator for retail trade which excludes retail trade for motor vehicles and motorcycles. The indicator is composed of questions related to business activities in the past three months, current level of stock volume as well as business activity expectations. Data for Malta starts in May 2011 and excludes retail trade for motor vehicles and motorcycles.

although they dropped in each consecutive year. However, respondents continued to report above normal stock levels, which has a negative impact on the sentiment indicator.

The survey also reveals that both employment and price expectations remain positive but have also decreased in 2017, possibly reflecting an increasingly tight labour market as well as mounting price competition from other sources.

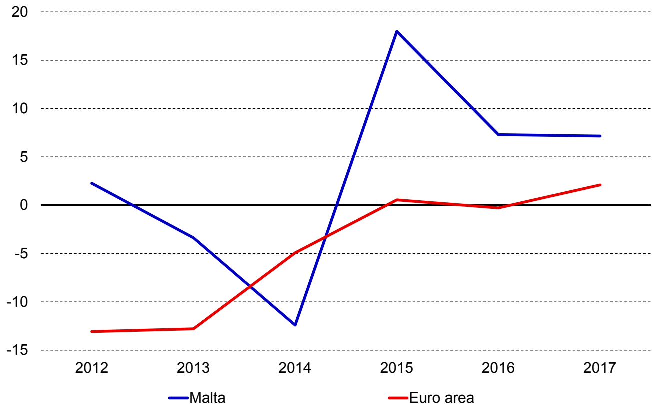
Confidence among domestic retailers has generally been above that in the euro area. This may reflect the stronger growth in private consumption in Malta in recent years and the more favourable economic environment generally (see Chart 13).

Chart 12
SUB-SECTORAL CONFIDENCE INDICATOR FOR RETAIL TRADE
(seasonally adjusted; percentage points)



Sources: European Commission; author's calculations.

Chart 13
RETAIL TRADE CONFIDENCE INDICATOR IN MALTA AND THE EURO AREA
(seasonally adjusted; percentage points)



Source: European Commission.

Conclusion

The wholesale and retail sectors were among the strongest contributors to economic activity during the nineties, and were very resilient during past economic shocks. In fact, both wholesale and retail activities managed to recover very quickly from the softening observed in 2000 and 2001 and from the more recent global recession, with the retail sector showing greater resilience than the wholesale sector.

Although activity increased over the last two decades, the share of GVA in the whole economy declined as other sectors in the Maltese economy increased at a faster pace, while growth in wholesale and retail was constrained by competition from overseas online retailers. Nevertheless, the wholesale and retail sector almost doubled the number of jobs generated and has continued to offer the largest amount of full-time jobs in the Maltese economy. It also contributes significantly through part-time employment. Labour costs remained relatively low, which might be explained by the low productivity per worker, especially when compared with other fast-growing industries. In contrast, profitability is relatively high, which is indicative of high mark ups in these sectors.

Sentiment indicators available for the retail sector turned positive in 2015 and remained higher than that generated for the euro area. Nonetheless, the index moderated in the last two years indicating an expected moderation in the sector, both in terms of activity and pricing power.

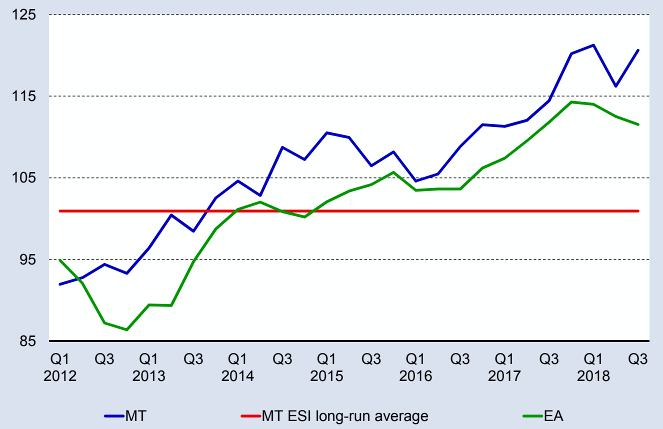
Measures offered by Malta Enterprise, such as support for start-ups and technology upgrades, have assisted firms in the wholesale and retail sector in the last years. These incentives and other kinds of support offered by public entities should be encouraged as this sector plays an important part in the labour market. Companies in this sector may also need to invest more in online portals that enable them to reach out more efficiently to existing customers and tap foreign markets as well as in long-term business planning.[11] A faster integration of technology could help reduce costs and raise productivity within the sector, while also contributing to make the sector less labour-intensive and allow firms to improve wage levels and bring them closer to those in the European Union.

[11] The 2016 and 2017 Annual Surveys by the GRTU reveal that around 80% of its members do not sell online. Although this might reflect the nature of products and services traded by the union's membership, it may also reflect barriers that can be overcome by means of better information and business support.

Business and consumer surveys

During the third quarter of 2018, the economic sentiment indicator (ESI) rose to 121, from 116 in the preceding quarter, and thus remained well above its long-term average of 101 (see Chart 2.4).[8,9] Sentiment rose among retail firms, industry as well as within the services sector, while confidence among consumers was broadly unchanged. In contrast, sentiment declined within construction. During the

Chart 2.4
ECONOMIC SENTIMENT INDICATOR
(seasonally adjusted; percentage points)



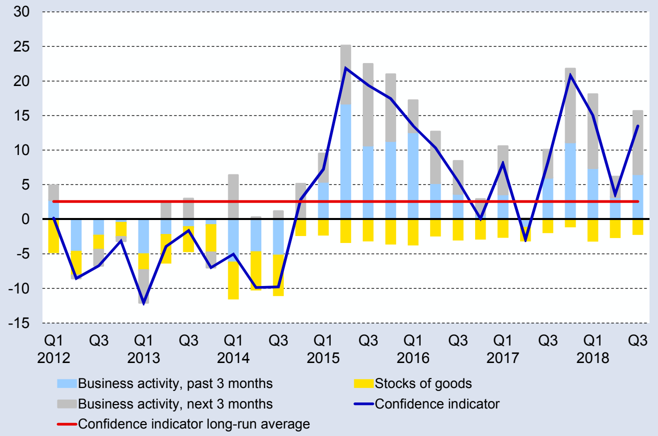
Source: European Commission.

[8] The ESI summarises developments in confidence in five surveyed sectors (industry, services, construction, retail and consumers). Quarterly data represent three-month averages.

[9] Long-term averages are calculated over the entire period for which data are available. For the consumer and industrial confidence indicators, data became available in November 2002, while the services and construction confidence indicator data became available in May 2007 and May 2008, respectively. The long-term average of the retail confidence indicator is calculated as from May 2011, when it was first published. However, the long-term average of the ESI is computed from November 2002.

third quarter of 2018, the ESI for Malta remained higher than that in the euro area, which stood at 112.

Chart 2.5
RETAIL CONFIDENCE INDICATOR
(seasonally adjusted; percentage points)



Source: European Commission.

Confidence in the retail sector rose sharply[10]

Sentiment in the retail sector rose to 14, from 4 in the second quarter of 2018. Thus, sentiment among retailers stood above its long-term average of 3 (see Chart 2.5).

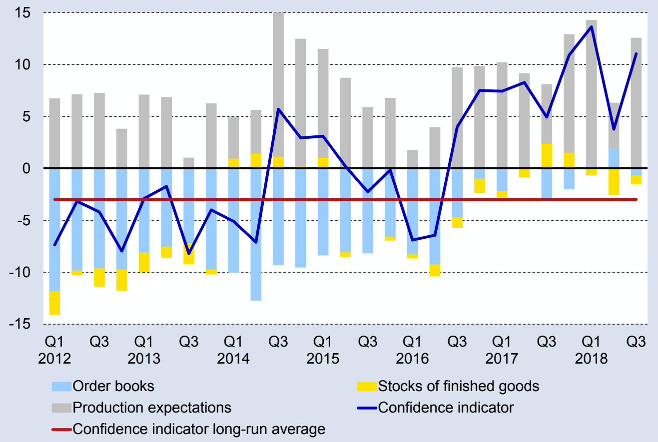
The recent increase in confidence was driven by all subcomponents, with firms' assessment of past and expected business activity being the main drivers. Also, on balance, fewer firms reported above-normal stock levels.[11]

Additional survey data indicate that on balance, a substantial share of respondents expected employment to increase during the following quarter. Whereas in the second quarter of 2018, firms on balance anticipated a fall in selling prices in the three months ahead, in the quarter under review they expected selling prices to rise.

Industrial confidence increases[12]

Similarly, confidence in the industrial sector rose to 11, after falling to 4 in the second quarter of 2018, and hence remained above its long-term average of -3 (see Chart 2.6).

Chart 2.6
INDUSTRIAL CONFIDENCE INDICATOR
(seasonally adjusted; percentage points)



Source: European Commission.

The rise in industrial sentiment during the third quarter was driven by both firms' production expectations and their assessment of stock levels. During the quarter under review a larger net share of respondents expected production to rise in the months ahead. Furthermore, a smaller number of

[10] The retail confidence indicator is the arithmetic average of the seasonally adjusted balances (in percentage points) of replies to survey questions relating to the present and future business situation and stock levels.

[11] A fall in the balance of above-normal stock levels affects the overall indicator in a positive way.

[12] The industrial confidence indicator is the arithmetic average of the seasonally adjusted balances (in percentage points) of replies to a subset of survey questions relating to expectations about production over the subsequent three months, to current levels of order books and to stocks of finished goods.

respondents reported higher than normal stocks of finished goods.[13] These developments offset deterioration in firms' assessment of order books. While in the second quarter of the year, orders were assessed to be above normal for the season, in the quarter under review they were below normal.

Additional survey data show that broadly the same share of respondents as before anticipated an increase in their labour complement. In addition, fewer firms expected their selling prices to fall in the subsequent three months.

Confidence in the services sector improves[14]

In the third quarter of 2018, the services confidence indicator increased to 37, from 33 in the preceding two quarters, and thus remained above its long-term average of 23. All the indicator's components remained positive (see Chart 2.7).

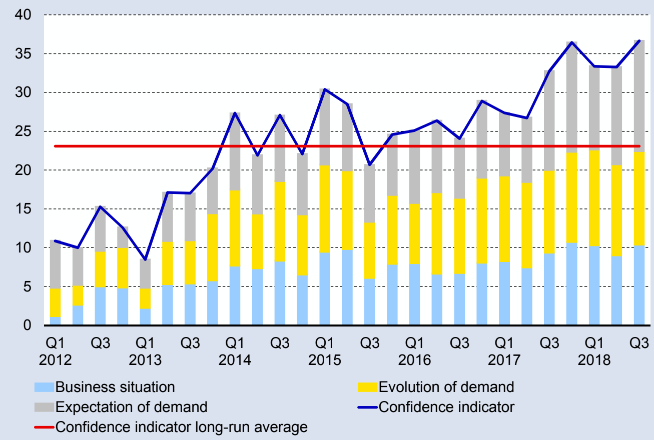
The rise in confidence was driven by all subcomponents, though the share of firms expecting improved demand for the three months ahead and those reporting an improvement in the business situation in the preceding months were the main drivers. On balance, the share of respondents reporting improved demand in the preceding months edged up.

Additional survey data indicate that when compared with the second quarter of 2018, a larger net share of respondents reported an increase in their labour complement and anticipated a further increase going forward. Also, on balance respondents foresaw increased prices in the three months ahead.

Consumer confidence was broadly unchanged in the third quarter[15]

The consumer confidence indicator stood at 23 in the third quarter of 2018, broadly unchanged from the preceding quarter, and still at very high levels from a historical perspective (see Chart 2.8). Developments in almost all subcomponents affected the indicator in a positive way, except for unemployment expectations, as marginally fewer respondents

Chart 2.7
SERVICES CONFIDENCE INDICATOR
(seasonally adjusted; percentage points)



Source: European Commission.

[13] Above-normal stock levels indicate lower turnover and affect the overall indicator in a negative way. Such levels are thus represented by negative bars in Chart 2.6.

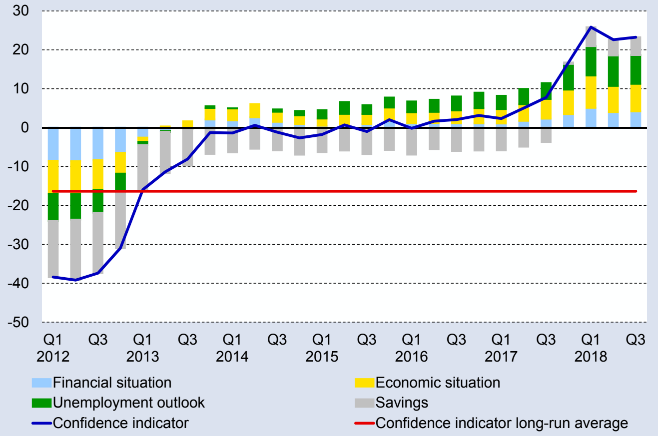
[14] The services confidence indicator is the arithmetic average of the seasonally adjusted balances (in percentage points) of replies to survey questions relating to the business climate, the evolution of demand in the previous three months and demand expectations in the subsequent three months.

[15] The consumer confidence indicator is the arithmetic average of the seasonally adjusted balances (in percentage points) of replies to a subset of survey questions relating to households' financial situation, their ability to save, the general economic situation and unemployment expectations over the subsequent 12 months.

expected unemployment to fall in the following 12 months.[16]

Additional survey data suggest that on balance, a larger share of consumers anticipated higher inflation in the twelve months ahead. At the same time, the share of consumers intending to reduce major purchases over the subsequent 12 months declined.

Chart 2.8
CONSUMER CONFIDENCE INDICATOR
(seasonally adjusted; percentage points)

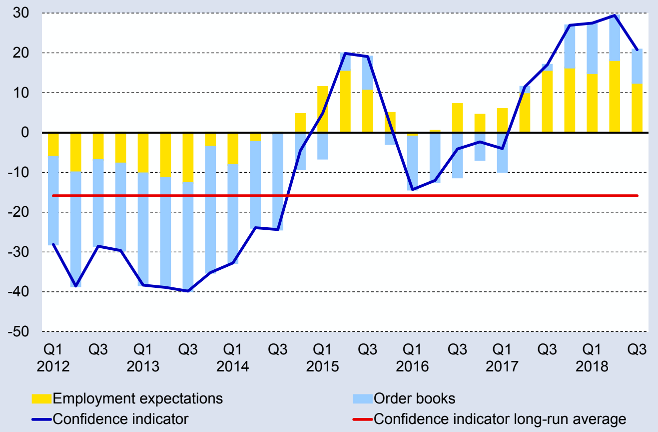


Source: European Commission.

Confidence in construction eases for the first time since the start of 2017, but remains elevated[17]

Sentiment in the construction sector fell to 21 in the third quarter of 2018, from 29 in the preceding quarter, but still stood above its long-term average of -16 (see Chart 2.9).

Chart 2.9
CONSTRUCTION CONFIDENCE INDICATOR
(seasonally adjusted; percentage points)



Source: European Commission.

Survey results show that both subcomponents contributed to the decline in sentiment in the third quarter, though the largest contribution stemmed from lower employment expectations.

Additional survey data indicate that in the third quarter of 2018, fewer respondents, on balance, reported positive developments in building activity during the preceding three months, with labour shortages remaining the dominant factor limiting production in this sector, followed by shortages of material and equipment. Meanwhile, a smaller net percentage of firms anticipated a rise in selling prices in the three months ahead.

[16] Negative unemployment expectations affect the overall indicator in a positive way. Such falls are thus represented by positive bars in Chart 2.8. Thus a fall in the number of respondents expecting unemployment to fall affects the overall indicator in a negative way.
[17] The construction confidence indicator is the arithmetic average of the seasonally adjusted balances (in percentage points) of replies to two survey questions, namely those relating to order books and employment expectations over the subsequent three months.

The labour market[18]

Labour force continues to grow strongly

LFS data show that in the third quarter of 2018 the labour force grew by 6.4% over the same quarter of 2017 (see Table 2.4).[19] Employment rose by 6.8% in annual terms, while the number of unemployed declined by 3.0%.

The activity rate stood at 75.6% in the September quarter, up from 72.9% in the corresponding quarter of 2017.[20] This reflected increased activity among both females and males, with the former registering the largest increase. Indeed, the female participation rate increased by 4.2 percentage points, to reach 65.3%, while that of males edged up by 1.3 percentage points to 85.2%.

Employment continues to grow at a fast pace

In the third quarter of 2018, the annual rate of change of employment stood at 6.8%. The annual increase in employment during the quarter reflected growth in both the number of full-time and part-time jobs (see Table 2.4). However, the increase in full-time jobs was significantly larger. Full-time employment increased by 12,945 persons, or 6.8% in annual terms, while the number of part-timers, which includes those employed on a full-time with reduced hours basis, rose by 2,253, or 6.9%.

Table 2.4
LABOUR MARKET INDICATORS BASED ON THE LFS
Persons; annual percentage changes

	2017 Q3	2018 Q3	Annual change %
Labour force	**233,691**	**248,609**	**6.4**
Employed	224,346	239,544	**6.8**
By type of employment:			
Full-time	191,549	204,494	6.8
Part-time	32,797	35,050	6.9
Unemployed	9,345	9,065	-3.0
Activity rate (%)	**72.9**	**75.6**	
Male	83.9	85.2	
Female	61.1	65.3	
Employment rate (%)	**69.9**	**72.8**	
Male	80.6	81.9	
Female	58.5	63.1	
Unemployment rate (%)	**4.0**	**3.7**	
Male	3.9	3.8	
Female	4.2	3.4	

Source: NSO.

[18] This section draws mainly on labour market statistics from two sources: the LFS, which is a household survey conducted by the NSO on the basis of definitions set by the International Labour Organization and Eurostat, and administrative records compiled by Jobsplus according to definitions established by domestic legislation on employment and social security benefits. LFS data for 2012 and the first half of 2018 are updated with the latest demographic revisions published by the NSO on 12 February 2018.

[19] The LFS defines the labour force as all persons aged 15 and over who are active in the labour market. This includes those in employment, whether full-time or part-time, and the unemployed, defined as those persons without work but who are actively seeking a job and are available for work.

[20] The activity rate measures the number of persons in the labour force aged between 15 and 64, as a proportion of the working age population, which is defined as all those aged 15 to 64 years.

During the third quarter of 2018 the overall employment rate rose by 2.9 percentage points, reaching 72.8%.[21] The male and female employment rates increased by 1.3 and 4.6 percentage points, respectively. The male employment rate reached 81.9%, from 80.6% a year earlier, while that of females rose to 63.1% from 58.5%. The largest increases among females were registered among those aged between 15 and 24, while the largest increases among males were registered in the 55 and 64 age bracket.

These developments in the employment rate imply that the Government continued to exceed the Europe 2020 target of 70% employment rate.[22] Indeed, according to the LFS, the employment rate for those aged between 20 and 64 stood at 76.3% in the third quarter of 2018.

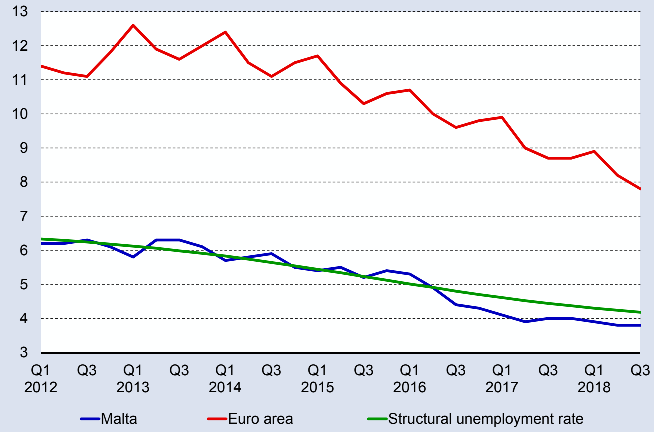
The unemployment rate edges down

In the third quarter of 2018, the unemployment rate stood at 3.7%. This was slightly lower than the 4.0% recorded a year earlier.[23] The jobless rate for males edged down by 0.1 percentage point to 3.8%, while that of females fell by 0.8 percentage point to 3.4% (see Table 2.4).

The unemployment rate in Malta remains well below the average rate for the euro area, which stood at 7.8% in the quarter under review (see Chart 2.10). A broader measure of unemployment which also takes into account underemployed part-time workers, persons seeking work but not immediately available and persons who are available to work but not seeking confirms that the situation in the domestic labour market remains more favourable than that in the euro area as a whole (see Box 2). The unemployment gap remained negative, as the unemployment rate remained below the structural measure of 4.2% in the third quarter of 2018.[24]

Jobsplus data also show favourable labour market developments. The average number of registered unemployed stood at 1,809 in the third quarter of 2018, 677 persons less than those registered in the same

Chart 2.10
UNEMPLOYMENT RATE
(per cent)



Source: Eurostat.

[21] The employment rate measures the number of persons aged between 15 and 64 employed on a full-time or part-time basis as a proportion of the working-age population.

[22] See *The National Employment Policy*, Ministry for Education and Employment, May 2014, p. 13 and *Malta: National Reform Programme 2018*, Ministry for Finance, April 2018, p. 27.

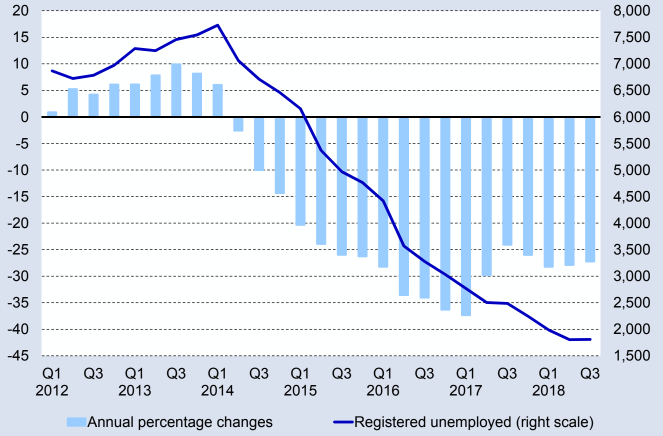
[23] According to the LFS the unemployed comprise persons aged between 15 and 74 years who are without work, available for work and who have actively sought work during the four weeks preceding the Survey. In contrast, the number of unemployed on the basis of the Jobsplus definition includes only those persons registering for work under Part 1 and Part 2 of the unemployment register.

[24] The structural unemployment rate in this chapter refers to the non-accelerating inflation rate of unemployment (NAIRU), that is, the unemployment rate that is consistent with stable inflation. This measure of the unemployment rate is based on a multivariate filter as described in Micallef, B. (2014). "A Multivariate filter to estimate potential output and NAIRU for the Maltese economy," Working Paper 05/2014.

quarter of 2017 (see Chart 2.11).

Apart from a growing demand for labour in the context of rapidly growing activity, the drop in the number of registered unemployed since the beginning of 2014 is underpinned by measures aimed at reducing reliance on social benefits, as well as the extension of schemes which encourage employment, training and re-skilling.

Chart 2.11
REGISTERED UNEMPLOYED
(annual percentage changes; persons)



Source: NSO.

BOX 2: LABOUR MARKET SLACK[1]

The labour market in Malta has experienced a strong recovery in recent years, registering a marked decline in unemployment rates. Moreover, over the past decade, the Maltese labour market passed through a period of significant structural change with increased female participation and a surge in migrant worker flows. In this same period, however, growth in wages remained subdued from a historic perspective, which could indicate that actual slack may be more significant than suggested by conventional measures of labour underutilisation, such as the unemployment rate. Labour market slack is defined as the shortfall between the volume of work offered by workers, and the actual volume of work requested by firms. Economic theory would suggest that wages could be held down by labour market slack. Against this background, this analysis compares developments in a newly estimated measure of slack for Malta to the official unemployment rate and with a similar measure of slack for the euro area.

The estimate for slack presented in this Box extends the labour market analysis in Ellul (2018), which provides only limited insight as the model it employs considers only workers who are in employment and the unemployed – explicitly excluding other labour market characteristics that could indicate slack, such as workers who are inactive or marginally attached to the labour market.[2]

The attention given to the unemployment rate should not divert policymakers' attention from strengthening the labour market attachment of prospective workers who are inactive, or the underemployed. Focusing solely on the unemployment rate may paint a partial

[1] Prepared by Reuben Ellul. The author is a Principal Economist within the Economic Analysis Department at the Central Bank of Malta. The author would like to thank Dr Mario Vella, Mr Alexander Demarco, Dr Aaron G. Grech, Ms Rita Schembri and Mr Brian Micallef for their comments and suggestions to an earlier draft of this analysis. The views expressed are those of the author and do not necessarily reflect those of the Central Bank of Malta. Any errors are the author's own.

[2] Ellul, R. (2018). "Forecasting unemployment rates in Malta: a labour market flows approach," Working Paper WP 03/2018, Central Bank of Malta.

picture which relies on labour demand trends and ignores broader labour supply issues. For example, there may be periods when the number of persons available to take up work but not actually seeking work exceeds the number of short-term unemployed who are seeking work and who feature in official definitions of unemployment. Such periods may provide different challenges to labour market policy design.

Moreover, structural changes to labour demand towards services imply that an increasing proportion of those employed are working on a part-time basis or irregular hours. Some may also prefer to work longer hours than those offered. These may be termed underemployed part-time workers. An economy with an increasing share of these particular forms of employment will have a number of implications on compensation, employment outcomes and welfare on an individual level. It may also affect potential growth, and the economy's output on an aggregate level.

Most economic sectors in Malta have recorded very strong growth in employment according to national accounts data. Total employment rose by 20.7% between 2013 and 2017, with some sectors growing by twice as much, or even more. Overall, the high economic growth rates seen in recent quarters were very employment rich. The number of persons employed rose by over 37,000 since end-2013. Unemployment also fell, with this decline affecting both the short-term and long-term unemployed and, with companies in different industries finding it difficult to employ further workers and increasingly resorting to migrant workers.[3]

The unemployment rate is seen as a key indicator for labour market performance, which is closely observed by policymakers. However, it does not capture all types of labour market slack. Official unemployment statistics are based on International Labour Organisation (ILO) definitions, which focus on those who are without work, available to start working within a fortnight and seeking work actively. More broad definitions of labour market slack, used by the Organisation for Economic Co-operation and Development (OECD) and the US Bureau of Labor Statistics, include measures of underutilisation of labour resources and the underemployed.

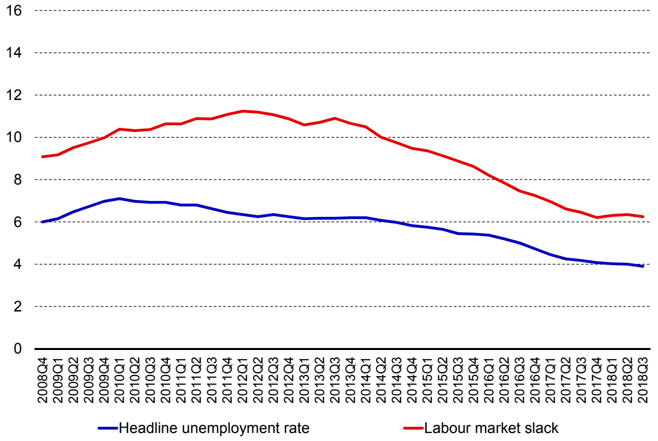
In this Box, we augment official unemployment data with three other categories of persons relevant for the measurement of market slack apart from the unemployed (i) underemployed part-time workers (ii) persons seeking work but not immediately available and (iii) persons who are available to work but not seeking. Such persons are excluded from the standard labour force, which is the sum of employed and unemployed. These figures derive from the LFS, published in quarterly format by Eurostat.[4] Summing the estimates of the unemployed and the above three categories indicates that labour market slack in Malta increased substantially in the aftermath of the 2008/9 Financial Crisis, reaching a peak of 11.2% in the first quarter of 2012. By 2017, however, it had decreased to around 6.0% (see Chart 1). By comparison, the unemployment rate averaged 4.0% that year. While the broader measure of slack has consistently exceeded the unemployment rate, the gap between the two

[3] Grech, A. G. (2016). "Assessing the economic impact of foreign workers in Malta," *Quarterly Review* 2016(1), Central Bank of Malta.
[4] The numbers quoted for particular components may be unreliable given the relatively small size of the LFS sample. In that sense, their interpretation ought to be carried out with particular caution.

narrowed in recent years. Therefore, while there is more labour market slack than the unemployment rate would suggest, the underutilisation of labour is decreasing.[5]

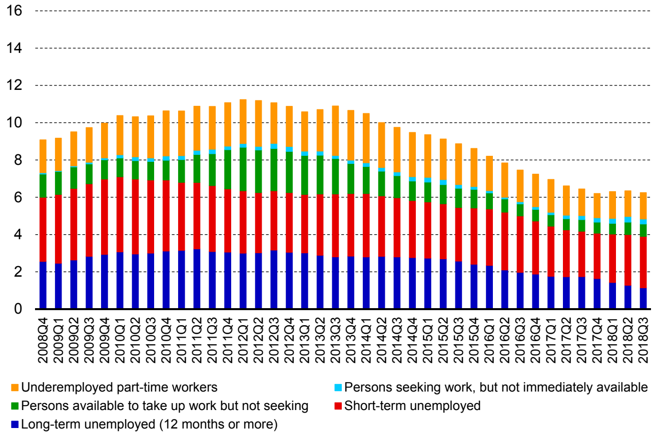
A striking change can be seen in the development of the components which represent persons who are marginally attached to the labour force (see Chart 2). Underemployed part-time workers halved from a high of 2.7% of the labour force in late 2013 to 1.3% by end-2017. Persons available to take up work but not seeking it fell from around 2.3% of the labour force in 2012 to 0.6% by end-2017. The rate of persons seeking work but not immediately available remained broadly constant. These three groups may have been affected by policy initiatives designed to incentivise work, such as the tapering of unemployment benefits, the in-work benefit scheme, and efforts to retrain unskilled workers.

Chart 1
HEADLINE UNEMPLOYMENT RATE AND LABOUR MARKET SLACK
(percentage of labour force; four-quarter moving averages)



Sources: ECB-SDW; EUROSTAT; author's calculations.

Chart 2
BROAD MEASURE OF LABOUR MARKET SLACK
(percentage of labour force, four-quarter moving averages)



Sources: ECB-SDW; EUROSTAT; author's calculations.

Except for a short period around 2012, underemployment in part-time work appears to be a more important element of labour market slack in Malta than persons available to work but not seeking work (which likely includes discouraged workers).[6] Those seeking work but not immediately available are the least numerous.

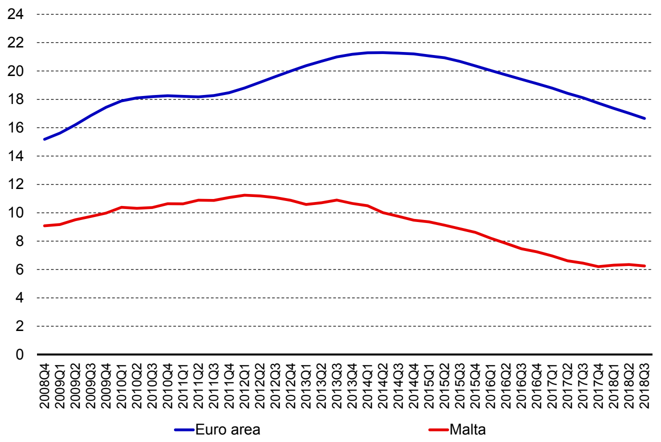
[5] The ILO considers labour underutilisation to occur in cases of skills mismatch, relating to workers' placement in roles with lower skill requirements than their educational level. Low earnings may also indicate labour underutilisation to the extent that is arises in full-time employment with low monthly earnings, less than full-time employment with low hourly earnings and those overly employed with low earnings. See: International Labour Organisation (ILO). (2008). *Beyond unemployment: Measurement of other forms of labour underutilisation.* Report of the working group on labour underutilisation for the 18th International Conference of Labour Statisticians, 24 November-5 December 2008, International Labour Office, Geneva.

[6] The term "discouraged worker" refers to individuals who refrain from job search as a result of poor chances on the labour market. Discouragement effects can arise from a lack of individual qualifications, from labour market discrimination or from high underemployment levels; See: van Ham, M., Mulder, C.H., & Hooimeijer, P. (2001), "Local Underemployment and the Discouraged Worker Effect," *Urban Studies,* Vol. 38, No. 10, pp. 1733-1751.

One may doubt whether all the marginally attached workers ought to be considered as additional slack in the labour market, although traditional economic theory suggests they are. This argument is particularly the case when one considers that more flexible forms of work may be due to recent shifts in the labour markets, such as the gig economy, or individual preference for more limited hours of work. One should also recall that the largest element of labour market slack is unemployment in most periods. Unemployment itself has recorded a steady decline, with the level of unemployed workers shrinking on an annual basis in administrative data, as well as in the figures reported by the LFS dataset.

Historically, slack in Malta appears to be lower than in the euro area (see Chart 3). Between 2009 and 2017, slack in the euro area and in Malta averaged 19.2% and 9.5%, respectively. The positive differential against the euro area averages around 10.0% over this period, but accelerates markedly from 2014 onwards. A recovery in the euro area labour market, however, has narrowed slightly the gap in recent quarters. The differential can mostly be attributed both to higher unemployment in the euro area, as well as to higher proportion of persons available to take up work but not seeking and of underemployed part-time workers (see Table 1). These three components contributed around 47.0%, 25.0% and 19.0% of the average differential in the overall measure of labour slack between 2009 and 2017, respectively.

Chart 3
LABOUR MARKET SLACK IN THE EURO AREA AND IN MALTA
(percentage of labour force, four-quarter moving averages)



Sources: ECB-SDW; EUROSTAT; author's calculations.

When referring to labour market slack in Malta, one has to consider that since EU membership, potential labour supply expanded to include the labour supply in the EU, or more realistically part

Table 1
LABOUR MARKET SLACK COMPONENTS
Per cent

	Euro area		Malta	
	2008Q3	2018Q3	2008Q3	2018Q3
Persons available to take up work but not seeking	21.6	22.8	17.8	11.2
Persons seeking work, but not immediately available	8.0	6.0	0.3	1.7
Underemployed part-time workers	22.1	21.6	18.4	25.8
Long-term unemployed (12 months or more)	18.4	23.2	23.9	20.6
Short-term unemployed	29.8	26.5	39.6	40.7
Total	**100.0**	**100.0**	**100.0**	**100.0**

Sources: ECB-SDW; author's calculations.

of it, as not all EU citizens are willing or able to migrate to Malta. This of course is difficult to quantify, but periods of high labour market slack in the EU may have an impact on wage growth in Malta. Higher slack in neighbouring countries can therefore be another factor, in addition to those identified in this Box, that may explain the behaviour of wage growth – in spite of the very low unemployment rate and the decline in labour market slack identified above.

This wider definition of labour market slack may have the potential to be extended in a framework on a refined measure of the non-accelerating inflation rate of unemployment for Malta, as well as the euro area. This further research may be highly topical as the response to wage growth in recent years was muted, despite the decline in unemployment. An economic explanation of this phenomenon has so far been elusive.

From a longer term perspective, the degree of labour market slack in Malta has declined from the highs seen in 2012, when the broader measure of slack stood at around 11.0% of the labour force. This was underpinned by improvements in both unemployment numbers as well as a marked decrease in persons available to take up work but not seeking it. By end-2017, slack in the labour market is estimated to have almost halved to stand at around 6.0%, going significantly below the levels seen in the aftermath of the crisis. The small difference between the broader measure of slack and the unemployment rate confirm the existence of underlying tightness in the Maltese labour market. It also suggests that untapped pools of marginally attached Maltese workers appear to have been broadly exhausted; future economic growth may increasingly have to depend on productivity gains by existing employed workers, or further foreign migrant inflows.

3. PRICES, COSTS AND COMPETITIVENESS

Annual inflation as measured by the Harmonised Index of Consumer Prices (HICP) continued to accelerate during the third quarter of 2018, reaching 2.5% in September, from 2.0% in June. This latest pick-up was largely driven by a higher contribution from food prices, although non-energy industrial goods and energy inflation were also higher. Inflation based on the Retail Price Index (RPI) also accelerated during the third quarter, reaching 1.6% in September.

Meanwhile, annual growth in the Producer Price Index (PPI) moderated to 3.8% in September, from 6.6% in June. Malta's unit labour cost (ULC) index, measured as a four-quarter moving average, decelerated slightly during the third quarter. With regard to international competitiveness, Malta's Harmonised Competitiveness Indicators (HCI) indicated a further deterioration in competitiveness, owing to unfavourable exchange rate and relative price developments.

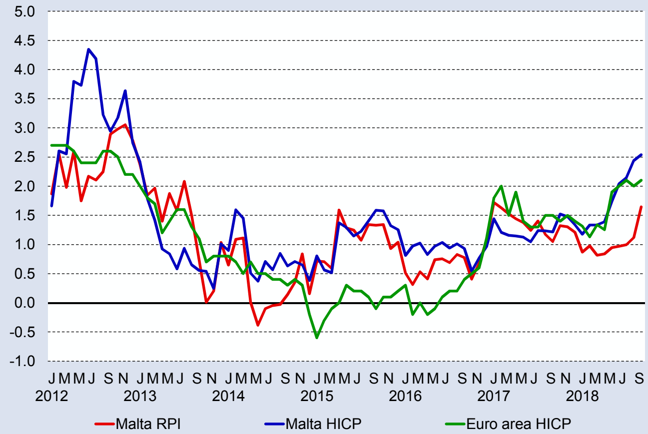
Inflation

HICP inflation picks up further

Annual inflation as measured by the HICP accelerated further during the September quarter, reaching 2.5% from 2.0% three months earlier (see Chart 3.1).[1] This was higher than the rate registered in the euro area, which stood at 2.1% in September. The wedge between HICP inflation in Malta and that in the euro area is largely driven by services inflation, with this difference amplified recently following an increase in the statistical weight of tourist accommodation in overall consumption in Malta.

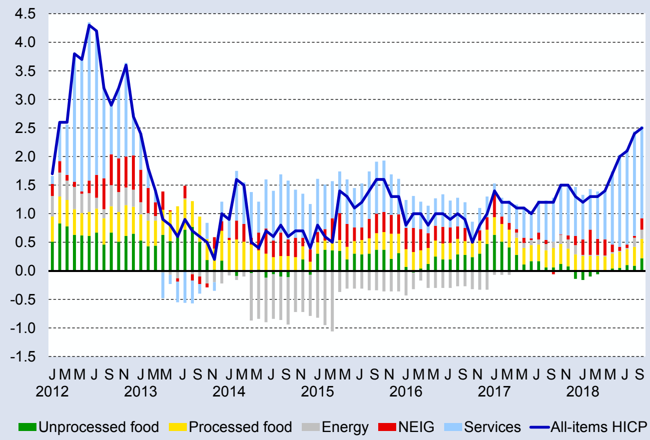
During the third quarter, services inflation remained the largest contributor to overall HICP inflation. Services inflation was 2.8% in September, unchanged from June, with a contribution of 1.6 percentage points (see Table 3.1 and Chart 3.2). Although inflation within the

Chart 3.1
INFLATION RATES IN MALTA AND IN THE EURO AREA
(annual percentage changes)



Sources: NSO; Eurostat.

Chart 3.2
CONTRIBUTIONS TO YEAR-ON-YEAR HICP INFLATION
(percentage points; annual percentage change)



Source: Eurostat.

[1] The HICP weights are revised on an annual basis to reflect changes in household consumption patterns. In 2018 the weight allocated to energy stood at 6.3%, while that of non-energy industrial goods was 27.1%. Services accounted for 46.6% of the index, while the share allocated to food stood at 20.0%.

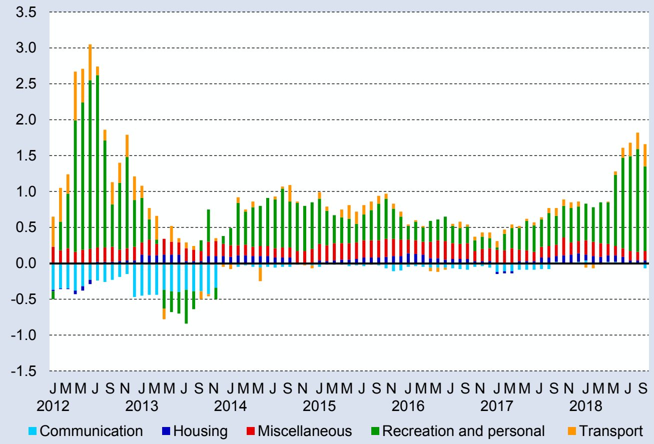
Table 3.1
HICP INFLATION
Annual percentage change

	2018								
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.
Unprocessed food	-1.9	-1.3	-0.8	-0.2	0.5	0.6	1.4	1.3	3.4
Processed food including alcohol and tobacco	2.0	2.0	2.0	2.0	2.1	2.3	2.3	2.6	2.6
Energy	0.4	0.4	0.4	0.4	0.4	0.4	0.4	2.7	2.7
Non-energy industrial goods	0.8	1.4	0.9	0.9	0.4	0.2	0.1	-0.1	0.6
Services (overall index excluding goods)	1.8	1.6	1.8	1.5	2.3	2.8	2.9	3.1	2.8
All Items HICP	**1.2**	**1.3**	**1.3**	**1.4**	**1.7**	**2.0**	**2.1**	**2.4**	**2.5**

Source: Eurostat.

transport services subcomponent edged up, this was offset by weaker growth in the prices for communication, recreational and housing services (see Chart 3.3).

Chart 3.3
CONTRIBUTIONS FROM SERVICES TO HICP INFLATION
(percentage points)



Source: Eurostat.

Price pressures within the food subcomponent picked up during the third quarter. Annual inflation in unprocessed food prices rose to 3.4% in September from 0.6% in June, reflecting a recovery in vegetable prices. Meanwhile, processed food inflation accelerated from 2.3% to 2.6% over the same period, largely due to an announced increase in the price of bread. As a result, the contribution of food inflation to overall HICP inflation rose by 0.2 percentage point over the third quarter, to 0.6.

Inflation in the non-energy industrial goods (NEIG) subcomponent also accelerated during the September quarter, reaching 0.6% from 0.2% three months earlier, hence increasing its contribution to annual HICP inflation by 0.1 percentage point to 0.2. Nonetheless, inflation within this subcomponent remains low, mainly reflecting weak imported inflation.

As regards the energy subcomponent, annual inflation rose to 2.7% in September, from 0.4% in the preceding quarter. This reflected an increase in transport fuel prices which came into effect in August. The contribution of this subcomponent to the headline index thus rose to 0.2 percentage point.

Core HICP inflation moderates

Despite the acceleration in overall HICP inflation, core HICP inflation as measured by the Bank's "trimmed mean" approach ended the third quarter at 0.7%, down from 0.8% three months earlier

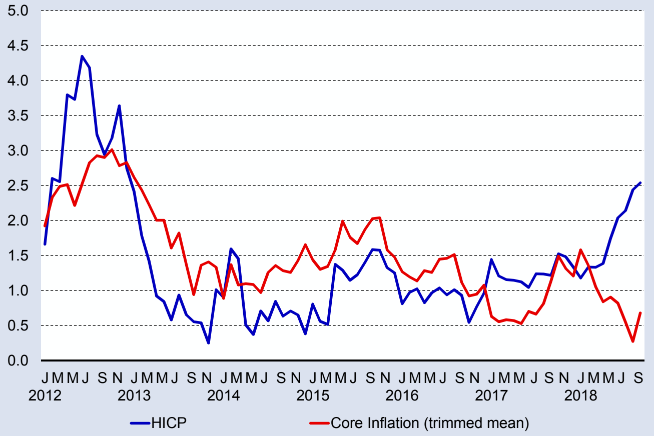
Table 3.2
CONTRIBUTIONS TO YEAR-ON-YEAR RPI INFLATION
Percentage points

	2018								
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.
Food	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.9
Beverages and tobacco	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Clothing and footwear	-0.5	-0.2	-0.3	-0.2	0.0	-0.1	-0.2	-0.3	-0.1
Housing	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Water, electricity, gas and fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Household equipment and house maintenance costs	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Transport and communications	0.4	0.3	0.2	0.2	0.1	0.0	0.0	0.2	0.2
Personal care and health	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Recreation and culture	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1
Other goods and services	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
RPI (annual percentage change)	**0.9**	**1.0**	**0.8**	**0.8**	**0.9**	**1.0**	**1.0**	**1.1**	**1.6**

Source: NSO.

(see Chart 3.4).[2] The lower core inflation rate vis-à-vis overall inflation suggests that a large portion of HICP inflation reflects strong growth in a small number of volatile subcomponents.[3]

Chart 3.4
HICP IN MALTA: OVERALL AND CORE MEASURE
(annual percentage change)



Sources: Eurostat; Central Bank of Malta estimates.

RPI inflation accelerates

Annual inflation based on the RPI index accelerated during the third quarter reaching 1.6% in September from 1.0% three months earlier (see Table 3.2). This acceleration reflected the aforementioned increases in food prices as well as the price for transport fuel. Contributions from the remaining subcomponents in the RPI basket remained close to or equal to zero.[4]

Residential property prices

Residential property prices grow at a slower pace

The NSO's Property Price Index, which is based on actual transactions involving apartments, maisonettes and terraced houses, increased at a slower pace in the third quarter of 2018 (see

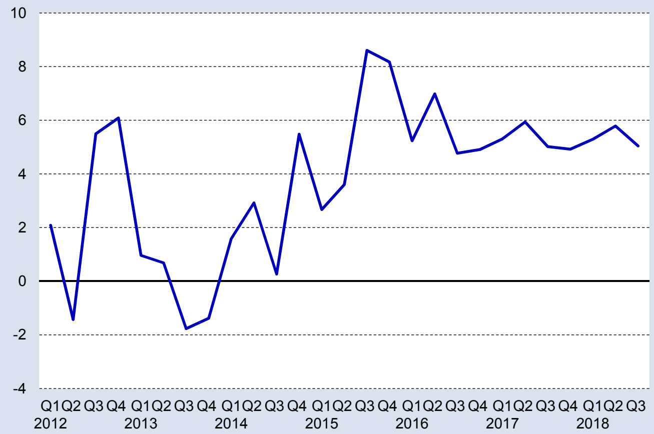
2 The Central Bank of Malta uses a "trimmed mean" approach to measure core inflation, whereby the more volatile components of the index are removed from the basket of consumer goods so as to exclude extreme movements from the headline inflation rate. See Gatt, W. (2014), "An Evaluation of Core Inflation Measures for Malta", *Quarterly Review* 2014(3), pp. 39-45, Central Bank of Malta.

3 The wedge between the overall and the core HICP inflation rates during 2018 in part relates to the aforementioned statistical impact of the increase in the weight of accommodation services in the overall HICP basket for 2018.

4 The RPI index differs from the HICP index in that RPI weights are based on expenditure by Maltese households, while HICP weights also reflect expenditure patterns by tourists in Malta, such as accommodation services. See Darmanin, J. (2018), "Household Expenditure in Malta and the RPI Inflation Basket", *Quarterly Review* 2018(3), pp. 33-40, Central Bank of Malta.

Chart 3.5).[5] It rose by 5.0% when compared with the same quarter of the previous year, after rising by 5.8% in the second quarter. Notwithstanding this downward movement, house price inflation in Malta was higher than that in the euro area, where it stood at 4.3%.

Chart 3.5
MOVEMENTS IN RESIDENTIAL PROPERTY PRICES
(annual percentage changes)



Source: Eurostat.

Growth in residential property prices reflects a number of factors, including the low-interest rate scenario and the Government's schemes for first-time and second-time buyers. These incentives raise the attractiveness of the property market as an investment opportunity. Residential property prices are also being supported by robust growth in disposable income, a buoyant labour market, and an increase in the number of foreign workers. The Individual Investor Programme is also contributing to the growth in residential property prices, although property acquisitions under this Programme account for a limited proportion of all property transactions.

On an annual basis, the number of development permits issued continued to increase. When construction activity catches up with the demand for housing, residential property price inflation should moderate.

BOX 3: THE EVOLUTION OF THE HOUSING STOCK IN MALTA[1]

An analysis of the housing market focuses on both demand and supply-side factors. On the supply side, measures usually refer to development permits, housing investment and the housing stock. Fluctuations in housing investment influence the cyclical developments of the economy while, at the same time, developments in the housing market may affect the stability of the financial system. Planning policies supporting sustainable housing supply contribute to long-run growth. When shaping such strategies, policymakers require a detailed and up-to-date picture of the situation. Official data on the housing stock in Malta are only available as part of the population census, thus only offering snapshots, typically

1 Prepared by William Gatt, Principal Research Economist within the Research Department of the Central Bank of Malta, and Ph.D. Candidate at the University of Nottingham. He would like to thank Mr Alexander Demarco, Dr Aaron G. Grech, Mr Brian Micallef and Mr Noel Rapa for helpful comments. The views expressed in this article are the author's own and do not reflect the views of the Central Bank of Malta. Any errors are the responsibility of the author.

5 'Apartments' are defined as dwellings with self-contained rooms or a suite of rooms that have a separate entrance accessible from a common passage way, landing or stairway. 'Maisonettes' have a separate entrance that is accessible from the street and are either at ground-floor level with overlying habitation, or at first-floor level with underlying habitation. 'Terraced houses' are dwellings with at least two floors, own access at street level and airspace and with no underlying structures that are not part of the house itself. They are attached to other structures on both sides.

over ten-year intervals. The most recent census was conducted in 2011, and in that year the total number of housing units stood at 223,850.[2]

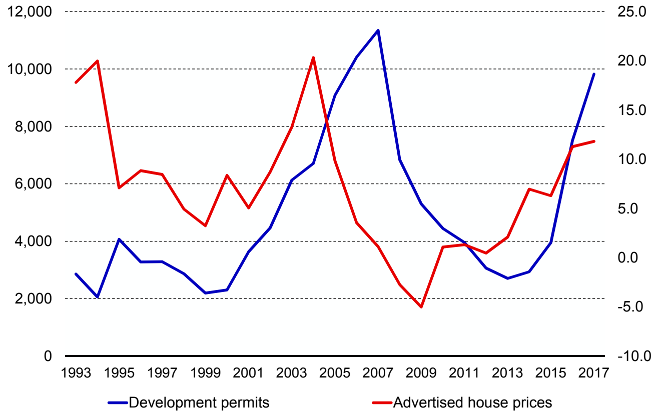
Since the publication of the census, the property market has witnessed a strong increase in demand that exerted upward pressure on house prices. However, the extent to which supply has responded to this activity is less known. This article attempts to shed light on the evolution of the housing stock over time by using more timely information on development permits. A caveat is in order. The estimates of the housing stock, which comprise both occupied and vacant units, are based on a number of assumptions and are therefore surrounded by a degree of uncertainty. In the absence of official data, these estimates are only intended to provide an indication of movements in the housing stock.

Constructing the housing stock series

The stock of housing reflects accumulation of net housing investment. The latter is in part determined by the number of development permits issued by the Planning Authority. Chart 1 below shows the number of permits for dwellings issued in Malta since 1993, and property price growth based on advertised prices. The chart illustrates strong pro-cyclicality, with the number of approved applications rising in buoyant housing market conditions. Construction tends to react to an increase in demand with a lag. Applications for the development of apartments account for most of these development permits. Since 2003, around 82.5% of these permits were for the construction of apartments, with another 10% for maisonettes and the rest for other types of properties.

The strong pick-up in permit approvals since 2013 has important implications for the dynamics of the housing stock. Data obtained from the Planning Authority show that these permits can be broken down into applications for conversions and re-development of existing units, and the development of new units. In the case of conversions and re-development, what matters for the housing stock is the net gain in units. An example illustrates this point. Re-development might entail the addition of three units in an area previously occupied by one. In this case, the permit will be for the development of four units, but the net increase in the housing stock is effectively by

Chart 1
DEVELOPMENT PERMITS FOR DWELLINGS AND ADVERTISED PROPERTY PRICE GROWTH
(number of units and annual percentage growth)

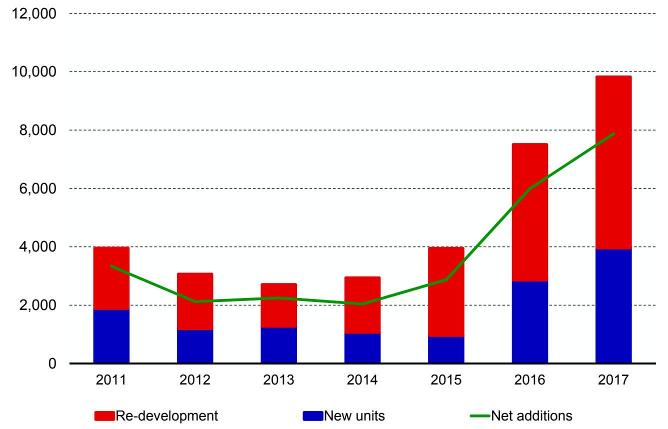


Sources: Central Bank of Malta; Planning Authority.

[2] See "*Census of Population and Housing 2011*", National Statistics Office, 2014, Table 85.

three. Chart 2 shows the total number of permits since 2011, decomposed into conversions and re-developments and new units, as well as the net increase in units. The latter is lower than the total number of permits due to the replacement of existing units.

Chart 2
PERMITS BY TYPE OF DEVELOPMENT
(number of units)



Sources: Author's calculations; Planning Authority.

As hinted above, the stock of housing at a point in time can be presented mathematically by:

$$Housing\ Stock_t = Housing\ Stock_{t-1} + Additions_t - Replacements_t$$

that is, the supply of housing at a point in time is the net addition of dwellings over a period to the existing stock in the previous period. The analysis uses the 1985 census as the starting point for the housing stock estimate. Since then, there are three other census data points, namely in 1995, 2005 and 2011. Data on net additions are not available for most of the sample period and so proxies have to be used. Development permits were first issued in 1993, a year after the Development Planning Act (1992) established the Planning Authority. Hence, information on development activity in terms of yearly permits is not available prior to this date.

To overcome this limitation, an econometric model was used to capture the link between development permits and dwelling investment. The model was estimated over the period 1993-2017 and the estimated coefficients were used to build a synthetic series of development permits for the period 1985-1992, utilising the information on dwelling investment. This approach provided a time series for development permits which, when combined with census data, yields an estimate of the housing stock. The number of permits approved does not equate one-to-one to the number of net new units added to the stock of housing. Therefore, when using permits as a proxy, one must try to limit the possibility that units are double-counted. The computation of the housing stock uses the following equation for supply accumulation:

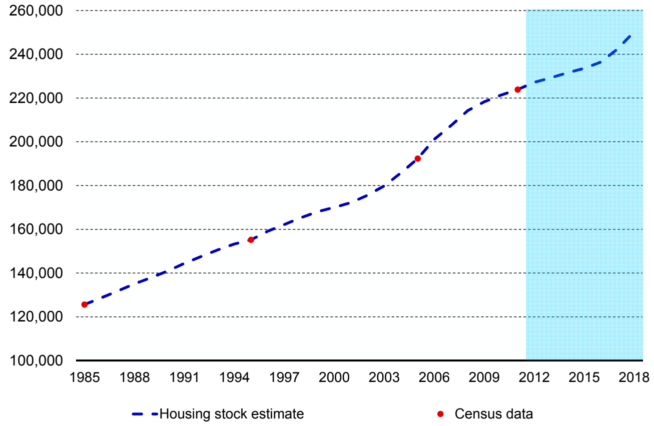
$$Housing\ Stock_t = (1-\delta)Housing\ Stock_{t-1} + \gamma_t Permits_{t-1}$$

where δ and γ are the depreciation and utilization rates, respectively. These two parameters collectively capture the fact that permits do not translate to one-to-one additions to the housing stock, as discussed above.[3] The depreciation rate is fixed to a small number

[3] The depreciation rate can be thought of as accounting for the natural destruction of housing units due to low maintenance or due to the dwellings becoming uninhabited.

throughout the period, but the utilization rate is varied over time such that it guarantees that the estimated housing stock coincides with actual census data whenever this is available. It is assumed that approved development takes an average of one year to be completed, which is why permits are lagged by one period in the above equation. While the utilization rate (γ) is varied objectively to splice the housing stock series between any two census points, it is not clear how it should be calibrated beyond 2011, since there is no other end point which acts as a target. Instead of maintaining the last value used for after 2011, data on net additions as shown in Chart 2 were used to extend the housing stock up to 2018.[4] The estimated housing stock series is shown in Chart 3, in which the shading from 2011 onwards highlights accumulation through the use of net additions, rather than utilized permits.

Chart 3
THE HOUSING STOCK
(number of units)



Sources: NSO; author's calculations.

The measure of housing supply proposed shown in Chart 3 refers to the total housing stock. This measure also includes vacant properties, which, according to the 2011 census, consists of 71,000 units, of which 42% consisted of seasonal or secondary residences (see Table 1). The rest mainly includes properties that are in a dilapidated or inhabitable state or where ownership is contested. Data limitations hamper the calculation of a measure of the housing stock that excludes vacant properties. Definitions have also changed over the years. For instance, in the 1995 and 2005 censuses, vacant property was reported as either a summer or holiday residence or as completely vacant, whereas in the 2011 census holiday dwellings were a subset of property classified as being for seasonal or secondary use.[5] Little is known on the status of these units today, yet a booming property market with rising rents and a number of incentives introduced by government to rehabilitate buildings

4 Data on net additions to stock are only available from 2000 onwards. One could replace the approximation based on permits (and the corresponding depreciation and utilization rates) with the accumulation of net additional stock (also lagged by one year) to the stock in the previous period from 2001 onwards. However, this method results in the estimated housing stock undershooting the 2005 census data by 1,809 units and overshooting that of 2011 by 8,308 units. Overshooting could be the result of approved projects not being finished after a year, or not at all. It may also be due to the constant one year 'time to build' assumption that is used, but changing the lag on net additions between zero and up to four years produces similar results. Using net additions only from 2006 on, that is, building on the actual 2005 census point, also leads to a large overestimation of 10,117 units in 2011. The 'time to build' may therefore vary for different units, but it is hard to objectively calibrate a time-varying lag on net additions to reflect this. Undershooting the official count might also be due to the timing assumption but could also indicate the unsanctioned development of dwellings which are subsequently captured in a census.

5 Holiday dwellings in the 2011 census are defined as temporary accommodation used at least for a month in a year for recreational purposes. Therefore the same dwelling may have been used by more than one respondent, introducing an element of double-counting. On the other hand, dwellings which were rented out to other persons were not counted as holiday dwellings in the 2005 census.

Table 1
STOCK OF VACANT PROPERTY
Number of units

	Seasonal or secondary use[1]	% of total	Completely vacant	% of total	Total
1985	-		-		24,065
1995	12,967	36.3	22,756	63.7	35,723
2005	10,028	18.9	43,108	81.1	53,136
2011	29,848	42.0	41,232	58.0	71,080

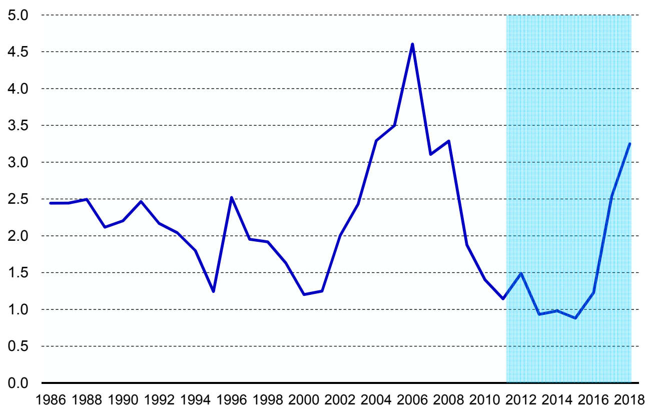
[1] Classified as 'Summer Residence' and 'Holiday dwelling' in the 1995 and 2005 censuses, respectively. Figures may therefore not be strictly comparable with those for 2011. The number of 'Holiday dwellings' in the 2011 Census stood at 12,450.

Source: NSO.

in urban core areas have introduced strong incentives on owners to put such properties on the market.

Our estimates suggest that the supply of housing grew at an average rate of about 2% each year between 1985 and 2000, but experienced stronger growth at about 2.9% between 2001 and 2007. Thereafter, the supply of housing decelerated sharply following the sharp reduction in development permits and dwelling investment after the financial crisis of 2008/09. In recent years net additions more than doubled (see Chart 2), implying a strong subsequent pick-up in the housing stock. As shown in Chart 4, supply reacted with a lag to the rise in the demand, since growth in the housing stock accelerated only after 2015. Although growth in 2018 was high, it was still below the highest growth rate experienced in the pre-crisis period. The estimated housing stock stood at around 250,000 units in 2018, doubling in size since 1985.

Chart 4
THE DYNAMICS OF THE HOUSING STOCK
(annual growth in percentage points)



Source: Author's calculations.

The housing stock estimates derived in this article have recently been used by Gatt, Micallef and Rapa (2018), who build a macro-econometric model of the Maltese housing market.[6] They find that dwelling investment tended to move positively with house prices in the long run, implying that supply responded to increased activity, although this elasticity is less than unity. House prices were found to be negatively

[6] See Gatt, W., Micallef, B. and Rapa, N. (2018), “A macro-econometric model of the housing market in Malta,” in *Research Bulletin* 2018, Central Bank of Malta.

related to housing supply per capita, with an estimated elasticity of -1.3 over the period 1980-2017. In other words, a 1% increase in the housing stock per capita lowers real house prices by 1.30% in the long run, holding the other variables in the model constant. However, the coefficient that captures the supply elasticity has not been stable over time. Using rolling regression estimates, the authors show that the coefficient on per capita housing stock in the house price equation turned positive in the early phase of the housing boom of the mid-2000s. This counter-intuitive result can be explained by the possibility of speculation and anticipation of strong demand. The coefficient returned negative following the correction in the late 2000s, although, in recent years, the rolling coefficient has not been statistically significant at conventional levels.[7] This finding is especially important for financial stability purposes, which indicates that the current period is different from the pre-crisis housing boom.

The same authors also find that including housing supply in the analysis of house price valuation matters for quantifying the extent to which house prices are misaligned with fundamentals. They use the model to measure house price disequilibrium and compare it to two other estimates, based on different methodologies.[8] While the underlying trends in misalignment across the three estimates move in tandem, on average house prices were less undervalued during 2010-2016 when taking into account supply.

Conclusion

To conclude, the estimated measure of housing stock documented in this Box introduces an indicator to gauge developments in the supply side of the property market. This measure can be used to complement already available demand indicators, such as the increases in household income, interest rates and credit, and has been found to improve the fit of an econometric model for house prices, thus helping to complement the toolkit used to assess house price valuations and affordability.

[7] The variable used in the model is housing stock per capita. The point estimate of the coefficient as at 2017 is still negative at -2, but is imprecisely estimated with a wide two-standard error band.

[8] See Gatt, W., and Grech, O. (2016), "An assessment of the housing market in Malta," Policy Note September 2016, Central Bank of Malta, and Micallef, B. (2018), "Constructing an index to examine house price misalignment with fundamentals in Malta," *International Journal of Housing Markets and Analysis, 11(*2), pp. 315-334.

Costs and competitiveness

Producer price inflation moderates

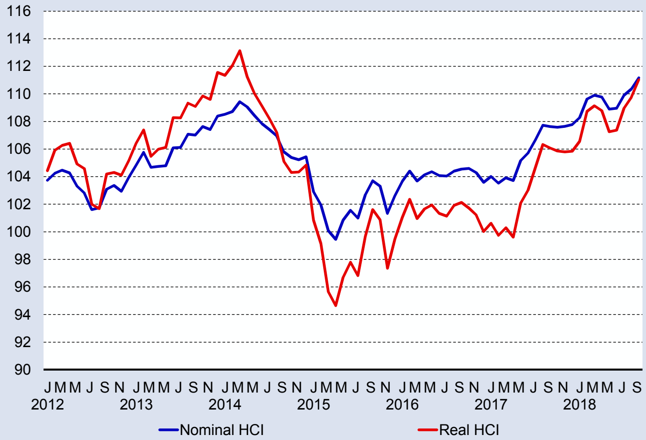
Producer cost inflation, as measured by the industrial PPI, eased during the quarter under review, reaching 3.8% in September from 6.6% in June.[6] This reflected a moderation in price pressures within the intermediate goods subcomponent, which nonetheless remained the main contributor to overall PPI inflation. Inflation within the consumer goods subcomponent picked up from low levels over the same period. Meanwhile the contribution of capital goods and energy remained nil.

[6] The industrial PPI measures the prices of goods at the factory gate and is commonly used to monitor inflationary pressures at the production stage.

HCIs point to a further deterioration in international competitiveness

Malta's HCI pointed towards further deterioration in international competitiveness during the third quarter. Annual growth in the nominal HCI, based on trade-weighted exchange rates, stood at 3.3% in September, while the real HCI, which also takes into account relative price pressures, grew by 4.7% (see Chart 3.6).[7] Movements in the euro exchange rate and developments in relative prices vis-à-vis international trading partners over the past year have negatively impacted Malta's competitiveness over the past months, with the HCIs showing an almost continuous increase since mid-2017.

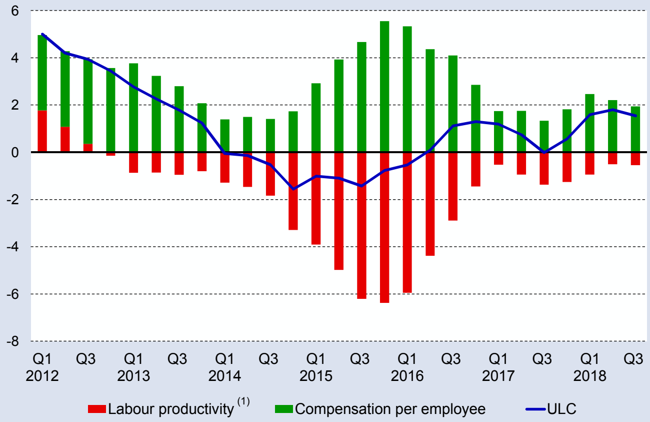
Chart 3.6
HARMONISED COMPETITIVENESS INDICATORS
(1999Q1 = 100)



Source: ECB.

Unit labour costs accelerate further[8]

Chart 3.7
DECOMPOSITION OF UNIT LABOUR COSTS IN MALTA
(annual percentage change; four-quarter moving average)



(1) A rise (drop) in productivity contributes negatively (positively) to ULC growth.
Sources: NSO; Central Bank of Malta estimates.

Malta's ULC index, measured as the ratio of compensation per employee to labour productivity, continued to grow during the third quarter, albeit at a slightly slower pace. In annual terms, ULCs in Malta grew by 1.5%, following 1.8% growth in the previous quarter (see Chart 3.7). ULC pressures remain contained from a historical perspective, though the index has now registered growth for four consecutive quarters.

The slight deceleration in ULC growth in the quarter under review was driven by slower annual growth in compensation per employee, which decelerated to 1.9% from 2.2% in the previous quarter. Meanwhile, annual growth in labour productivity was unchanged when compared with the previous quarter, at 0.5%.

[7] The nominal HCI tracks movements in a country's exchange rate against the currencies of its main trading partners, weighted according to the direction of trade in manufactured goods. The real HCI incorporates both exchange rate changes and the relative inflation of a country vis-à-vis its main trading partners. A higher (or lower) score in the HCI indicates a deterioration (or improvement) in a country's international price competitiveness.

[8] Annual growth in ULC, compensation per employee, and labour productivity is measured on a four-quarter moving average basis. A degree of caution is required in the interpretation of ULC in view of contemporaneous structural shifts in the composition and factor-intensity of production, notably the shift to labour-intensive services. See Micallef, B. (2015), "Unit labour costs, wages and productivity in Malta: a sectoral and cross-country analysis", Policy Note August 2015, Central Bank of Malta, available at https://www.centralbankmalta.org/en/policy-notes-2015, and Rapa, N. (2016), "Measuring international competitiveness", *Quarterly Review* 2016(1), pp. 53-63, Central Bank of Malta.

4. THE BALANCE OF PAYMENTS

During the third quarter of 2018 the surplus on the current account of the balance of payments increased when compared with the corresponding quarter of 2017. This rise was entirely attributable to higher net services receipts, as the merchandise deficit widened and net income outflows increased slightly. Meanwhile, net inflows on the capital account rose on a year earlier, while higher net lending was recorded on the financial account.

When measured on a four-quarter moving sum basis, the current account balance was equivalent to 10.6% of gross domestic product (GDP), compared with 3.1% of GDP in the euro area. The cyclically-adjusted current account balance was also estimated to stand at 10.6% during the period under review.

The current account

The current account surplus widens further

Between July and September 2018, the current account registered a surplus of €488.3 million, an increase of €60.5 million on the same months of 2017. This improvement was on account of a higher net surplus from trade in services.

When measured on a four-quarter moving sum basis, the surplus on the current account widened to €1,273.6 million, from €1,117.0 million in the 12 months to September 2017. This increase was predominantly driven by a rise in net service receipts, although a narrowing merchandise trade deficit also contributed (see Table 4.1). As a result the current account surplus stood at 10.6% of GDP, up from 10.1% in the year to September 2017 (see Chart 4.1).

Malta's cyclically-adjusted current account balance stood at 10.6% of GDP, down from 12.8% in the year to September 2017.[1] The cyclically-adjusted and the unadjusted current account balances for the Maltese economy tracked each other closely in recent quarters (see Chart 4.1).

Table 4.1
BALANCE OF PAYMENTS
EUR millions

	Four-quarter moving sums						
	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2017 Q3	2018 Q3
Current account	**1,117.0**	**1,173.9**	**1,302.0**	**1,213.1**	**1,273.6**	**427.8**	**488.3**
Goods	-1,528.3	-1,478.1	-1,332.9	-1,505.6	-1,510.9	-405.4	-410.7
Services	3,776.9	3,841.8	3,836.3	3,872.8	3,949.0	1,153.7	1,230.0
Primary income	-1,013.0	-1,061.8	-1,077.2	-1,027.3	-1,034.9	-292.8	-300.5
Secondary income	-118.7	-128.0	-124.2	-126.8	-129.6	-27.7	-30.5
Capital account	**40.5**	**60.2**	**58.2**	**58.5**	**61.2**	**16.1**	**18.8**
Financial account(1)	**1,312.7**	**1,288.8**	**837.3**	**949.9**	**975.3**	**165.9**	**191.3**
Errors and omissions	**155.2**	**54.8**	**-522.9**	**-321.7**	**-359.5**	**-278.0**	**-315.9**

(1) Net lending (+) / net borrowing (-).
Source: NSO.

[1] For more information on Malta's cyclically-adjusted current account see Grech, A. G., & Rapa, N., "An evaluation of recent shifts in Malta's current account position", in Grech, A.G., & Zerafa, S. (eds.), *Challenges and Opportunities of Sustainable Economic Growth: the case of Malta*, Central Bank of Malta, 2017.

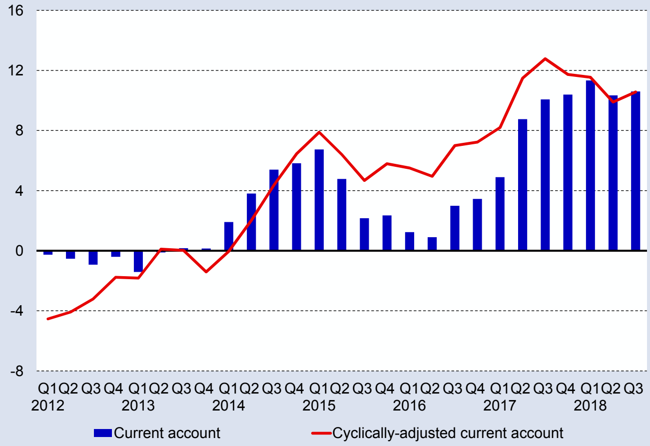
This suggests that movements in Malta's current account are being driven largely by structural, rather than cyclical factors.

The merchandise trade deficit widens marginally

In the third quarter of 2018, the merchandise trade deficit widened by €5.3 million on the corresponding quarter of 2017, reaching €410.7 million, as goods imports outpaced exports.

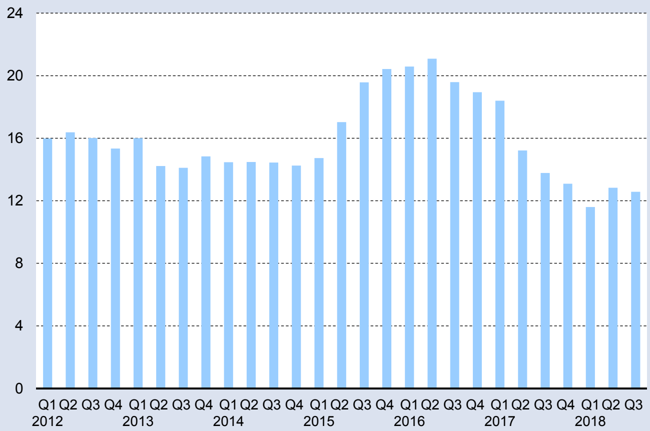
When measured on a four-quarter cumulative basis, the visible trade gap narrowed by €17.3 million, to stand at €1,510.9 million. This improvement arose as exports grew at a faster pace than imports. The former increased by €93.9 million while the latter rose by €76.6 million compared with the year ending in September 2017. As a result, the share of the merchandise deficit in GDP dropped to 12.6% in the year to September 2018, from 13.8% a year earlier (see Chart 4.2).

Chart 4.1
CURRENT ACCOUNT
(four-quarter moving sums as a percentage of GDP)



Source: NSO.

Chart 4.2
GOODS DEFICIT
(four-quarter moving sums as a percentage of GDP)



Source: NSO.

The surplus on services continues to rise

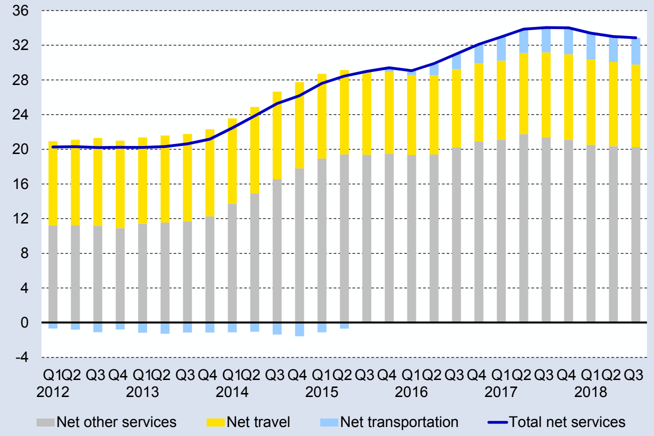
In the quarter under review, the surplus from services stood at €1,230.0 million, an increase of €76.3 million on the corresponding quarter of 2017. The higher surplus was supported by an expansion in exports which offset a smaller rise in imports.

The higher net surplus was mainly driven by the "other services" category, with net receipts increasing by €45.0 million, to €636.3 million. This increase was predominantly spurred by higher net receipts related to personal, cultural, and recreational services, which includes remote gaming. The increase in net receipts from these activities more than offset higher net payments related to other business services.

Mainly reflecting the continued expansion of the aviation services industry and strong growth in tourism, net transport receipts increased by €28.1 million on the same quarter of 2017. At the same time, net travel exports also rose, going up by €3.1 million to €486.9 million, in the third quarter of 2018, as an increase of €10.4 million in inbound tourists' spending offset an increase of €7.2 million in expenditure by Maltese residents abroad.

On a four-quarter cumulative basis, the overall surplus from services stood at €3,949.0 million, an increase of €172.1 million on the positive balance recorded over the four quarters ending in September 2017. Despite such an increase, net services receipts as a percent of GDP dropped to 32.9% of GDP, from 34.0% a year earlier, reflecting the relatively faster growth in nominal GDP (see Chart 4.3).

Chart 4.3
SERVICES BALANCE
(four-quarter moving sums as a percentage of GDP)



Source: NSO.

Primary income account records higher net outflows[2]

During the third quarter of 2018 net outflows on the primary income account were up by €7.7 million on a year earlier, standing at €300.5 million. Higher net outflows were driven by a rise in the profits that foreign owned companies operating in Malta distributed abroad, as well as lower net receipts on portfolio investment income flows. Together, these outweighed higher net interest earned on 'other investment' income.

On a four-quarter cumulative basis, net outflows on this account reached €1,034.9 million in the four quarters ending in September 2018, €21.9 million more than a year earlier. Developments on this account continued to be strongly influenced by internationally-oriented firms which transact predominantly with non-residents.

Outflows on the secondary income account increase[3]

In the quarter under review, net outflows on the secondary income account widened by €2.8 million on a year earlier, to €30.5 million.

When measured on a four-quarter moving sum basis, secondary income outflows increased to €129.6 million, €10.9 million more than the amount recorded a year earlier.

Tourism activity

Activity in the tourism sector

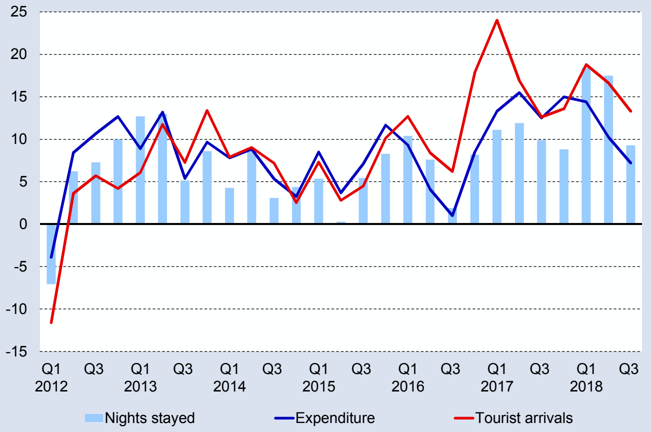
In the third quarter of 2018 activity in the tourism sector remained strong, though it slowed down compared with preceding quarters.

The number of inbound tourists rose by 13.3% on a year earlier, reaching 874,497 (see Chart 4.4). Tourists visiting Malta for business purposes rose following two quarters of decline. Those coming for leisure purposes also increased, while those travelling for other reasons continued to decline.

[2] The primary income account shows income flows related mainly to cross-border investment and compensation of employees.
[3] The secondary income account shows current transfers between residents and non-residents.

In the three months to September, the number of nights that tourists spent in Malta totalled 7.1 million, an increase of 9.3% on the previous year. In annual terms, nights spent in private accommodation were up by 12.7%, while those in collective accommodation registered an increase of 5.9%.[4]

Chart 4.4
TOURISM INDICATORS
(quarterly averages; annual percentage changes)

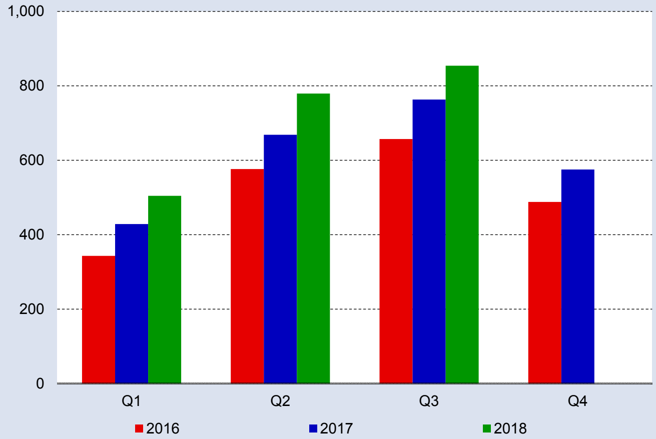


Source: NSO.

Meanwhile, tourist expenditure in Malta rose at an annual rate of 7.2%, reaching €843.3 million.[5] The largest addition in absolute terms was registered in the package category, which went up by 23.7%. Non-package expenditure rose by 9.1%. On the other hand, the "other" component of tourism expenditure declined by 4.6%.[6]

As tourist expenditure increased at a slower pace compared with arrivals, expenditure per capita decreased to €964, from €1,019 in the third quarter of 2017. Both the average length of stay and expenditure per night fell in annual terms. The average length of stay decreased to 8.2 nights, from 8.5 nights a year earlier, while expenditure per night fell to €118.24 from €120.50.

Chart 4.5
SEAT CAPACITY
(thousands)



Source: MIA.

Continued efforts to promote Malta abroad, the introduction of new routes and the increased frequency of certain flights all had a positive impact on the tourism sector. According to Malta International Airport (MIA) data, seat capacity increased by 11.9% in the third quarter of 2018 compared with a year earlier (see Chart 4.5).[7]

[4] Private accommodation includes self-catering apartments, farmhouses, and private residences. As per Eurostat recommendation, time-share accommodation is classified as "private accommodation". Collective accommodation comprises hotels, aparthotels, guesthouses, hostels and tourist villages.

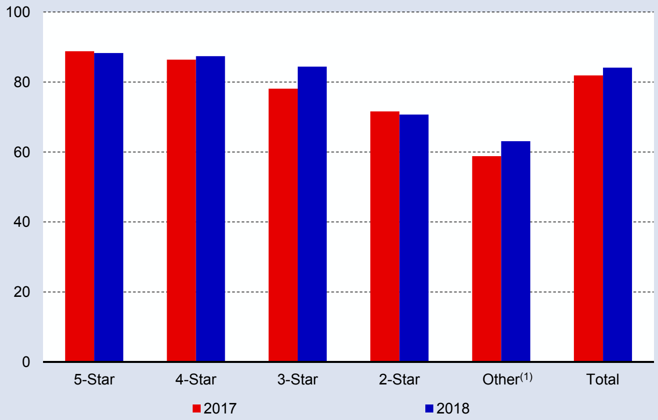
[5] Total expenditure is split into package, non-package and "other" with the latter component capturing any additional expenditure by tourists during their stay in Malta, such as expenditure on excursions and entertainment.

[6] Non-package holiday expenditure is subdivided into spending on accommodation and travel fares.

[7] MIA data are subject to revisions.

In the third quarter of 2018, the total occupancy rate in collective accommodation establishments rose to 84.1% from 81.9% in the same quarter a year earlier (see Chart 4.6). Higher occupancy rates were recorded in three-star and, to a lesser extent, in four-star hotels and in the "other" collective accommodation category. In contrast, occupancy rates fell marginally in two-star and five-star hotels.

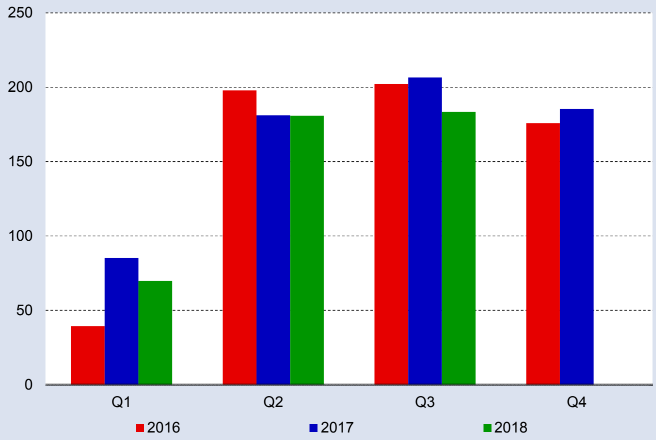
Chart 4.6
AVERAGE OCCUPANCY RATES IN THE THIRD QUARTER
(per cent)



(1) Includes guest houses, hostels and holiday complexes.
Source: NSO.

In the third quarter of 2018, the number of cruise liners visiting Malta amounted to 95, four less than a year earlier. Foreign passengers fell to 183,480, from 206,541 in the same period of 2017 (see Chart 4.7).

Chart 4.7
CRUISE LINER PASSENGERS
(thousands)



Source: NSO.

The capital account

Net inflows on the capital account increased to €18.8 million during the third quarter of the year; up from €16.1 million in the corresponding period of 2017 (see Table 4.1). The small increase on this account was mostly attributable to higher transfers to government, which are influenced by the timing of funds received under EU financing programmes. When measured on a four-quarter moving sum basis, capital inflows totalled €61.2 million, €20.8 million more than the amount recorded over the four-quarters to September 2017.

5. GOVERNMENT FINANCE

During the third quarter of 2018, the general government surplus decreased compared with the same period a year earlier. When measured as a four-quarter moving sum, the general government surplus-to-GDP ratio declined from the level recorded in the period ending in June 2018. However, the cyclically-adjusted surplus-to-GDP ratio widened when compared with the four quarters ending in September 2017. Meanwhile, general government debt as a share of gross domestic product (GDP) continued to decline.

Quarterly developments

General government surplus decreases

In level terms, the general government registered a surplus of €127.9 million in the third quarter of 2018, €27.9 million less than the surplus registered in the corresponding quarter of 2017. This was due to a substantial increase in primary expenditure, which offset a rise in revenue. As a result, the primary surplus decreased by €33.3 million to €174.7 million.

Higher tax receipts support revenue

In the third quarter, Government revenue grew by €75.3 million, or 6.5% in annual terms, reaching €1,234.5 million. Growth in revenue was mainly driven by higher tax receipts (see Table 5.1).

Table 5.1
REVENUE, EXPENDITURE AND DEBT
EUR millions

	2017		2018			Change 2018Q3-2017Q3	
	Q3	Q4	Q1	Q2	Q3	Amount	%
Revenue	**1,159.2**	**1,236.4**	**1,037.7**	**1,173.0**	**1,234.5**	**75.3**	**6.5**
Taxes on production and imports	385.1	370.3	350.3	357.3	443.1	58.1	15.1
Current taxes on income and wealth	416.0	449.3	320.9	454.2	442.3	26.3	6.3
Social contributions	172.8	195.9	180.3	201.8	165.2	-7.6	-4.4
Capital and current transfers receivable	34.0	50.8	23.4	14.0	37.5	3.5	10.4
Other(1)	151.3	170.0	162.7	145.7	146.4	-4.9	-3.2
Expenditure	**1,003.4**	**1,049.8**	**1,040.6**	**1,056.5**	**1,106.7**	**103.2**	**10.3**
Compensation of employees	324.3	320.2	343.9	339.9	345.6	21.3	6.6
Intermediate consumption	195.6	181.6	170.3	208.9	193.1	-2.4	-1.2
Social benefits	279.1	297.2	294.4	294.2	281.8	2.7	1.0
Subsidies	36.1	38.7	32.1	37.2	40.4	4.2	11.7
Interest	52.2	51.1	47.1	47.9	46.8	-5.4	-10.3
Other current transfers payable	48.9	46.6	47.4	47.6	81.0	32.1	65.7
Gross fixed capital formation	55.2	85.6	43.8	59.8	75.9	20.7	37.5
Capital transfers payable	12.1	24.4	63.5	22.8	43.8	31.7	262.6
Other(2)	-0.1	4.5	-1.9	-1.8	-1.8	-1.7	
Primary balance	**208.0**	**237.6**	**44.2**	**164.4**	**174.7**	**-33.3**	
General government balance	**155.8**	**186.5**	**-3.0**	**116.5**	**127.9**	**-27.9**	
General Government debt	**5,837.9**	**5,670.6**	**5,718.0**	**5,746.8**	**5,512.0**		

(1) "Other" revenue includes market output as well as income derived from property and investments.
(2) "Other" expenditure principally reflects changes in the value of inventories and in the net acquisition of valuables and other assets.
Source: NSO.

Receipts from taxes on production and imports registered the largest increase in absolute terms, of €58.1 million. This was due to higher intakes from VAT and duties on the transfer of property, reflecting buoyant private consumption and a dynamic property market. Current taxes on income and wealth also recorded a significant increase. Meanwhile, revenue from social contributions declined by €7.6 million, following a surge in receipts recorded in the second quarter of the year.

Overall, developments in non-tax revenue had a negligible impact on general government finances during the quarter under review. Capital and current transfers receivable rose by €3.5 million due to higher grants from the European Union. However, this was offset by a €4.9 million decline in ''other'' government revenue, mainly due to lower receipts from the Individual Investor Programme (IIP).

Current and capital expenditure increase

During the period under review, total government expenditure increased by €103.2 million or 10.3% due to an increase in both recurrent and capital expenditure items.

Outlays on compensation of employees and 'other current transfers payable' posted the largest increases amongst recurrent expenditure items. The former increased by €21.3 million driven by higher wage increases in the public administration and education sectors. Meanwhile, 'other current transfers' rose by €32.1 million, partly reflecting the income tax rebate distributed to households announced in the Budget 2018. Increases in other current spending items were relatively modest. Outlays on subsides and on social benefits increased by €4.2 million and €2.7 million, respectively. On the other hand, interest payments and intermediate consumption expenditure declined by €5.4 million and €2.4 million in that order.

Spending on gross fixed capital formation and on capital transfers grew at a strong pace on the back of higher outlays on road construction and other infrastructural projects. Investment outlays increased by €20.7 million, while capital transfers rose by €31.7 million.

Debt decreases

In September, the stock of general government debt amounted to €5,512.0 million, down by €234.8 million when compared with June 2018. This was largely due to a €233.1 million decrease in the stock of long-term securities (composed of Malta Government Stocks), whose share in total government debt declined by 0.7 percentage point to reach 82.8%.

Meanwhile, the stock of short-term securities (composed of Treasury Bills) declined by €9.5 million, while its share in total debt standing at 5.9%. The value of currency and deposits and that of loans outstanding increased by €3.0 million and €4.8 million, respectively. Consequently, their corresponding shares in total debt rose by 0.3 percentage point each, to reach 5.0% and 6.2%

Headline and cyclically-adjusted developments

Headline surplus and debt ratios decline during the third quarter

On a four-quarter moving sum basis, the general government balance remained in surplus. However, the surplus-to-GDP ratio declined from 3.9% of GDP in the second quarter of 2018 to 3.6%. Although capital revenue items maintained their share in GDP compared with the previous period, the ratio of current revenue items in GDP declined by 0.3 percentage point (see Chart

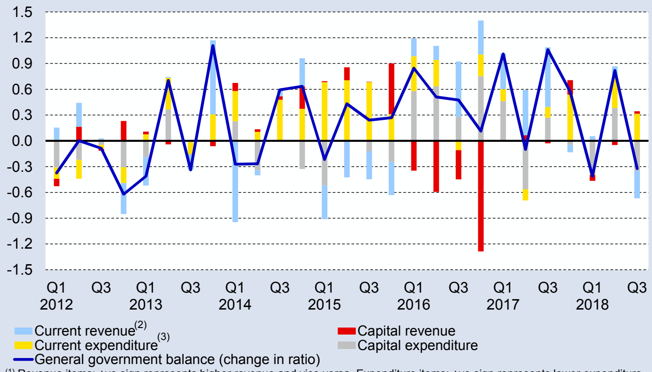
5.1). At the same time, the ratio of total expenditure in GDP remained unchanged, as a 0.3 percentage point increase in the ratio of current spending items was offset by a similar decline in the share of capital spending.

The government debt-to-GDP ratio declined by 3.1 percentage points during the quarter under review, to 45.9%. The decrease in general government debt was more pronounced than the surplus recorded in the period under review. This was due to debt-decreasing transactions in financial assets. In particular, lower holdings of currency and deposits held by the government, offset higher debt securities and net trade receivables (see Chart 5.2).

Public finances compare favourably with the euro area's

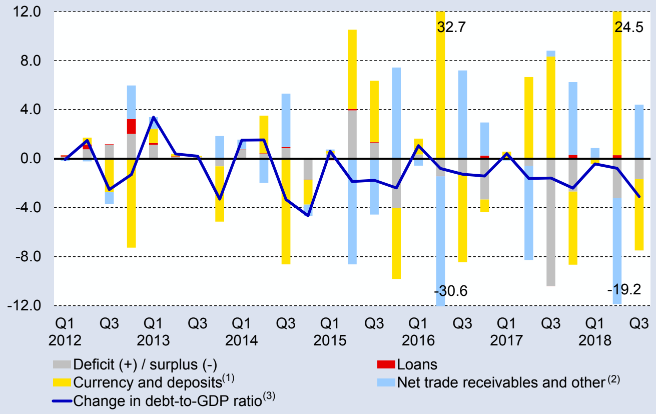
Developments in Maltese public finances continue to compare favourably with the euro area average (see Chart 5.3). The euro area general government deficit has narrowed markedly since 2012, reaching 0.4% of GDP on a four-quarter moving sum basis by September 2018. In the same period, the euro area debt ratio also edged down. However, the Maltese government balance improved at a much faster pace since 2015, with the debt ratio declining to well below the 60% threshold referenced in the Stability and Growth Pact. In fact, at the end of September 2018, the debt ratio for Malta stood at 45.9%, while that of the euro area was almost twice as high, at 86.1%.

Chart 5.1
IMPACT ON GENERAL GOVERNMENT BALANCE[(1)]
(percentage points)



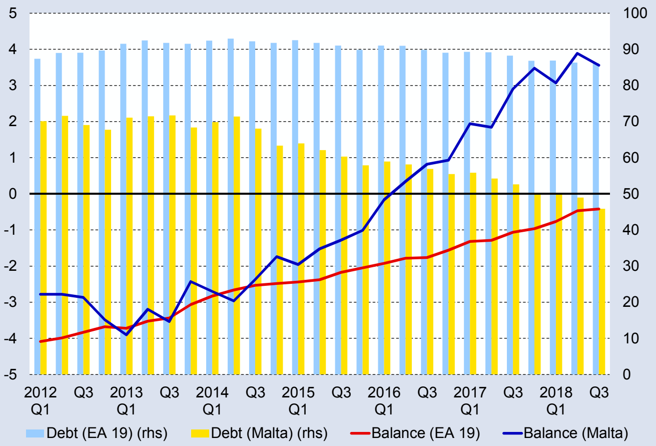
(1) Revenue items: +ve sign represents higher revenue and vice versa. Expenditure items: +ve sign represents lower expenditure and vice versa.
(2) The term 'current revenue' represents most tax revenue as well as income from investments and sales. 'Capital revenue' mainly represents capital taxes and grants received.
(3) The term 'current expenditure' mainly represents spending on wages, social benefits and operational and maintenance expenses. 'Capital expenditure' mainly represents spending on investment and capital transfers.
Sources: NSO; Central Bank of Malta.

Chart 5.2
CONTRIBUTION TO CHANGE IN DEBT
(percentage points)



(1) Composed mainly of transactions in deposits held with the Central Bank of Malta.
(2) Also includes transactions related to shares and other equity and adjustments for valuation and volume effects.
(3) GDP data are four-quarter moving sums.
Source: Central Bank of Malta.

Chart 5.3
GENERAL GOVERNMENT BALANCE AND DEBT
(four-quarter moving sums; % of GDP)

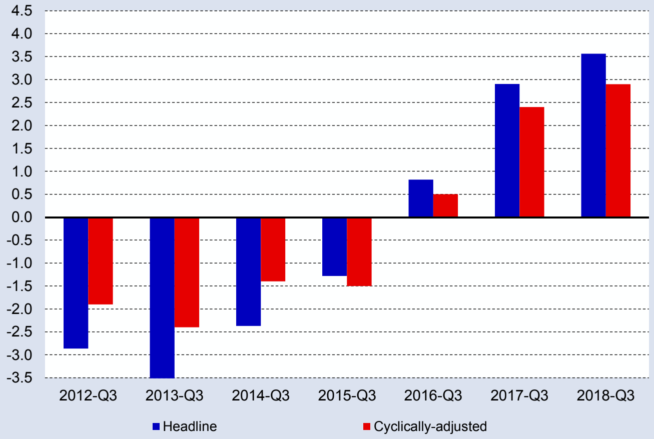


Sources: NSO; EUROSTAT.

Cyclically-adjusted balance[1]

In the four quarters up to September 2018, the cyclically-adjusted surplus was lower than the headline surplus (see Chart 5.4). This is mainly due to comparatively smaller rates of growth in cyclically-adjusted tax revenue items relative to the headline items, which in turn reflects the fact that the underlying macroeconomic variables were growing above trend.

Chart 5.4
GENERAL GOVERNMENT BALANCE
(four-quarter moving sums; % of GDP)



Sources: NSO; Central Bank of Malta estimates.

The cyclically-adjusted surplus rose to 2.9% of GDP, from 2.4% in the four quarters ending in September 2017. This shows that the improvement in the fiscal surplus was largely driven by factors other than the economic cycle.

The improvement in the cyclically-adjusted balance ratio was driven by a drop in the share of expenditure in GDP, which outweighed a decline in the revenue-to-GDP ratio (see Table 5.2). The

Table 5.2
YEAR-ON-YEAR CHANGES IN CYCLICALLY-ADJUSTED FISCAL COMPONENTS
Percentage points of GDP

	2012 Q3	2013 Q3	2014 Q3	2015 Q3	2016 Q3	2017 Q3	2018 Q3
Revenue	**1.5**	**-0.6**	**-0.1**	**-1.5**	**-0.1**	**0.7**	**-0.3**
Taxes on production and imports	0.0	-0.6	0.0	-0.8	0.1	0.0	0.1
Current taxes on income and wealth	1.3	0.2	-0.4	-0.3	-0.1	0.4	0.1
Social contributions	-0.1	-0.1	-0.1	-0.6	-0.1	0.0	0.0
Other(1)	0.3	0.0	0.3	0.3	0.0	0.3	-0.4
Expenditure	**0.8**	**-0.1**	**-1.2**	**-1.4**	**-2.1**	**-1.3**	**-0.8**
Compensation of employees	-0.1	0.1	-0.4	-0.7	-0.3	-0.3	0.0
Intermediate consumption	0.9	-0.7	-0.1	-0.4	0.6	0.3	-0.4
Social benefits	-0.2	0.3	-1.1	-0.8	-0.5	-0.3	-0.5
Interest payments	-0.3	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3
Gross fixed capital formation	-0.1	0.2	0.1	0.8	-1.1	-0.6	-0.1
Other(2)	0.6	0.2	0.6	-0.1	-0.5	-0.2	0.4
Primary balance	**0.4**	**-0.7**	**0.8**	**-0.4**	**1.7**	**1.6**	**0.2**
General government balance	**0.7**	**-0.5**	**1.0**	**-0.1**	**1.9**	**1.9**	**0.5**

(1) Includes market output, income derived from property and investments and current and capital transfers received.

(2) Mainly includes subsidies, current and capital transfers.

Sources: NSO; Central Bank of Malta estimates.

[1] The cyclically-adjusted balance is corrected for the impact of the economic cycle on government tax revenue and unemployment assistance. To compute this adjustment, the Bank applies a different methodology from the one used by the European Commission. For an overview of the methodologies currently in use, see Farrugia, J. (2014). "Estimating the Cyclically Adjusted Budget Balance," *Quarterly Review* 2014(2), pp. 59-66, Central Bank of Malta.

latter decreased by 0.3 percentage point, mainly on account of lower inflows from the IIP over the four-quarters to September 2018. In contrast, cyclically-adjusted inflows from taxes increased in line with GDP growth.

The share of cyclically-adjusted expenditure in GDP declined by 0.8 percentage point. Spending on social benefits grew at a slower pace than GDP, partly due to the impact of a one-year increase in the retirement age for pension beneficiaries born between 1956 and 1958. The decreasing share of social benefits in GDP can also be attributed to the extension of measures aimed at reducing dependency on unemployment benefits and incentivising people to seek employment.

Meanwhile, the share of interest payments in GDP declined as the prevailing low interest rate environment, coupled with lower financing requirements, led to a level decrease in spending. The share of intermediate consumption in GDP also declined, due to lower expenditure in the third quarter of 2018 as outlined above. Similarly, the ratio of gross fixed capital formation in GDP declined slightly as a result of weak growth in outlays in the four quarters under review.

On the other hand, the share of 'other' expenditure in GDP rose, due to a pickup in capital transfers paid.

6. MONETARY AND FINANCIAL DEVELOPMENTS

The Bank's Financial Conditions Index (FCI) improved in the third quarter of 2018, although it continued to signal tight conditions by historical standards.

Maltese residents' deposits with monetary and financial institutions (MFI) in Malta continued to expand during the third quarter of 2018.[1] The shift to overnight deposits persisted, in an environment of low interest rates and a continued preference for liquidity. At the same time, credit growth continued to pick up, reflecting faster growth in credit to residents outside general government. Growth in mortgage loans to households remained strong, while growth in bank loans to non-financial corporations (NFC) continued to pick-up. NFCs also continued to seek alternative sources of finance to bank lending. Interest rates on loans and deposits fell further during the third quarter, though the spread between the two rates remained above its level in the corresponding quarter of 2017.

In September 2018, the primary market yield on Treasury bills stood unchanged from the rate prevailing at the end of June. Meanwhile, the secondary market yield on ten-year Malta Government Stocks (MGS) rose. In the equity market, domestic share prices ended September at higher levels.

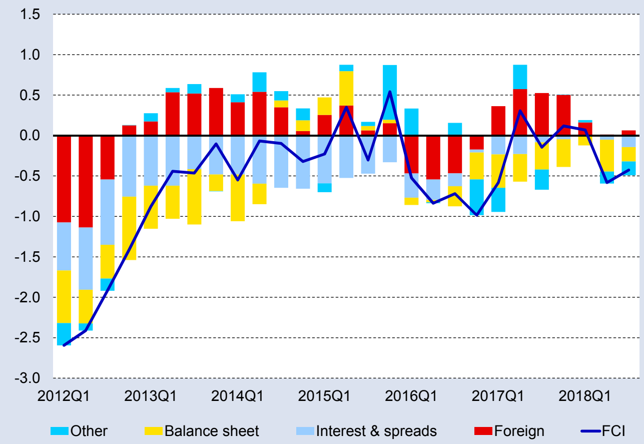
Monetary and financial conditions

Financial Conditions Index improves slightly

The Bank monitors domestic financial conditions through a summary measure that combines a number of local and international financial variables that influence economic activity.[2]

According to the Bank's FCI, in the third quarter of 2018 financing conditions were still tight from a historical perspective, but improved slightly when compared with the second quarter of 2018, owing mainly to a lower negative contribution from balance sheet indicators (see Chart 6.1). In particular, the return on equity of the banking sector improved when compared with the second quarter, while non-performing loans continued on their downward trajectory. Furthermore, foreign influences on Malta's financing conditions improved marginally, due to lower systemic stress in the euro area financial system.

Chart 6.1
CONTRIBUTIONS TO THE FINANCIAL CONDITIONS INDEX
(contributions to the index)



Source: Central Bank of Malta estimates.

[1] Monetary data analysed in this Chapter are compiled on the basis of the statistical standards found in the Statistics section on the Central Bank of Malta website.

[2] The analysis in this section is based on the Bank's FCI, as described in Micallef, B. and Borg, I., "A Financial Conditions Index for the Maltese Economy", in Grech, A.G. and Zerafa, S. (eds.), *Challenges and Opportunities of Sustainable Economic Growth: the case of Malta,* Central Bank of Malta, 2017, and later updated in the Central Bank of Malta – *Annual Report* 2017.

In contrast, both 'interest rates and spreads' and the 'other' component deteriorated due to higher sovereign spreads and lower issues of securities.

Notwithstanding the improvement during the quarter, the FCI declined when compared with the level estimated for the third quarter of 2017, reflecting primarily the lower support from foreign influences. This deterioration stems from the decline in euro area equity prices. On the other hand, domestic influences have improved on a year earlier, reflecting a fall in non-performing loans and a strong improvement in credit. Notwithstanding the tight financing conditions when compared to historical levels, the FCI remains well within the standard deviation of this index.

Maltese residents' deposits continue to expand

Total deposits held by Maltese residents with MFIs in Malta continued to expand during the third quarter of 2018. In September, the annual rate of change of residents' deposits stood at 4.3%, slightly higher than the 3.2% registered three months earlier (see Table 6.1). Nonetheless, deposit growth in the first three quarters of 2018 has moderated when compared with previous years.

During the third quarter, overnight deposits remained residents' preferred deposit category. Annual growth in this component rose to 7.1% in September, from 5.4% in June. The share of this category in total deposits stood at 75.9%, compared with 73.9% in September 2017, thereby extending established patterns (see Chart 6.2).

On the other hand, demand for time deposits remained weak. In particular, deposits with an agreed maturity of up to two years contracted by 6.7% in the year to September. At the same time, deposits with an agreed maturity of over two years grew by a modest 1.5% over the same

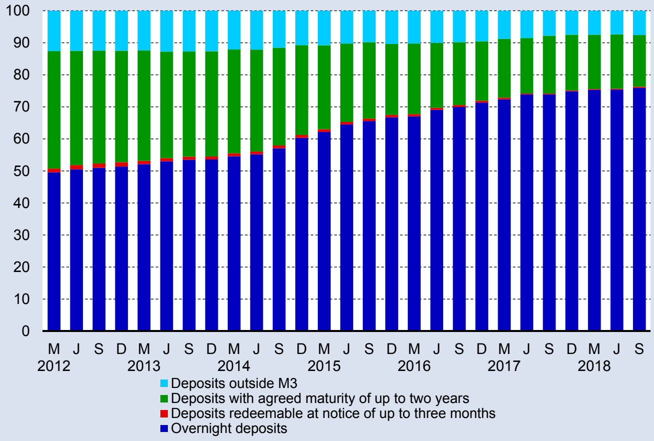
Table 6.1
DEPOSITS OF MALTESE RESIDENTS

	EUR millions	Annual percentage changes				
	2018	2017		2018		
	Sep.	Sep.	Dec.	Mar.	June	Sep.
Overnight deposits	**14,022,772**	**12.4**	**10.2**	**8.6**	**5.4**	**7.1**
of which						
Households	8,404,852	18.1	15.8	16.2	12.8	14.2
Non-financial corporations	3,403,679	5.2	4.9	9.6	9.0	10.1
Deposits redeemable at notice of up to three months	**70,813**	**-53.8**	**-56.2**	**-50.7**	**-11.0**	**52.5**
of which						
Households	35,030	-48.6	-51.5	-54.4	-26.7	-14.9
Non-financial corporations	31,259	-88.1	-69.5	-32.7	377.0	2,359.4
Deposits with an agreed maturity of up to two years	**2,980,793**	**-2.1**	**-1.6**	**-3.7**	**1.2**	**-6.7**
of which						
Households	2,330,813	-2.9	-3.1	-4.8	-3.2	-5.5
Non-financial corporations	296,115	10.8	23.7	6.1	28.5	7.3
Deposits with an agreed maturity above two years	**1,400,530**	**-15.8**	**-17.5**	**-11.0**	**-10.6**	**1.5**
of which						
Households	1,249,874	-16.9	-17.7	-11.6	-11.4	-0.9
Non-financial corporations	62,354	-14.7	-29.7	3.7	-4.3	-1.1
Total residents' deposits[(1)]	**18,474,908**	**6.4**	**5.0**	**4.3**	**3.2**	**4.3**

[(1)] Total residents' deposits exclude deposits belonging to central government.

Source: Central Bank of Malta.

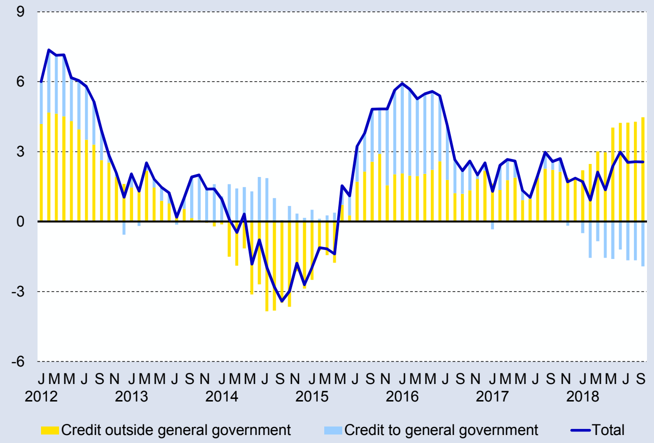
period. As a result, the share of deposits with an agreed maturity of up to two years declined to 16.1% of total deposits, while that of deposits with an agreed maturity above two years edged down to 7.6%. The share of deposits redeemable at notice of up to three months remained small.



(1) Deposits exclude those belonging to central government.
Source: Central Bank of Malta.

Credit to residents expands further

Credit to Maltese residents expanded by 2.6% in the year to September 2018, slightly lower than the 3.0% registered in the previous quarter (see Table 6.2 and Chart 6.3). The slower rate of growth was driven by a stronger contraction in credit to general government. This reflected a further decline in MFI holdings of MGSs. On the other hand, credit to residents outside general government continued to expand in the third quarter. Growth in this component reached 5.9% in September, up from 5.6% three months earlier.



Source: Central Bank of Malta.

Table 6.2
MFI CREDIT TO MALTESE RESIDENTS

	EUR millions	Annual percentage changes				
	2018	2017		2018		
	Sep.	Sep.	Dec.	Mar.	June	Sep.
Credit to general government	**2,860**	**1.5**	**0.2**	**-3.4**	**-4.9**	**-8.0**
Credit to residents outside general government	**10,493**	**2.9**	**2.4**	**4.0**	**5.6**	**5.9**
Securities & Equity	440	-8.8	-4.9	-1.2	7.6	9.9
Loans	10,053	3.5	2.7	4.2	5.5	5.7
of which:						
Loans to Households	5,412	6.6	6.6	6.9	7.1	7.5
Mortgages	4,834	8.6	8.2	8.3	7.8	8.2
Consumer Credit and Other Lending	577	-6.6	-4.2	-3.3	1.9	2.0
Loans to NFCs(1)	3,841	-1.6	-1.8	0.1	4.0	4.6
Total credit to residents	**13,354**	**2.6**	**1.9**	**2.1**	**3.0**	**2.6**

(1) NFCs include sole proprieters and non-profit institutions serving households.
Source: Central Bank of Malta.

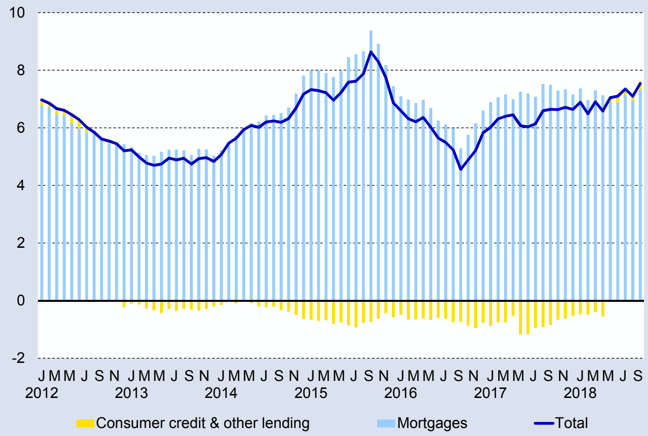
The acceleration in credit outside general government was mainly driven by a faster expansion in loans, as well as by increased MFI holdings of securities and equity issued by corporates.

Loans rose by 5.7% in the year to September, from 5.5% in the year to June. In particular, annual growth in loans to households remained strong at 7.5%, largely underpinned by a further expansion in mortgage lending (see Chart 6.4).

Loans to NFCs also picked up further in the third quarter, with the annual rate of change reaching 4.6% in September from 4.0% at the end of the previous quarter. A sectoral breakdown suggests that the recent pick-up was supported by a number of sectors, including manufacturing and accommodation and catering (see Chart 6.5). In contrast, loans to construction and real estate grew at a slower pace compared with June.

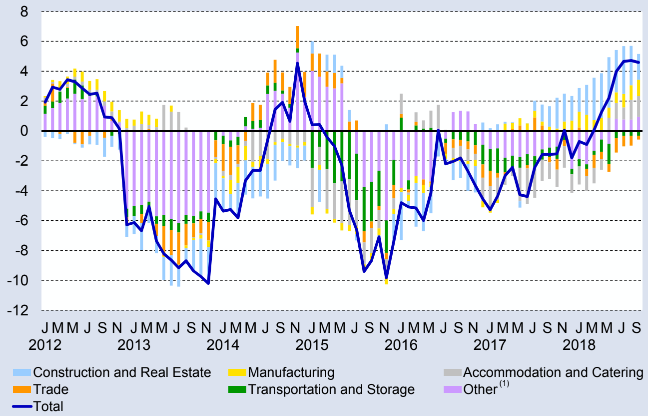
At the same time, Financial Accounts data continue to show increased recourse to non-bank funding sources by NFCs.[3] As a proportion of total NFC debt, bank lending to NFCs has been in decline over the past years, reaching 22.2% of NFC financing in the third quarter of 2018 (see Chart 6.6). This decline could reflect a number of factors, such as the increased use of internal funding by companies, and an

Chart 6.4
COMPOSITION OF LOANS TO HOUSEHOLDS
(percentage points; annual percentage change)



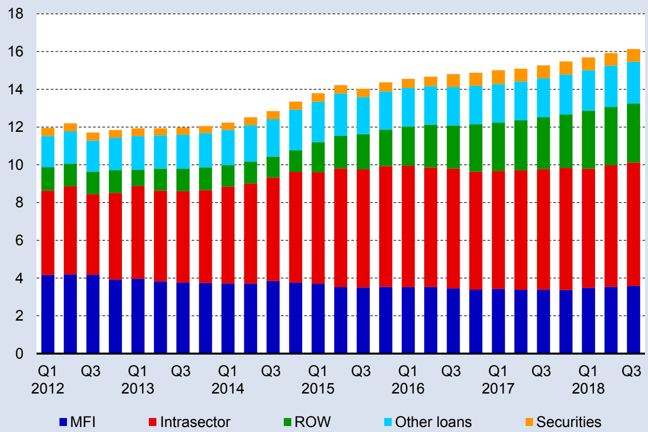
Source: Central Bank of Malta.

Chart 6.5
LOANS TO NFCs BY SECTOR
(percentage points; annual percentage change)



(1) Includes sectors such as energy, entertainment, health, education, professional services, communication, and administration.
Source: Central Bank of Malta.

Chart 6.6
NFC DEBT BY SOURCE
(end-of-period stocks in EUR billion)

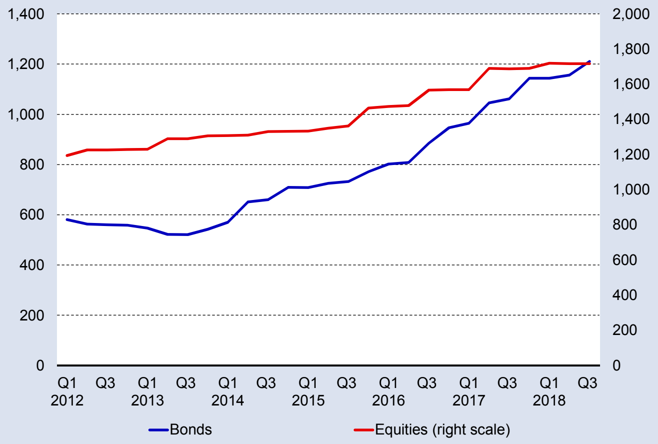


Source: Financial Accounts.

[3] See Darmanin, J. (2017), "The financing of companies in Malta", *Policy Note* July 2017, Central Bank of Malta.

overall shift in banks' loan portfolios towards households and away from NFCs. The largest source of NFC debt financing remained intrasectoral lending, although at 40.5% this component's share in total liabilities was lower than that registered a year earlier. On the other hand, the share of loans from the Rest of World (ROW), which mainly comprises loans from foreign banks or companies, rose to 19.4% of NFC debt. Other loan sources comprised 13.7% of total NFC debt.[4]

Chart 6.7
CAPITAL ISSUED ON MSE BY NFCs
(million units outstanding as at end-period)



Sources: MSE; Central Bank of Malta estimates.

Recourse to debt securities remained limited at 4.2% of total NFC debt. This low share mainly reflects strong growth in other debt sources, and masks a significant increase in public issuance of debt securities by NFCs in recent years (see Chart 6.7). As at September 2018, €1.2 billion in corporate debt was listed on the Malta Stock Exchange (MSE), 14.1% higher than the outstanding stock 12 months earlier. Issuance of equity capital has also increased, suggesting increased usage of capital markets by NFCs, particularly larger companies.[5]

Interest rate spread between deposit and lending rate remains elevated

Interest rates on residents' deposits with MFIs in Malta declined in the year to September 2018, with the weighted average deposit rate offered to households and NFCs going down by 6 basis points to 0.35% (see Table 6.3).[6] This was mainly driven by a drop in rates on households' time deposits, partly offset by higher rates on time deposits held by NFCs.

Meanwhile, the weighted average lending rate paid to resident MFIs by households and NFCs fell by 5 basis points when compared with September 2017, reaching 3.58%. While rates paid by households dropped, those paid by NFCs increased slightly. Lending rates to NFCs thus remained above those charged to households, possibly reflecting different assessments of credit risk.

The spread between the weighted average lending rate and the deposit rate thus stood at 323 basis points in September 2018, marginally wider than its level of 322 points 12 months earlier. The elevated level of this spread suggests that the transmission of the ECB's monetary policy easing measures to retail lending rates remained weaker than that to deposit rates.

Bank Lending Survey indicates unchanged credit standards

According to the Bank Lending Survey (BLS), which was conducted in October 2018, respondent banks reported unchanged credit standards, terms and conditions for NFCs in Malta during

[4] Other loan sources comprise loans from non-bank financial institutions and auxiliaries, households, and government.
[5] A number of companies have obtained capital from the recently launched MSE platform Prospects, which is mainly geared towards small and medium-sized enterprises (SME).
[6] Basis points are rounded to the nearest whole number, and hence may not exactly match the figures given in Table 6.3.

Table 6.3
INTEREST RATES ON DEPOSITS AND LOANS
Percentages per annum to residents of Malta; weighted average rates as at end of period

	2015	2016	2017		2018		
	Sep.	Sep.	Sep.	Dec.	Mar.	June	Sep.
Total deposits[1]	**0.76**	**0.52**	**0.40**	**0.38**	**0.37**	**0.36**	**0.35**
of which							
Overnight deposits							
Households	0.14	0.07	0.06	0.07	0.06	0.07	0.06
Non-financial corporations	0.11	0.08	0.03	0.04	0.06	0.05	0.04
Time deposits (less than 2 years)							
Households	1.26	0.79	0.78	0.78	0.75	0.76	0.77
Non-financial corporations	1.01	0.71	0.57	0.54	0.59	0.63	0.74
Time deposits (more than 2 years)							
Households	3.20	2.76	2.48	2.41	2.28	2.24	2.20
Non-financial corporations	2.55	2.06	1.99	1.98	2.04	2.11	2.12
Total Loans[1]	**3.86**	**3.69**	**3.63**	**3.64**	**3.64**	**3.61**	**3.58**
of which							
Households and NPISH	3.62	3.53	3.50	3.48	3.46	3.44	3.41
Non-financial corporations	4.19	3.92	3.83	3.91	3.93	3.89	3.85
Spread[2]	**3.09**	**3.16**	**3.22**	**3.26**	**3.28**	**3.25**	**3.23**
ECB main refinancing operations rate	0.05	0.00	0.00	0.00	0.00	0.00	0.00

[1] Annualised agreed rates on outstanding euro-denominated amounts belonging to households (incl. NPISH) and non-financial corporations.
[2] Difference between composite lending rate and composite deposit rate.
Source: Central Bank of Malta.

the third quarter of 2018. Likewise, NFCs' demand for credit was stable. Only one respondent bank reported lower demand for credit in the September quarter. Looking forward, participating banks expected no changes to credit standards, terms, conditions, and demand in the fourth quarter of 2018.

Almost all of the respondent banks reported unchanged standards, terms and conditions for credit for house purchases, although one bank reported some easing in terms and conditions. No changes were expected during the fourth quarter. The vast majority of participating banks registered an increase in the demand for credit for house purchase during the third quarter. Looking forward, however, only one bank expected an increase in demand for credit for house purchases in the fourth quarter, with the remaining banks expecting stable demand.

Meanwhile, banks participating in the BLS reported unchanged standards, terms and conditions for consumer credit and other lending during the third quarter. Credit demand was also stable, with no changes anticipated for the fourth quarter.

The majority of banks participating in the October BLS stated that their market access to wholesale and retail funding and their risk transfer capability did not change as a result of the situation in financial markets. One bank however, reported some easing on selected segments of its retail funding operations and the unsecured segment of the inter-bank money market. No changes were expected during the fourth quarter of 2018.

Banks were also asked to gauge the impact of the expanded asset purchase programme (APP), as well as the reinvestment of the principal payments from maturing APP securities on their financial situation and assets. Banks reported that the APP had no impact on their operations in the past six months and no changes were expected in the six months ahead. Furthermore, the APP had no impact on most of the participating banks' credit standards, lending volumes and terms and conditions. However, one bank reported some easing of its credit standards, terms and conditions and lending volumes for loans to enterprises. It anticipated this easing to persist over the next six months.

As regards, the impact of the ECB's negative deposit facility rate on the banks' lending conditions and volumes, all banks reported a decline in their net interest income. Half of the banks reported some loosening in lending rates and margins on loans to enterprises, loans for house purchases, consumer credit and other lending to households, as well as an increase in their lending volumes. For the six months ahead, these banks expected further loosening in margins and lending rates on loans to households and enterprises as well as higher loans.

The money market

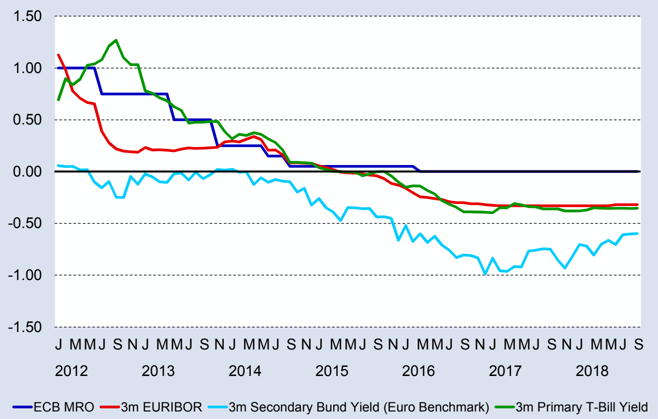
Domestic money market interest rates remain stable

The ECB maintained its key interest rates unchanged during the third quarter of 2018. At -0.32%, the three-month EURIBOR was unchanged from the rate prevailing at the end of June 2018. Meanwhile, secondary market yields on three-month German government securities, which act as a benchmark for euro area yields, rose to -0.60% at the end of September from -0.71% at the end of June (see Chart 6.8).

In the domestic primary market, the yield on three-month Treasury bills stood unchanged from the rate prevailing at the end of June, at -0.35%. As the yield on the euro area benchmark rose during this period, the spread between this rate and the yield on domestic three-month Treasury bills narrowed. At the end of September, it fell to 43 basis points, down from 53 basis points at end-June.

The Government issued €305.6 million in Treasury bills during the third quarter of 2018, €48.6 million more than the amount of €275.0 million issued between April and June 2018.

Chart 6.8
MONEY MARKET INTEREST RATES
(percentages per annum; end of month rates)



Sources: Central Bank of Malta; ECB.

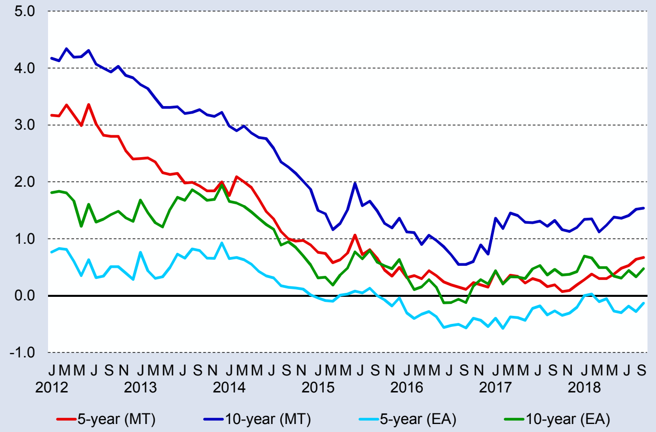
The capital market

The Government did not issue any new MGSs during the first half of 2018. However, between July and September 2018 it issued one new MGS with a value of €0.26 million. Meanwhile, two public limited companies announced new bond issues: Hili Finance Company plc issued €40.0 million in unsecured bonds and Exalco Finance plc issued €15.0 million in secured bonds. By the end of September 2018, nine firms had listed bonds through Prospects, up from eight in June. The new issue brought the total amount of bonds issued through this facility to €33.5 million.[7]

In the secondary market, government bonds turnover stood largely unchanged at €47.2 million during the third quarter of 2018, compared with €47.5 million in the preceding quarter. In contrast, turnover in corporate bonds rose to €27.4 million from €21.0 million over the same period.

Secondary market yields on Maltese government bonds rose during the third quarter of 2018 (see Chart 6.9). The yield on five-year bonds increased significantly and ended September at 0.67% from 0.48% at end-June. Similarly, the yield on ten-year bonds rose by 18 basis points, and ended September at 1.54%. In the euro area, the yields on five-year and ten-year bonds rose by 17 basis points, ending September at -0.13% and 0.47%, respectively. Consequently, the spread against the ten-year euro area benchmark widened marginally to 107 basis points in the third quarter of 2018, from 105 basis points three months earlier.

Chart 6.9
GOVERNMENT BOND YIELDS
(percentages per annum; end of month)



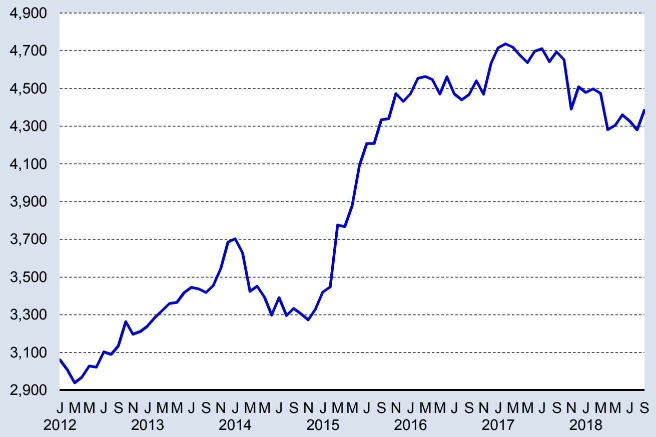
Sources: Central Bank of Malta; ECB.

MSE share index ends September at higher levels

Share prices in Malta, as measured by the MSE Equity Price Index rose during the third quarter of 2018. At end-September, they stood 0.5% higher than three months earlier. However, they were still 6.6% below their level in September 2017 (see Chart 6.10). The MSE Equity Total Return Index, which accounts for changes in equity prices and dividends, rose by 1.0% since the end of June.

Equity turnover rose to €21.8 million during the third quarter of 2018, from €18.7 million in the June quarter.

Chart 6.10
MALTA STOCK EXCHANGE EQUITY PRICE INDEX
(end of month)



Source: MSE.

[7] Prospects is a multi-lateral trading facility operated by the MSE with the aim of facilitating access to capital markets for SMEs.

DYNAMIC BUT VIGILANT[1]

Dr Mario Vella
Governor of the Central Bank of Malta

Dear President and Members of the Committee of the Institute of Financial Services (IFS) Malta, distinguished guests, personally and on behalf of the Board of the Central Bank of Malta, I thank the IFS for this traditional annual opportunity to address this distinguished audience and, through it, all stakeholders.

I also join the President in welcoming to Malta the representatives of the Chartered Banker Institute, the London Institute of Banking and Finance, the International Compliance Association and the European Banking and Financial Services Training Association (EBTN).

Mr President, it is encouraging to hear of all the initiatives the Institute has undertaken in the area of financial services education. The topical theme of your recent Annual Seminar on 'Digital Transformation' and your pro-activeness in developing a Diploma in Digital Technology for our sector, demonstrate your willingness to embrace change and adapt to the evolving needs of the marketplace.

Let me assure you that the Central Bank of Malta will continue to support you. I wish the Institute every success in the future.

Last year, I highlighted the fact that the performance of the Maltese economy had exceeded the Bank's expectations and those of other institutions. Key economic indicators were among the best in Europe, with the European Commission at the time projecting continued, though moderating, strong GDP growth through 2019.

This assessment can be broadly confirmed at the current juncture. GDP growth in the first half of 2018 averaged 5.4%, which is in line with the latest projections that the Central Bank of Malta published over the summer. The unemployment rate fell to a new record low of 3.8% in the second quarter of this year. Labour market participation, previously on the low side, now slightly exceeds the euro area average.

In the area of public finances, the general government balance remains in surplus, the debt-to-GDP ratio extended its downward path, and contingent liabilities, while still elevated, are now within the range observed in other countries. The external balance remains in surplus and inflationary pressures remain contained.

When compared with the information available a year ago, the economic record is even more impressive. Then, GDP growth in 2017 was recorded at 5.6%, now the latest vintage of data puts last year's growth rate at 6.7%. Growth in 2018 is also expected to be higher than previously expected. The European Commission's latest projections foresee growth this year at 5.4%, the second highest rate the European Union after that of Ireland. This compares with a projection of 4.9% in November 2017.

[1] Speech given at the Annual Dinner of the IFS Malta on 30 November 2018.

According to the European Commission, fast growth rates are expected to prevail through 2020, although as one might expect, the pace of expansion is set to moderate from recent highs, with annual growth reckoned to stand at 4.4% in 2020.

All this is positive news, but there is also some not so good news.

While the outlook for the Maltese economy remains bright, we have to acknowledge that the external environment is becoming less supportive than we expected a year ago, or even three months ago. Some of the external downside risks flagged by the Bank in recent projection rounds have started to materialise. Global economic growth has become more diverse across regions, with soft indicators suggesting that global trade is losing the buoyancy seen in 2017. Partly in response to the less benign economic conditions abroad, activity has also softened in the euro area.

The less favourable international environment partly reflects new restrictions on trade and the response of businesses' capital spending plans. In late 2017 and also in the course of 2018, the United States introduced additional trade protectionist measures, which have been followed by a degree of retaliation. Although these actions mostly concern trade between the United States and China, the overall impact may be considerably broader once global value chains and the effects of uncertainty on private spending are taken into account. This assessment is broadly confirmed by the latest assessments published by the International Monetary Fund (IMF) in October, and by the OECD a week ago. Indeed, year-on-year growth in world trade has slowed to 3.2% in the first half of this year, from the relatively fast growth of 5.0% recorded in 2017, while growth in container port traffic averaged 3.9% in the first nine months of this year, down from 6.5% in 2017.

Notwithstanding the deal reached during the special meeting of the European Council held on 25 November, the uncertainty surrounding the UK's future relations with the European Union continues. Should the deal be rejected, the immediate effect would be an amplification of the loss of momentum.

The European Central Bank continued to pursue an accommodative monetary policy throughout 2018, against the backdrop of a continued recovery in economic activity in the euro area as a whole, to ensure that inflation would converge sustainably to the target of below, but close to, 2% in the medium term.

Following very strong growth in 2017, real GDP in the euro area continued to expand during the first three quarters of this year, albeit at a slower pace, with an annual growth rate of 1.7% being registered in the third quarter. The latest information, while being somewhat weaker than expected, remains consistent with an ongoing economic expansion.

In turn, with the economy growing at rates above potential, and with the unemployment rate declining steadily, inflation should gain momentum. Indeed, the euro area inflation rate stood at 2.2% in October, up from 2.1% in September and from 1.4% a year earlier. That having been said, measures of underlying inflation, which strip out the contributions of volatile items such as energy and food, remain muted.

The situation in international financial markets during 2018 remained very challenging. Most asset classes today are in negative territory when compared to the start of the year, which is a very unusual phenomenon. Over the past year, developments in financial markets have been largely dominated by several political events, while generally positive economic news seemed to matter much less. These political events ranged from trade tensions, especially between the US and China, to Brexit-related developments, a slowdown in emerging market economies, most notably in Argentina and Turkey, and also the rise of populist movements in some European countries that have led to tensions, particularly between Italy and the European Commission. All this led to volatility in financial markets, with a constant turn in Risk-On /Risk-Off sentiment, which has made it more challenging for investment strategies.

As a Central Bank, financial market developments are of a direct interest to us as these have an impact on both the domestic banking system and the Central Bank itself. While such volatility in financial markets and persistence of interest rates at a relatively low level in Europe have continued to exert pressure on interest income flows and potential on capital gains, and hence impinge on profitability, nevertheless domestic banks have absorbed such turbulence relatively well. For the year ahead, the situation is likely to remain equally challenging on interest income and profitability, as signs are emerging that world economic growth, including in Europe, is losing momentum. This could be also particularly challenging for the process of the normalization of the monetary policy stance in Europe, which is likely to be very gradual.

As you are all well aware, during 2018, the European Central Bank gradually scaled back the non-standard monetary policy measures that it had introduced to combat the risks of a long period of low inflation and possible deflation. In January, the monthly purchases in terms of the Asset Purchase Programme were halved from €60 billion to €30 billion. They were halved again, to €15 billion, from October. The Governing Council currently anticipates that, subject to incoming data confirming the medium-term inflation outlook, the net purchases will cease altogether in December 2018.

Indeed, even after net asset purchases have ended, monetary policy will continue to provide support to the euro area economy as the stock on Central Banks' balance sheets will be maintained with the re-investment of maturing bonds. The ECB's key interest rates remain very low, with the overnight deposit rate standing at -0.4%. The Governing Council expects them to remain unchanged at least through the summer of 2019. At the same time, the Governing Council will ensure that ample liquidity conditions will continue to prevail for as long as needed by reinvesting principal payments from maturing securities for an extended period of time. This combination of very low interest rates and ample liquidity should ensure favourable financial conditions for firms and households, underpinning economic activity, and should strengthen the sustained convergence of inflation to the target.

Looking ahead, domestic demand will play an important role in economic growth. The prospects in this regard remain favourable. The still very low unemployment rate and the low interest rate environment should continue to shore up private consumption, while investment should benefit from increased public spending on infrastructure as well as new projects in education and health. Certain capital intensive sectors look set for further expansion. The continued strong growth in permits for residential dwellings should also lead to further growth in dwelling investment.

It is also evident, however, that maintaining the momentum registered in recent years is becoming an increasingly challenging feat, as a number of internal constraints already identified last year persist.

The rapid economic expansion and population growth have put pressure on the country's physical infrastructure, in particular as regards road transport and health and education facilities. Given the adverse effects of infrastructure gaps on business investment, productivity and social welfare, it should not be surprising that one of the key recommendations which IMF staff issued in January was to boost public investment, to address infrastructure bottlenecks and support medium-term growth in a budget-neutral manner. This need to boost investment in infrastructure was also acknowledged by the European Commission in its assessment of the Stability Programme and National Reform Programme. In this regard, the Government's announcement of a seven-year capital investment programme focusing on the road network is an encouraging step forward. However, given that this additional investment coincides with a booming construction sector and more stringent procedures as regards the utilisation of EU funds, the possibility of slippages should not be overlooked.

The Government's efforts need to be complemented with a better utilisation of savings accumulated by the private sector. The Malta Development Bank can help in this regard, by identifying gaps in the financing of viable projects and partnering with financial intermediaries and other stakeholders to develop financial instruments that can finance them.

Apart from infrastructure bottlenecks, international institutions that monitor the business environment flag other areas that warrant immediate attention. While we have significant reservations on a number of methodological aspects underlying such surveys, we also share the view that in some areas we do need to step up our efforts very considerably. This is notably the case as regards the efficiency of court proceedings. Although the time it takes to resolve court cases has more or less halved since 2010, it is still among the longest in the European Union. Other challenges we need to address concern the length of procedures to set up a business, the low educational attainment level relative to our peers and a limited capacity to innovate. These are essential elements that support investment and productivity. The development of an intelligent online business portal which ties all Government business-related services into a one solid platform should put businesses in a better position to do business. The new legislation in the area of digital innovation provides the legal framework for business to embrace disruptive technologies. The private sector is encouraged to exploit the opportunities that these technologies entail in terms of efficiency gains, adaptability and overcoming labour shortages which remain widespread across sectors and skill levels.

So far we have managed to address these gaps partly through labour activation policies targeting nationals and partly through foreign labour. However, one has to acknowledge that the national working age population is what it is. With the male participation rate already around the euro area average, a better utilisation of the domestic component of the labour supply can only be achieved if more women take up employment or if the labour force works longer. Alternatively, production processes would need to rely on upgraded technology, such as automation and artificial intelligence.

While further gains in the female participation rate are possible, these will likely materialise only gradually, as the participation rate of younger females already exceeds that in the euro area as a whole, while that of older females does not adjust upwards easily, as these tend to have fewer skills and experience or have to care for dependants. Longer hours are probably not compatible with a better quality of life. Technology upgrades through, for example, automation and artificial intelligence offer a promising avenue, but can be very costly for small firms and also require skills and financing that are not immediately available. Their effectiveness rests on a more active participation in training and re-skilling programmes as well as entrepreneurial willingness to support innovative activities.

The private sector is likely to maintain a high dependence on foreign workers. The latter, however, tend to stay for a relatively short period in Malta, which does not augur well for firms' return on investment in human capital and productivity. It may also put at risk the competitiveness of our exports and job prospects to the extent that wages begin to increase faster than productivity.

From this point of view, there is an urgent need to understand the factors behind the relatively short stay of foreign workers in Malta and devise solutions to this problem. A key factor that has been cited by firms and foreign workers alike is the recent rapid increase in rent in the private market, but there may be other reasons. The recently published White Paper on rent reform puts forward a number of proposals that should enable a better-informed assessment of the rental market in Malta and which seek to offer greater certainty and protection to landlords and tenants. With the public consultation on this subject now completed, we now look forward to the implementation of the proposed measures.

Permit me at this point to note that the Central Bank is itself an employer of specialist foreign staff, thus we also speak on the basis of a direct feel for some of the problems they face. Apart from the already mentioned rents issue, there are other apparently minor but certainly unhelpful matters, ranging from the difficulty of finding school places, opening a bank account and the time consuming effort to get an ID card.

While home ownership in Malta remains among the highest in the EU, it is also evident that the changing fabric of society and economic factors are pushing some segments of the population to resort to the rental market.

The continued rise in house prices reinforces this pattern. According to Eurostat, house prices rose at an annual rate of 5.6% in the first half of this year, following a 5.3% increase last year. The deflated measure has also picked up in the first half of this year. This acceleration suggests that although the issuance of permits for the construction of residential units continues at a brisk pace – growth exceeded 30% last year and up to September this year – supply still falls short of the demand for housing.

Continued increases in house prices risk rendering house ownership unaffordable for a wider segment of the population in a country accustomed to a very high rate of home ownership. Moreover, while overall risks to financial stability from real estate remain contained at the current juncture, an extension of recent trends may result in potential macro-financial imbalances.

Dear colleagues,

2018 was a milestone year, marking the Central Bank of Malta's fiftieth anniversary of its establishment and also the tenth anniversary of Malta joining the Eurosystem. The latter had coincided with the start of the most-severe financial crisis since the Great Depression. Since then, the regulatory response and reform agenda intensified as authorities struggled to bolster the resilience of financial systems. Ten years on, banks around the globe have raised capital and strengthened their balance sheets. On their part, supranational authorities have gone to great lengths to enhance regulation and be better prepared for the next crisis. Apart from regulatory challenges, the system is still grappling with additional risks stemming from the macro-financial and geopolitical spheres.

Notwithstanding, in Malta, bottom lines remained healthy as banks and other financial institutions managed to record healthier profits in relation to their European peers. By mid-2018, the return on equity and assets of the core domestic banks stood at 7.6% and 0.6%, respectively as against the 6.2% and 0.4% reported by small European banks. But, just like them, domestic financial institutions had to weather headwinds from geopolitical uncertainties which have become more prominent in recent months – most notably Brexit, concerns on Italy's economic fundamentals and their implications for the euro, emerging market contagion, and the rise in trade wars between economic superpowers which many fear will lead to widespread protectionism. This is further compounded by the negative effects of a prolonged low interest rate environment which is increasingly exerting pressures on profitability, particularly to the more traditional business models of our domestic institutions.

On balance, the Central Bank of Malta remains confident that risks to the domestic financial system are contained. Exposures to emerging market economies are low and limited as credit and financial institutions have taken measures to protect their balance sheet from any undue risk. Despite the strong historical ties with the United Kingdom, studies carried out by the Central Bank of Malta indicate that the potential direct adverse effects of a 'hard Brexit' on the Maltese economy are deemed to be manageable. The robust economic developments together with the regulatory measures implemented by domestic authorities have contributed to the further decline in credit risk and improving asset quality, with the non-performing loans ratio for the whole banking system falling to just 3.1% and comfortably below the EU average.

Following a contraction phase of four years, lending to non-financial corporates finally turned the corner, increasing by an annual rate of 4.6% in September 2018. This is a welcome sign since it does not only hint that bank disintermediation is normalising, but it also augurs well for monetary policy effectiveness, given that banks are the conduit for its proper functioning. Although such signs are encouraging, we have yet to stimulate more usage of the current liquidity lying idle at the Central Bank. Here, banks play a crucial role in finding new viable business niches.

Key performance indicators (KPI) for domestic financial institutions are healthy but we must not become complacent. Vulnerabilities remain. Aggregate KPIs only give one side of the story masking the variability in operational performance at an institutional and sectoral level. The-not-so-distant past has taught us that structural overreliance on real estate poses considerable economic pain in a downturn. Indeed, despite a turnaround in the real estate market since 2014, some banks have not yet fully recovered from past overexposure to this sector. While households' balance sheets remained broadly sound, one also cannot overlook their increasing exposure to this sector. This, in turn, is being reflected in growing concentration in the banks' loan portfolios. The Central Bank of Malta, in consultation with the Malta Financial Services Authority (MFSA) through the Joint Financial Stability Board, is taking pro-active steps by introducing borrower-based measures to increase the resilience of both banks and borrowers to such potential threats.

Undoubtedly, from a supervisory perspective, the past two years have been very challenging. Two banks had their licence withdrawn, while another was put under the administration of a competent person. Despite the negativity of such developments, these are in themselves indicative of the fact that Maltese Authorities are actively taking the right measures to protect the sector from inappropriate behaviour. We must constantly bear in mind that from a reputational point of view we are only as strong as our weakest link and that the externalities that each institution transmits to the system, be it big or small, in the periphery or at the core, is always material in a small financial centre such as Malta. Furthermore, such negative externalities may also impact the use of infrastructural gateways that service the industry, without which, the entire financial sector would be isolated.

We all have a role to play. We have to acknowledge that in good times, there is heavy intertemporal discounting of future bad events, with calls for less regulation. This temptation must be resisted. We need a balanced view that is stable and fair, but also sufficiently rigorous and intrusive irrespective of economic cycles. Otherwise regulators will keep being found wanting when the bad times come, adversely affecting many ordinary people and feeding mistrust in authorities. The Central Bank of Malta welcomes the supervisory authorities' commitment to step-up their supervisory intensity as this is crucial for regulation and oversight to keep pace with market developments. Supervision must remain on-going to safeguard the system from moral hazard, while keeping the bar sufficiently high to minimise adverse selection at entry point. Practitioners also have a duty of care to their clients and the financial system as a whole. They play a critical role in safeguarding its integrity.

Christine Lagarde has recently said that while policies had addressed the mistakes that led to the crisis, there is still much more to do as a "*lot of the murkier activities are moving toward the shadow banking sector*". This risk is also indicated in the most recent *IMF Global Financial Stability Review* as well as the work of the European Systemic Risk Board and ECB related to the non-bank financial sector. The Central Bank of Malta and MFSA participate actively in this work. The domestic non-bank financial sector in Malta is linked with the banking sector through cross shareholdings. These links need to be studied more rigorously, both at a micro and macro level, as well as across sectors. In this regard, regulation and supervision must aim at minimising regulatory arbitrage. Irrespective of the set-up, or technology, institutions transmitting common types of risks should be treated on the same footing.

It is also opportune to formulate a holistic strategy for our financial services sector that takes into account a national risk appetite. One must take stock of the risk/benefit quotient of each subsector, and the lessons learnt thus far, and put it in a long-term context on where to focus going forward.

During the year, at the request of the Maltese Government, Malta underwent an IMF Financial Sector Assessment Programme, which is an in-depth assessment of the financial sector. Furthermore, a comprehensive update of the 2015 National Risk Assessment (NRA) was carried out in 2017 and published earlier this year. It identified potential money laundering and terrorism financing threats and vulnerabilities that present risks to Malta's economic and societal stability. The NRA forms the basis of Malta's National AML/CFT Strategy. In fact, some of the initiatives identified in the NRA are already being implemented.

In addition, a Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism (MONEVYAL) has just ended a rigorous on-site mission to assess Malta's standing with international AML/CFT standards.

The local authorities are eagerly expecting the final results of these evaluations as they represent a standardised global yardstick against which to benchmark our state of play. This will leave a wealth of information for authorities to exploit as they direct efforts into strengthening further the current institutional framework and operations. All stakeholders are encouraged to seize the opportunity to improve the reputation, soundness and resilience of our financial services sector.

Malta is also actively working to embrace blockchain technologies, including virtual assets. 2018 will also be remembered as the year when Malta was propelled to the fore with the introduction of a holistic legislative and regulatory framework for fintech and virtual assets, asserting itself as a digital hub. Such technologies provide the benefits of reducing transaction costs which can be passed on to consumers; greater efficiency, transparency, advancement in KYC capabilities and competition. While these benefits are acknowledged and duly welcomed, one must also be sensitive to the underlying potential risks they might pose as they become more main-stream.

The effective implementation of the new legislation and regulation requires expertise not only in the underlying technology, but also in its legal aspects and all the risks involved, such as cyber risks. The fast technological advancements are also a challenge and staying ahead of the game from a regulatory perspective should be given high importance for the successful development in this new field. Thus, while all the legislative initiatives for this new technology to succeed augur well, the authorities need to remain vigilant about the implications for financial stability stemming from the digital economy.

Fast economic growth does not happen without shaking a society's economic, social, cultural, political and institutional equilibria. This 'shaking' is both a condition *and* a consequence of economic acceleration. It is both an effect of economic, social, cultural, political and institutional disruption *and* a cause of economic, social, cultural, political and institutional disruption. This is not a moral judgement; it is a statement of what I believe is a sober understanding of the state of affairs.

In the well-known words of the Foreword to the Second Edition of *Liquid Modernity*, the late Zygmunt Bauman, remarks that "*Forms of modern life may differ in quite a few respects – but what unites them all is precisely their fragility, temporariness, vulnerability and inclination to constant change*." Bauman's 'liquid modernity' is characterised by, I quote him, "*the growing conviction that change is the only permanence, and uncertainty the only certainty. A hundred years ago 'to be modern' meant to chase 'the final state of perfection' – now it means an infinity of improvement, with no 'final state' in sight and none desired*."

Of course Joseph Schumpeter, almost sixty years before (and he was not the first one), had already emphasised the centrality of the disruptive process of transformation that characterises modern economic reality. He described it as "*…by nature a form or method of economic change and not only never is but never can be stationary.* [...] *The fundamental impulse that sets and keeps* […] (it) *in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization* […] (as a) *process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one*."

When confronted with this state of affairs – a state of affairs that is admittedly disquieting and unsettling – the worst possible reaction is to retreat into nostalgic denial, and to pretend that we are living in temporary blips of disequilibrium, in exceptional situations, that will at some unspecified point in time revert to a blissful state of economic, social, cultural, political and institutional equilibria. The only reasonable approach is to endeavour tirelessly and to the best of our technical ability to navigate a reality that is complex, characterised by change and prone to crises. If there is no going back, then going forward we can only go forward.

Navigating this reality requires us to be constantly vigilant to the risks involved, a task that requires us to understand reality and to deal with it to best of our technical competences. Change brings with it challenges and opportunities, which challenges and opportunities easily morph into each other, and generate further challenges and opportunities.

Of course, the financial system, like any other, cannot reduce risk to zero. We will always face inappropriate behaviour, but we are confident that Malta's financial system can withstand the shocks generated by such behaviour, given constant vigilance.

Precisely because the economy is everybody's business, it is in everybody's business that we do not underestimate the critical importance of the technical competences required to understand and manage the challenges and opportunities that change inevitably implies. It is an aspect of contemporary reality where words matter, where words are performative, where they have practical consequences, where – therefore – it is critical that we know what we are talking about.

In this address today, my colleagues and I have highlighted some of the issues we face as we deal with change within our remit and within the perspective of our main institutional objective, namely to maintain price stability within the framework of our enthusiastically committed membership of the Eurosystem and our participation in the formulation and implementation of the Eurosystem's monetary policy. The Central Bank of Malta's Mission Statement, declares that amongst our institutional obligations, we must "*contribute effectively to the stability of the financial system by identifying and assessing systemic risks and imbalances, and making the appropriate policy recommendations*", and that "*we must formulate and implement a macro-prudential policy to fulfil the tasks of the Bank as the national macro-prudential authority*". We will continue to do so with all the energy, consistency and competence required.

UNCONVENTIONAL MONETARY POLICY IN THE EURO AREA: MACROECONOMIC CONTEXT, EFFECTIVENESS, UNINTENDED CONSEQUENCES, AND NORMALIZATION[1]

Dr Stefano Siviero

Introduction

It is a great pleasure and an honour for me to be given this opportunity to contribute to the series of events that have been planned to mark the fiftieth anniversary of the establishment of the Central Bank of Malta.

This is an ideal time to have a celebration of a central bank: the prominence of central banks has recently increased worldwide, given the exceptional contribution of monetary policy to the economic recovery that has followed the extraordinary crises of the last decade. Similar to other central banks, the European Central Bank (ECB) – together with the national central banks of the Eurosystem – has resorted to a number of extraordinary measures, showing a good deal of creativity, ingenuity and even courage.

The decisions of the ECB have relied on solid and timely research, which I will make frequent reference to in today's lecture.[2] A tribute to the research carried in euro area central banks came from the ECB's President Mario Draghi, who recently remarked that "the past ten years show how indebted the former [policymakers] are to the latter [researchers]" (Draghi, Lindau, 24 August 2017). Bank of Italy's Governor Ignazio Visco observed that conducting research in central banks was particularly challenging also because it often became a 'rush against time', as the monetary policymaker had to react quickly to unprecedented events and could not wait until sufficient information was collected (Visco, Naples, 19 December 2016).

Today I will go through the monetary policy actions resorted to by the ECB in these years and describe the motivations behind these decisions, discuss their effectiveness, go over any unintended consequences they might have had and finally conclude by discussing policy normalization – both the steps taken so far and the way forward.

The context: disinflation and its risks

Before going over the monetary policy moves conducted by the ECB, I would like to start by recalling the context in which these monetary decisions were carried out.

Following the peak reached in 2008, inflation in the euro area declined sharply in 2009; after a short-lived recovery, the decline in inflation became a rapid and apparently relentless fall starting in late 2013. Initially, some observers attributed the fall to oil price development. However, the weakness of euro area inflation pre-dated the fall in oil prices. Furthermore, the decomposition of the overall index of consumer prices shows that other factors, including a decline in the price of non-energy industrial goods, played a prominent role in driving inflation lower and lower. Another old wives' tale that does not stand the test of data is that euro area inflation was very weak

[1] Lecture delivered on 29 October 2018 by Dr Stefano Siviero, Head of the Economic Outlook and Monetary Policy Directorate within the Directorate General for Economics, Statistics and Research of the Bank of Italy, as part of a series of lectures to commemorate the fifty years since the establishment of the Central Bank of Malta.

[2] For an extensive survey of the research carried out at the Bank of Italy and elsewhere on the issues that are dealt with in this lecture, see Neri, S., and Siviero, S. (2018), "The non-standard monetary policy measures of the ECB: Motivations, effectiveness and risks," *Kredit und Kapital – Credit and Capital Markets*, 51, 4, pp. 513-560.

only in a few economies impacted directly by the sovereign crisis, namely, Italy, Spain, Ireland, Portugal and Greece. On the contrary, the fall in inflation was widespread: for a long stretch of time between 2013 and 2016, consumer price dynamics were either negative or very low for the vast majority of EA countries; at one point in time, in early 2015, inflation was negative for 17 out of the 19 euro area countries.

The drop in euro area inflation was widespread also across items. While in normal times around 10% of goods and services included in the consumer price index register declining prices, at some point prices were declining for one-third of the items; only for a tiny fraction of items were prices going up by more than the central bank's target; the remaining share of items recorded very moderate price increases.

Very low inflation is undesirable for a number of reasons:

- Inflation is much harder to combat when it is at the lower end of the inflation distribution – Economists normally think of inflation as being a function of a small set of key determinants: past inflation, the slack in the economy, oil prices and the exchange rate. Busetti et al. (2015) used quantile regressions to probe whether and how the relationship between inflation and its determinants varies in the different regions of the inflation distribution.[3] Results show that the dynamics of inflation appear to be more persistent in the lowest quantiles of the distribution; also, the inflation process seems more reactive to cyclical conditions (and thus, ultimately, to monetary policy) in the right tail of the distribution. These results indicate that inflation is much more resilient and harder to combat when it is at the lower end of the distribution.

- Low inflation affects inflation expectations negatively – Between 2013 and 2016 there were growing signs of possible de-anchoring of long-term inflation expectations from levels consistent with the definition of price stability.[4] For instance, inflation expectations as measured by the 5-year to 10-year ahead inflation swap rate hovered around 2.3% between 2010 and 2014, but collapsed to 1.3% by end-2015. This evidence suggests a material risk of de-anchoring of inflation expectations. More solid evidence of such risk is provided in a study conducted by Natoli and Sigalotti (2017), who look at the reaction of short- and long-term inflation expectations when the former are hit by extreme negative shocks.[5] If inflation expectations are well-anchored, shocks to short-term inflation expectations should not be followed by any significant change in long-term inflation expectations. By contrast, in case a persistently low level of price dynamics induces inflation expectations de-anchoring, a negative shock to inflation expectations in the short-term is likely to be followed by a decline in long-term inflation expectations too; this should not happen, instead, in case of positive shocks. The empirical results show a sharp increase, starting in 2014, in the co-movement of long- and short-term expectations when, and only when, shocks to the latter were negative, suggesting that there was indeed an increase in the risk of de-anchoring of inflation expectations in the euro area.

  In turn, de-anchoring is undesirable for a number of reasons. Busetti et al. (2017) use a model in which agents learn from actual outcomes, and adjust their estimate of the inflation target accordingly, to explore the consequences of a de-anchoring of inflation expectations

[3] See Busetti, F., Caivano, M., & Rodano, L. (2015), "On the conditional distribution of euro area inflation forecast," Working Paper No 1027, Bank of Italy, July.
[4] De-anchoring occurs when economic agents believe that the central bank is either not able or unwilling to take inflation back to the target.
[5] See Natoli, F., & Sigalotti, L. (2017), "An indicator of inflation expectations anchoring," Working Paper No 1103, Bank of Italy, February.

from the central bank's objective.[6] The results suggest that, if expectations drift away from the target for too long, monetary policy becomes less effective and inflation and output take much longer to return to their equilibrium values.

- Negative cost-push shocks which normally are deemed to have a favourable effect on the economy may have undesirable effects on economic activity in certain situations – Neri and Notarpietro (2019) assess the macroeconomic consequences of a prolonged period of low and falling inflation when monetary policy is constrained by the zero lower bound (ZLB) on short-term nominal interest rates, the private sector is indebted in nominal terms (debt deflation mechanism) and nominal wages are rigid downwards.[7] The authors show that negative cost-push shocks that in normal circumstances would reduce inflation and stimulate output may have contractionary effects on economic activity once the ZLB interacts with the debt deflation mechanism.

Thus, there are several reasons to believe that low inflation is a danger and should be combated with determination.

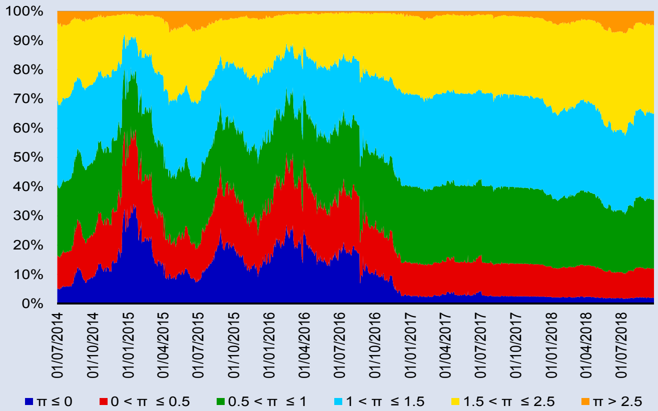
The monetary policy response of the Eurosystem and its effects on the macroeconomy

In early 2015, with policy rates close to their effective lower bound, the ECB introduced large scale asset purchases to help reignite economic activity and raise inflation back to its objective.

Although initially the asset purchase programme (APP) was met with criticism, evidence shows it was successful in helping return euro area inflation towards the ECB's definition of price stability (a year-on-year increase in the Harmonised Index of Consumer Prices for the euro area of below, but close to, 2% over the medium term), while giving a major boost to economic growth.

The best evidence of the success of the APP is that it completely dispelled deflation worries. The probability distribution of average inflation over a five-year horizon shows that in late 2014 – early 2015 markets deemed the probability of deflation to be as high as 33%; by the end of 2016 deflation worries abated, never to rise again (Figure 1). Neri and Miccoli (2018) show that the APP was also effective in reducing the sensitivity of inflation expectations to inflation surprises.[8]

Figure 1
OPTION-IMPLIED (RISK-NEUTRAL) PROBABILITY DISTRIBUTION OF AVERAGE INFLATION OVER A 5-YEAR HORIZON



Note: Based on the methodology developed in Taboga, M. (2016), "Option-implied probability distributions: How reliable? How jagged?" *International Review of Economics and Finance*, 45, pp. 453-469, and Cecchetti, S., Natoli, F., & Sigalotti, L. (2015), "Tail comovement in option-implied inflation expectations as an indicator of anchoring," Working Paper No 1025, Bank of Italy, July. Last observation: 24 September 2018.

[6] See Busetti, F., Delle Monache, D., Gerali, A. & Locarno, A. (2017), "Trust, but verify. De-anchoring of inflation expectations under learning and heterogeneity," Working Paper No 1994, European Central Bank, January.

[7] See Neri, S., & Notarpietro, A. (2018), "Collateral constraints, the zero lower bound, and the debt-deflation mechanism," *Economics Letters*, 174, pp. 144-148.

[8] See Miccoli, M., & Neri, S., (2018), "Inflation surprises and inflation expectations in the Euro area," *Applied Economics*, 51, pp. 651-662.

Estimates by Bank of Italy staff suggest that the impact of the APP on euro area real GDP and inflation was sizeable.[9] Interestingly, while it is estimated that the contribution to real GDP growth reached a peak in 2016 and then declined, the euro area economy has kept recovering in the last few years, indicating that it is increasingly becoming more resilient.

The APP stimulated economic activity and raised inflation through a number of channels. Through the portfolio rebalancing channel, asset purchases by the central bank led sellers of these assets to rebalance their portfolios towards other assets with higher expected returns, thereby increasing the price of a broad range of financial assets and reducing their yields. The compression of yields lowered the cost of external financing to both banks and non-financial corporations, resulting in a decline in bank lending rates. The cost of new loans has reached historical lows in all countries. Moreover, cross-country dispersion in lending rates has also declined. Italy proves to be an interesting case-study in this regard: whereas, prior to the introduction of the APP, the cost of financing was about one percentage point higher for Italian firms than for the average euro area firm, as from 2016 Italian firms have been paying much more similar rates to their European counterparts.

Another channel through which monetary policy impacts the economy is the so called credit channel. Albertazzi et al. (2016) find that a decline in interest rates will have a relatively stronger impact on banks in relatively weaker condition – that is, banks with a low deposit ratio, banks with a low Tier 1 ratio and/or banks with high sovereign exposure – leading them to relax their credit conditions to a greater extent than sounder banks.[10] In contrast, the impact of unconventional monetary policy is found to be stronger for sounder banks. In other words, it is likely that the APP induced banks that are more capitalised, that have a higher deposit ratio and lower sovereign exposure, to lend more money to the economy.

The effects mentioned so far were all desirable features of the programme; but could there have been other, unintended, consequences?

Unintended consequences of unconventional monetary policies

The debate around the APP in particular and unconventional monetary policies in general often points to four main potential unintended side-effects: a) over-valuation of financial assets and excessive risk-taking, b) negative impact on bank profitability and banks' balance sheet adjustment, c) increasing inequality and d) delay of fiscal consolidation and structural reforms. I will address these concerns through the help of research work and argue that most concerns are unsubstantiated.

Over-valuation of financial assets and excessive risk-taking

Concerns are often voiced that exceptionally easy monetary conditions might favour the formation of bubbles in financial asset prices.

According to the standard definition, the fundamental value of an asset is the expectation of the present discounted value of its future cash flows. The main problem with estimating the fundamental value of an asset by using the standard definition is that there is considerable uncertainty in estimating both future cash flows and the discount factors that should be used to discount the cash flows.

[9] Estimates are based on counterfactual simulations, which of course are model dependent; however, the estimates produced by the ECB using different models are remarkably similar.

[10] See Albertazzi, U., Nobili, A., & Signoretti, F.M. (2016), "The bank lending channel of conventional and unconventional monetary policy," *Working Paper* No 1094, Bank of Italy, December.

Cecchetti and Taboga (2017) use statistical procedures that aim to take into account this uncertainty, for both stock indices and investment grade bond indices.[11] Similar to other studies, they find no evidence of price distortions from accommodative policies.

Negative impact on bank profitability and banks' balance sheet adjustment

On the one hand, non-standard monetary policy measures, including the negative rate on the deposit facility, are likely to result in lower net interest income amid a flattening of the yield curve. On the other hand, increases in the market value of sovereign bonds held by banks generate capital gains. In addition, the positive effects of monetary policy measures on the economic outlook contribute to increasing intermediation volumes and to improving credit quality. Overall, the impact of recent monetary policy measures on bank profitability would be expected to be broadly neutral.

Indeed, as shown by evidence published by the ECB in its November 2016 Financial Stability Review, the overall impact of unconventional monetary policy measures on bank profitability is basically negligible both in the euro area as a whole and in all major euro area economies.[12]

Increasing inequality

Another argument that received some publicity in the early stages of the APP is that unconventional monetary loosening acts as a sort of "reverse Robin Hood". A study conducted by Casiraghi et al., (2016) analyses the distributional effects of conventional and unconventional monetary policy expansions on Italian households' income and wealth.[13] Results show that relatively larger benefits accrue to households at the bottom of the income scale, as the indirect effects via the stimulus to economic activity and employment outweigh the direct ones via financial variables. Overall, their results suggest that the effects on inequality are negligible.

Delay of fiscal consolidation and structural reforms

It is often claimed that expansionary monetary policies relieve pressure off governments and hence discourage structural reforms and fiscal consolidation. As remarked by President Draghi, available empirical evidence suggests the opposite to be the case: "lower rates tend to promote reforms, since they lead to a better macroeconomic environment" (Draghi, Frankfurt am Main, 19 October 2017);[14] this, as observed by Governor Visco, helps "the economy absorb [the] possible costs [of reforms] and maintain the necessary political drive and consensus on the need for reforming, thus making it more feasible."[15]

I will now move on to how the monetary policy stance has been reshaped in the last two years and go over the normalisation process so far.

Normalization: so far

A new indicator built at the Bank of Italy by Miccoli et al. (2017) provides a synthetic measure of inflationary pressures and can be interpreted as the probability that inflation will be 1.9% or higher

[11] See Cecchetti, S., & Taboga, M. (2017), "Assessing the risks of asset overvaluation: models and challenges," Working Paper No 1114, Bank of Italy, April.
[12] See ECB (2016), *Financial Stability Review*, November 2016.
[13] See Casiraghi, M., Gaiotti, E., Rodano, L., & Secchi, A. (2016), "A 'Reverse Robin Hood'? The Distributional Implications of Non-Standard Monetary Policy for Italian Households," Working Paper No 1077, Bank of Italy, July.
[14] This conclusion hinges on empirical evidence provided in Dias Da Silva, A., Givone, A., & Sondermann, D. (2017), "When do countries implement structural reforms?" *Working Paper* No 2078, European Central Bank, June.
[15] See Visco, I. (2015), "Eurozone central bank policy challenges and risks," *Central Banking*, 2 July.

within a given time horizon.[16] Between 2013 and 2016, the indicator, which ideally should be at 50%, was as low as 20%. It has kept improving since late 2016 and currently stands at about 40%. Although there is still space for improvement, the indicator suggests that inflation pressures are gradually building up. This fact is presumably one of the arguments that the Governing Council of the ECB kept in mind when deciding to opt for monetary policy normalization.

Another argument in favour of policy normalization is the fact that, as mentioned earlier, growth is increasingly becoming self-sustained. Economic policies (specifically, the persistence of very favourable monetary and financial conditions and the moderately expansive fiscal stance) continue to contribute significantly to economic activity. However, as from 2017, growth seems to be progressively less reliant on this form of support. This is certainly the case for Italy but holds for other economies as well.[17]

Given this evidence, in December 2016, the Governing Council of the ECB decided to start normalising policy, that is, coming back from an abnormal situation and going gradually back to a more normal set-up of monetary policy, although the so called "new normal" does not need to be the same as the monetary policy set-up before the crisis.

Concerns are often voiced that, once monetary policy is normalised, this may hurt a number of economies. However, monetary policy normalization is not a binary process; rather, it is a gradual one, which has actually been on-going in the euro area for almost two years now, with no major unfavourable impact on financial markets and the macroeconomy.

The first step in monetary policy normalization was the ECB's announcement, in December 2016, to scale back the amount of bonds it buys every month from €80 billion to €60 billion, starting April 2017. A number of other adjustments were carried out over time, including the removal of the easing bias on policy rates in June 2017, when a statement referencing further rate cuts if needed was removed from the Bank's communique, suggesting that rate cuts were no longer a possibility. In October 2017, monthly net purchases were scaled down further from €60 billion to €30 billion (starting January 2018). In June 2018 the Governing Council stated that it will reduce monthly purchases to €15 billion per month until the end of December 2018, when net purchases are anticipated to come to an end.

Amid these fine-tunings of the monetary policy stance, the official wording of the ECB has remained very cautious. It has been stated over and over again that "an ample degree of monetary accommodation is still necessary;" although net purchases are likely to come to an end in December 2018, other tools will be used to keep an expansionary monetary policy. President Draghi has repeatedly emphasised that "[f]or … a rising inflation path to materialise, we need to remain patient, prudent and persistent" (Draghi, European Parliament, 24 September 2018).

While monetary policy normalization may become a tough ride at times,[18] it has been a smooth process in the euro area so far. Developments in the differential between the euro area ten-year yield and three month interest rate – which in effect is the overall slope of the yield curve – show that market reactions have remained muted following monetary policy announcements. While

[16] Miccoli, M., Riggi, M., Rodano, L., & Sigalotti, L. (2017), "A composite index of inflation tendencies in the euro area," *Occasional Paper* No 395, Bank of Italy, September.

[17] See Bank of Italy (2018), *Annual Report* – 2017, May.

[18] This was the case in the United States in May 2013, when Federal Reserve Chairman Ben Bernanke announced that the Fed would no longer be purchasing bonds: mass global panic ensued, resulting in the famous "taper tantrum" episode.

some big movements in the slope of the yield curve were indeed observed in the last two years (when, for example, turmoil in the financial markets in the United States reverberated in the euro area), monetary policy itself did not induce any of those large swings. For instance, upon the announcement that monthly purchases were to be lowered from €80 billion to €60 billion in December 2016, the increase in the slope amounted to merely 4 basis points. Nothing happened in June 2017 when the easing bias on policy rates was removed, despite fears that the news would be badly received by the markets and fuel expectations that monetary policy normalisation would proceed faster than previously thought. Changes in the slope of the yield curve were again negligible with the reduction from €60 billion to €30 billion in purchases, with the removal of the easing bias on purchases and with the last two decisions on net asset purchases taken in 2018. Thus, movements have always been well manageable whenever the ECB has announced and taken important monetary policy decisions. This is an indication that ECB communication was effective, and that monetary policy moves were deemed consistent with the overall evolution of the macroeconomic and financial outlook.

Where do we go next?

Going forward, a risk management approach arguably remains preferable, as the risks of normalising too fast are much bigger than the risks of normalising too slow. A number of factors lead to this view, including the following:

- High uncertainty surrounds a number of key, yet unobservable, factors (for example, the level of the natural rate of interest and the size of the output gap), which makes it harder to develop robust policy advice based on these figures.

- There is a material risk of undermining the on-going economic upswing, which could easily happen if a hasty exit from the expansionary stance backfires and eventually requires reverting to a more accommodative stance; this would dent a monetary policymaker's most valuable asset, that is, her/his credibility.

- In the current circumstances, tackling upward price pressures in case exit is delayed is arguably easier than combating the eventuality of renewed downward inflationary pressures in case exit happens to be premature.

- Local financial imbalances can be tackled by means of local macro prudential policies, and should not *per se* command a change in the monetary policy stance.

Following the end of the APP, there will be two monetary policy tools (or levers) left to the monetary policymaker in the euro area – policy rates and reinvestment.

With regard to policy rates, the market does not expect them to rise anytime soon and only envisages a rise in rates in late 2019.

As to reinvestment, President Draghi recently stated that the ECB's intention is "to reinvest the principal payments from maturing securities purchased under the APP for an extended period of time after the end of our net purchases, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation" (Draghi, European Central Bank, 25 October 2018). Virtually all analysts interviewed by Bloomberg expect reinvestment to continue for at least two years and possibly even further. It is likely that the

Governing Council of the ECB will soon give more indications regarding reinvestment. To the extent that the experience of the US Federal Reserve may provide some guidance, comparing the stock of purchases by the Fed with that of the ECB, three main points stand out:

- The size of the programme (as a percentage of GDP) pursued by the ECB was not as sizeable as that of the Fed.
- The programme lasted between five and six years in the United States but was shorter in the euro area (less than four years).
- In the United States, full reinvestment lasted for approximately four years; furthermore, the decline in the stock, which started in 2017, is being carried out at a very slow pace. Thus, a long phase of reinvestment in the euro area would not be anomalous.

As QE (quantitative easing) measures are gradually unwound in both the United States and the euro area, the correlation between interest rates in Europe and in the United States, which is already very high, is likely to increase, especially for long-term rates. One risk following the removal of the QE stimulus is, therefore, that the euro area will be more open to shocks coming to long term rates from the United States. However, I think that the risk that the increase in yields may bring havoc in some countries is overstated. Taking the case of Italy, even if interest rates were to increase very fast, the debt to GDP ratio would still decline, provided growth continues and fiscal discipline is not unduly relaxed. *Per se*, an increase in yields is unlikely to be a significant source of risk.

Finally, there is the case of emerging market economies. Until recently, stress in emerging market economies was limited. Although it has risen sharply in the last few weeks it cannot be compared with the abrupt corrections in capital flows and asset prices experienced at the time of the "taper tantrum" in the United States. However, experience teaches that the situation can change rapidly and should therefore be constantly monitored.

Envoi: challenges ahead

Going forward, a number of key questions need to be tackled:

- Shall we go back to monetary policy exactly as it was prior to the crisis, with the interest rate targeting inflation below, but close to, 2%? Or should there be a change in the monetary policy strategy, considering that the natural rate of interest may remain persistently low?
- Which instruments should be retained and what would be their optimal mix?
- Which operational target(s) and framework should be pursued?
- Should the central bank balance sheet go back to the level viewed as normal in the decades before the crisis?

As a general remark, in the last few years, the macroeconomic, financial and regulatory environments have undergone major changes: this per se suggests that monetary policy does not necessarily need to go back exactly to where it was.

One important change in the economic environment is the decline in the natural real rate of interest. Estimates for the euro area and the United States suggest a trend decrease since the 1980s and point toward negative values in recent years. If indeed the real natural rate of interest were to remain around zero, the ECB main nominal policy rate should be around 2% in steady state, when inflation is at a level consistent with the definition of price stability. This may not give enough leeway to cut policy rates in response to future recessions. In such an environment, asset purchases may become one of the main ways to provide monetary policy accommodation. This would be a strong argument in favour of permanently holding asset purchases as an item in the monetary policy toolbox.

It is clear that adjusting the monetary policy set-up to this and other possible structural changes is a very complicated task, which can be successfully tackled only if solid research is available. So, to conclude where I started, let me go back to the words with which President Draghi praised the contribution of researchers to policy in the last ten years: I surmise that, given the many and challenging issues ahead, the contribution of research to policy will most likely remain just as relevant in the next ten years as well.