



**An Assessment of the Macroeconomic Forecasts for the
Maltese Economy prepared by the Ministry for Finance in
April 2015**

**A report prepared by the
Malta Fiscal Advisory Council**

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Abbreviations

CBM	Central Bank of Malta
COM	European Commission
COM WIN	European Commission Winter Forecast 2015.
ECB	European Central Bank
EPD	Economic Policy Department
ESA	European System of National and Regional Accounts
EU	European Union
GDP	Gross Domestic Product
HICP	Harmonized Index of Consumer Prices
IIP	Individual Investors Programme
IMF	International Monetary Fund
LFS	Labour Force Survey
MFAC	Malta Fiscal Advisory Council
MFIN	Ministry for Finance
MFIN APR	Forecast exercise undertaken by the Ministry for Finance in April 2015.
MFIN OCT	Forecast exercise published by the Ministry for Finance in October 2014.
NPISH	Non-Profit Institutions Serving Households
NRP	National Reform Programme
NSO	National Statistics Office
SP	Stability Programme
STG	British pound
ULC	Unit Labour Cost
USD	United States dollar

1. Introduction.

The Fiscal Responsibility Act, 2014 (Cap. 534) stipulates that the Malta Fiscal Advisory Council (MFAC) shall monitor the Government's compliance with the fiscal rules as specified in the said Act and shall "endorse, as it considers appropriate, the macroeconomic and fiscal forecasts prepared by the Ministry for Finance and provide an assessment of the official forecasts". The MFAC was set up in January 2015¹ and this report represents the first such assessment by the MFAC of the macroeconomic forecasts prepared by the Ministry for Finance (MFIN), in particular through the inputs of the Economic Policy Department (EPD) within the same ministry. Prior to the establishment of the MFAC, this exercise was carried out by the National Audit Office which was tasked by the Minister for Finance to perform such an assessment.

This report aims to provide an assessment of the overall plausibility of the macroeconomic forecast for the years 2015-2018 for the Maltese Economy and of the main assumptions which underpin the forecast estimates. The cut-off date for this forecast has been set to include data available to the EPD up to and including the 18th of March 2015. The full and final set of macroeconomic forecasts have been presented to the MFAC for review on the 14th of April 2015 and such forecasts form the basis of the Stability Programme (SP) being presented by the Government of Malta for the years 2015-2018.

This report is divided into a number of sub-sections including:

- i) An overview of the main forecasting methodology adopted in the preparation of the forecast by the EPD.
- ii) An assessment of the plausibility and application of the main underlying exogenous assumptions used within the forecast exercise.
- iii) A description of the main macroeconomic variables over the 2015-2018 period.
- iv) A comparison of the current forecasts to the most recent forecasts published by the Ministry for Finance in October 2014 within the 2015 Budget Document and to other forecasts presented by selected international and local entities.

This report has been prepared following a number of meetings which the MFAC had with the main Government institutions responsible for the preparation of the macroeconomic projections. A number of other sources of information and reports prepared on the current and expected developments within the Maltese economy have been consulted in preparation for this report. One notes the very positive feedback and full cooperation received from the various entities involved in the various meetings held by the MFAC staff.

2. The forecasting methodology.

This forecast is based on the output from a Keynesian structure type macroeconomic model managed and maintained by the EPD which produces the yearly forecasts based on inputted quarterly data. The model used is based on a number of expenditure driven functions, including also a number of identity and behavioural equations. A number of variables are treated as completely exogenous and are based on the information available to the EPD as at the set cut-off date. The error-correction methodology, developed by Engle-

¹ Refer to Malta Government Gazette Notice 33 dated 16th January 2015.

Granger², is mainly applied for the estimation of the equations within the model. The output of this forecast is used as a basis for the preparation of a number of policy documents prepared and published by the MFIN. The forecasts presented in this review reflect an updated position of the macroeconomic forecasts presented by the MFIN within the Government 2015 Budget Document published in October 2014. The macroeconomic forecasts presented in Chapter 2 of the SP is a prime output of this forecasting exercise. The National Reform Programme (NRP) presented by the Government to the European Commission (COM) on the 15th April 2015 is also based on the output of the forecast exercise.

In view of the recently published data by the National Statistics Office (NSO), all equations within the econometric model have been re-estimated and calibrated to reflect the most recent data trends for the Maltese economy. Furthermore, a number of specific sections within the model have been re-modelled. This is part of the regular updating process carried out by the EPD to ensure that the most recent developments within the Maltese economy are adequately captured by the modelling framework. The data within this forecasting round is based on the ESA 2010 methodology adopted by the NSO as from September 2014 in its preparation of National Accounts data. The results presented in the forecast also reflect the internal discussions carried out within EPD and the feedback and information gained following the various meetings held by staff from EPD with officials from the MFIN and other governmental as well as non-governmental organisations.

The forecasting exercise also involves the incorporation of ad-hoc information gained from a number of other institutions which also prepare macroeconomic forecasts for the Maltese economy. The econometric model provides the necessary systematic framework to help in the recording of all the judgemental information and knowledge gained from the interaction with the relevant entities. One positively notes that the use of expert judgement within the modelling exercise is well documented and done with an eye for detail by the economists working on the different sections of the model within EPD.

The forecasting structure is also based on a number of variables which are treated as completely exogenous to the overall system of equations within the macroeconometric model. The forecasts for such variables are taken as given and are based on estimates provided by a number of international reputable organisations. In particular, forecast estimates are sourced from the International Monetary Fund (IMF), Consensus Economics³ and the European Central Bank (ECB). Malta's small and open economy is expected to be affected significantly by developments in the international economic situation. Of particular importance to the overall forecasts are thus the estimates for developments within the international economic scenario. In view of the expected volatility of the external sector and the possible impact which this is expected to have on the Maltese economy, the fact that forecasts of such international institutions are incorporated as a base for the Maltese forecasts is deemed as a good practice. The main macroeconomic assumptions underlying the current forecasts are presented and discussed in Section 3 of this report.

² *Econometrica*, Vol55, No 2. (March, 1987), 251-278.

³ Consensus Economics is a leading international economic survey organization which polls a vast number of forecasts to derive projections for a number of key macroeconomic variables.

It is evident from the documents and information provided to the MFAC that the methodology employed by the EPD for the forecasting exercise is based on sound econometric techniques and that every effort is made to ensure that all available information to date is taken on board in the preparation of the forecasts. One highlights the detailed and well-structured processes adopted by the EPD to achieve a reliable set of assumptions which are adopted within the general modelling structure.

3. Assessment of the main assumptions underlying the macroeconomic forecasts.

This section overviews a number of variables treated as exogenous within the macroeconomic modelling framework. The expected developments within such variables are of significant importance to the projected trajectory of the economy in view of the smallness and openness of the Maltese economy. The variables treated as exogenous are mostly considered by the EPD to be determined internationally and are thus not expected to be affected by factors which are specific to the Maltese economy. Table 1 below provides a list of these variables and the relative data sources. The choice of sources of data used by EPD, mainly the ECB and Consensus Economics, is considered to be sound.

Table 1: Main macroeconomic forecast assumptions.

Main Forecast Assumptions	Data Source	2014	2015	2016	2017	2018
Short-term interest rate ⁴ (annual average)	ECB	0.18 ⁴	0.05	0.05	0.05	0.05
Long-term interest rate (annual average)	ECB	1.7	1.6	1.6	1.6	1.6
USD/€ exchange rate (annual average)	ECB + Consensus Economics	1.3043	1.1059	1.0906	1.0990	1.0990
STG/€ exchange rate (annual average)	ECB + Consensus Economics	0.7965	0.7361	0.7285	0.7283	0.7283
Real GDP Growth of main trading partners	Eurostat + Consensus Economics	1.2	1.8	2.0	2.0	2.0
Oil prices (Brent, USD/barrel)	US Energy Information Administration (EIA) + Consensus Economics	99.0	59.9	71.4	84.9	86.5

Sources: Economic Policy Department, Ministry for Finance

⁴ 0.25% with effect from 13 November 2013; 0.15% with effect from 11 June 2014; 0.05% with effect from 10 September 2014.

The forecast assumptions for the main macroeconomic variables taken in this forecast round reflect the latest economic and geo-politically developments within the main economies treated as Malta's main trading partners. It is significant to note that in view of the most recent developments in the international economic climate, the projected scenario for the variables assumed by the macroeconometric model significantly differ from the projected views in the forecasts presented by MFIN in October 2014. The assumptions adopted in this forecast have a cut-off date of 18th March 2015. It is the opinion of the MFAC that in view of the volatile international economic climate and the particular characteristics of the Maltese economy, the policy adopted by the EPD in incorporating within its forecasting assumptions the views of respected international agencies is one of prudence and is to be encouraged. This helps in setting out a reliable base on which to base the projections for the locally determined variables.

In view of the recent developments in 2015, both for the value of the euro exchange rate with respect to the US dollar and the British pound, the current EPD forecast assumes practically no change in the forecasted exchange rate from current 2015 levels. One notes that these rates significantly differ from the expected rates for this variable in the previous forecast round in October 2014. The forecasted developments in the world oil price also reflect the most recent available data. The projected prices for oil are expected to be significantly lower from the values expected back in October 2014, with prices being forecasted to increase gradually over the forecast horizon. One notes that although it is an accepted practice to technically assume a stable outlook for such variables in the outer forecast years there is a degree of risk and uncertainty associated with their realization, particularly with respect to exchange rates and interest rates.

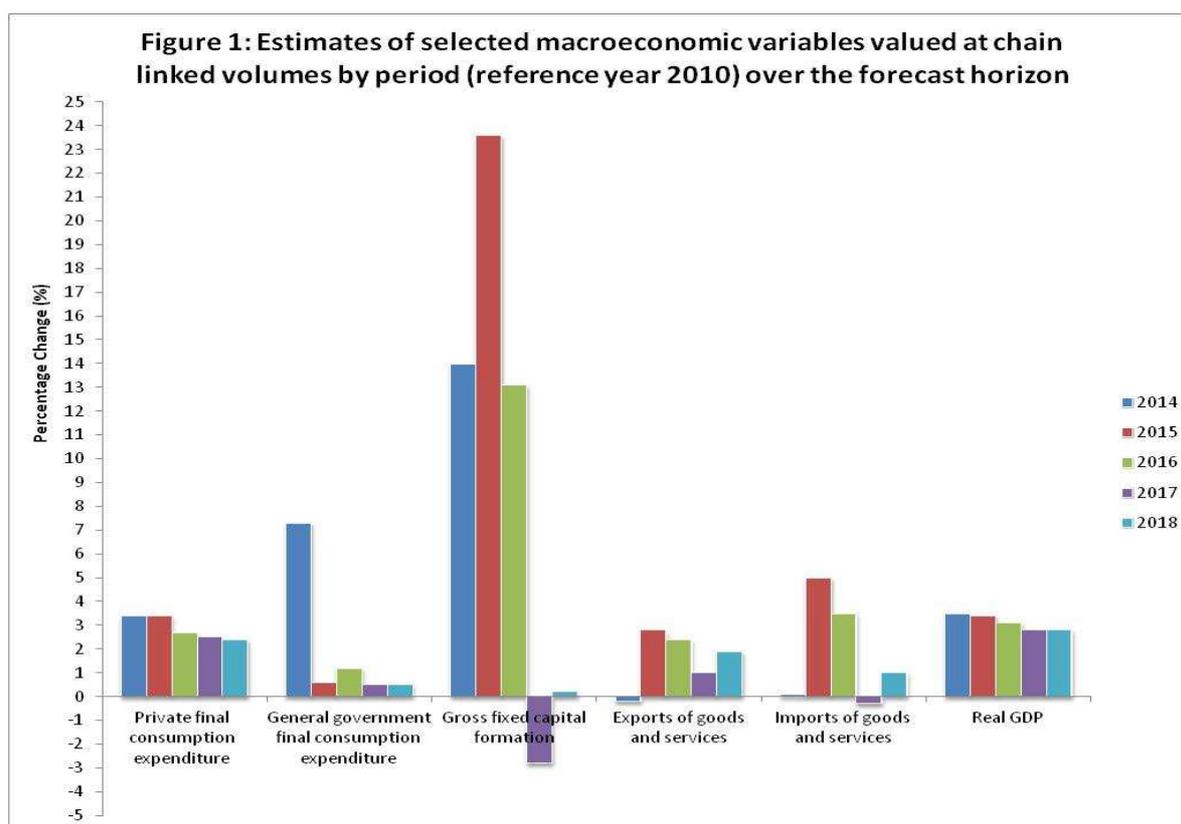
A slightly higher rate of real GDP growth is also being assumed in the current forecasts for Malta's main trading partners. This is backed by the expected developments within each of the countries which have extensive trading linkages with Malta. An overall real rate of growth of around 2.0% is being assumed for the forecast horizon years, somewhat higher in comparison to the actual figure of 1.2% registered for 2014. Whilst latest GDP projections by the COM suggest that GDP is expected to grow in every country in the EU, growth rates are expected to significantly differ between countries. Most of the projected growth within a number of countries is expected to be primarily demand driven as most of these economies reap the benefits of the lower oil prices and monetary policy initiatives aimed to stimulate economies. This is expected to have an impact on the overall growth projections for Malta's GDP given the reliance of the local economy to developments within its main trading partners. The inventory component is assumed to have a zero overall contribution to the GDP growth rate over the forecast horizon. This assumption ensures that the significant fluctuations which are normally recorded within this variable, which also includes statistical discrepancies, have no impact on the projected development in GDP over the forecast years.

The forecasts presented for evaluation also incorporate a number of variables which, although of a domestic nature, are also assumed to be determined exogenously to the system. The forecast estimates for such values are mainly based on the best available information to date and represent a certain degree of judgement. In particular, given the openness and smallness of the local economy, the assumptions set for such variables ensure that an adequate level of stability is introduced within the modelling framework and that information available on government policies and/or other initiatives planned for the local economy are adequately captured within the forecast values.

4. Description and evaluation of the macroeconomic forecasts presented within the SP.

This section provides an overview and description of the main macroeconomic variables which were forecasted for the period 2015 to 2018 by the EPD. It aims to provide a comprehensive analysis of the estimates over the forecast horizon and to evaluate the risks associated to the realization of these forecast estimates. The forecasted macroeconomic projections together with the recorded 2014 figures for the variables under evaluation are presented in Table 2 overleaf. The actualized 2014 figures provided by the EPD for the main GDP aggregates are in line with the NSO release No.046/2015 published on the 9th March 2015.

Nominal GDP growth is expected to slow down marginally in 2015, from 5.2% to 4.7%, before reverting to 5.2% in 2016. The positive outlook for nominal GDP growth is expected to be sustained over 2017 and 2018 with growth at 5.2% and 5.4% respectively. Real⁵ GDP growth in 2015 is expected to expand and grow at relatively the same positive pace of 2014, implying an anticipated real GDP growth rate of 3.4%. As may be observed from Figure 1 below, real GDP growth is expected to remain positive but increase at a marginally declining rate over the remainder of the forecast horizon, at 3.1% in 2016 and at 2.8% in 2017 and 2018.



Sources: Economic Policy Department, Ministry for Finance, National Statistics Office.

⁵ The real GDP series has been derived on the basis of the methodology of chain linking by volumes utilizing 2010 as the year of reference. It should be further noted that chain-linking by volumes gives rise to components of GDP not adding up to the aggregate real GDP series. This non-additivity, similar to that in other countries' national accounts, is due to mathematical reasons and reflects the fact that chain-linked volumes are calculated by separately extrapolating both totals and their sub-components.

Table 2: Macroeconomic projections 2015 - 2018⁶.

	2014	2015	2016	2017	2018
At current prices					
Private final consumption expenditure	3.4	4.3	4.2	4.6	4.5
General government final consumption expenditure	8.8	3.8	4.3	3.3	3.6
Gross fixed capital formation	13.7	25.9	15.3	-0.6	2.5
Exports of goods and services	-0.5	5.4	4.7	3.0	3.9
Imports of goods and services	-1.1	8.2	5.7	1.5	2.9
Nominal GDP	5.2	4.7	5.2	5.2	5.4
At chain linked volumes by year (reference year 2010)					
Private final consumption expenditure	3.4	3.4	2.7	2.5	2.4
General government final consumption expenditure	7.3	0.6	1.2	0.5	0.5
Gross fixed capital formation	14.0	23.6	13.1	-2.8	0.2
Exports of goods and services	-0.2	2.8	2.4	1.0	1.9
Imports of goods and services	0.1	5.0	3.5	-0.3	1.0
Real GDP	3.5	3.4	3.1	2.8	2.8
Contributions to real growth (percentage points)⁷					
Final domestic demand	5.7	6.3	4.6	0.9	1.5
Inventories	-0.5	0.0	0.0	0.0	0.0
Net exports	-1.6	-2.9	-1.6	2.0	1.3
Deflators					
Private final consumption expenditure	0.0	0.9	1.5	2.0	2.1
General government final consumption expenditure	1.5	3.2	3.0	2.8	3.1
Gross fixed capital formation	-0.3	1.9	1.9	2.2	2.3
Exports of goods and services	-0.3	2.4	2.3	2.0	2.0
Imports of goods and services	-1.2	3.1	2.1	1.9	1.8
GDP Deflator	1.7	1.3	2.1	2.4	2.6
Inflation rate					
HICP	0.8	1.0	1.8	2.4	2.4
Labour market					
Employment growth ⁸	3.1	2.0	1.8	1.7	1.8
Unemployment Rate	5.9	5.8	5.7	5.8	5.8
Compensation per Employee ⁹	1.9	3.1	3.7	3.5	3.5
Labour productivity ⁹	-0.1	1.8	1.5	1.3	1.2
Unit Labour Cost ⁹	1.9	1.2	2.2	2.1	2.2
Real Unit Labour Cost ⁹	0.4	-0.1	0.1	-0.2	-0.4
Potential output and Output gap					
Potential Output	2.8	3.4	3.6	3.1	2.9
Output Gap (% of potential output)	0.5	0.5	0.0	-0.3	-0.4
External balance					
External Goods & Services Balance (% of GDP)	6.0	2.3	0.8	2.9	4.3

Sources: Economic Policy Department, Ministry for Finance, National Statistics Office.

⁶ Forecast estimates represent growth rates unless stated otherwise.

⁷ Chain-linking by volumes gives rise to the contributions of GDP not adding up to the aggregate real GDP series.

⁸ The estimate for the percentage change in Employment growth in the SP (April 2015) is based upon the Eurostat Labour Force Survey (LFS) definition of total employment based on the resident population concept.

⁹ The estimate for the percentage change in Compensation per Employee, Labour Productivity, Unit Labour Cost and Real Unit Labour cost are based upon the National Accounts definition of total employment. It should therefore be noted that the figures for Compensation per Employee, Labour Productivity and Unit Labour Cost presented within Table 2 are not strictly comparable to those of past forecast exercises.

The EPD therefore expects the positive economic performance exhibited in 2014 to be sustained throughout the forecast horizon. The positive outlook for 2015 and 2016 in terms of real GDP growth is expected to be spurred on solely by the components of final domestic demand, primarily by gross fixed capital formation and private consumption expenditure. It should also be noted that the positive outlook for real GDP is intrinsically dependent on the anticipated path of the GDP deflator which is expected to accelerate throughout the entire forecast horizon. Of particular relevance here are the expected developments in both the import and export deflators.

In nominal terms, private final consumption expenditure¹⁰ is expected to accelerate from the actualized 3.4% in 2014 to 4.3% in 2015 and to retain the same pace over 2016 prior to increasing by 4.6% and 4.5% in 2017 and 2018 respectively. The main factors which over the entire forecast horizon support this expansionary path are the expected developments within the labour market, specifically the anticipated sustained growth in both total employment and compensation per employee coupled with a stable and low unemployment rate. The projected 4.3% growth in private final consumption expenditure for 2015 is to be further sustained by an anticipated increase in personal disposable income resulting from anticipated lower energy prices and a number of specific fiscal measures implemented by the Government within the Budget for 2015 aimed at further stimulating the economy. Real private final consumption expenditure in 2015 is anticipated to retain its momentum and grow at 3.4% prior to decelerating to 2.7% in 2016 and maintain similar rates of growth over the rest of the forecast horizon. Underpinning these estimates are the anticipated higher levels of disposable income and higher compensation per employee as well as the expectation of a deflator for private final consumption expenditure which is forecasted to accelerate throughout the entire forecast horizon, in line with developments in the HICP.

In 2015, growth within general government final consumption expenditure in nominal terms is expected to decelerate from the 8.8% actualized in 2014 to 3.8%. It is expected to marginally increase in 2016 to 4.3% and thereafter grow at 3.3% and 3.6% over the remainder of the forecast horizon. The more subdued growth of 2015, compared to 2014, is also underpinned by the expectation of a higher level of revenue generated from the International Investment Programme (IIP), which following national accounting conventions, would implicitly reduce the estimate of government final consumption expenditure given that this revenue is itemized as a component of market output. It should be also noted that the forecasted path of general government final consumption expenditure reflects the latest information in line with the government's fiscal consolidation plan within the SP. In real terms, the growth of government final consumption expenditure is expected to significantly decline in 2015 and expand by solely 0.6% compared to the actualized 7.3% for 2014. Government final consumption expenditure is forecasted to accelerate marginally by 1.2% in 2016 and thereafter grow by 0.5% annually over 2017 and 2018. The lower real growth rates expected over the forecast horizon are dependent on the level of commitment the government will be able to demonstrate with respect to the attainment of its medium term objectives. The more subdued growth over 2015 of 0.6% in real terms is partially also contingent on the actualization of a general government final consumption expenditure deflator which is estimated to increase by 3.2% over 2015 driven principally by a higher wage bill within the public sector.

¹⁰ It should be noted that within this report the figures presented for private final consumption expenditure also include Non-Profit Institutions Serving Households (NPISH).

Following the actualized growth of 13.7% in 2014, gross fixed capital formation in nominal terms is expected to accelerate and grow by 25.9% in 2015 and to expand by a further 15.3% over 2016 thereby retaining its role, at least in the short term, as a main driver of economic growth within the economy. Following what are anticipated to be three consecutive years of considerable expansionary growth, it is thereafter expected to decline by 0.6% in 2017 and to increase marginally by 2.5% over 2018. As may be seen in Figure 1 gross fixed capital formation in real terms is also projected to increase over 2015, from 14.0% in 2014 to 23.6% and to grow by a further 13.1% in 2016 prior to declining in 2017 by 2.8% and remaining stable over 2018. Such developments in growth rates illustrate the highly volatile nature of this final expenditure component. The significant growth expected over 2015 and 2016 is based on the expected materialization of a number of one-off public and private investments projects. The significant level of investments within the energy sector, which was primarily responsible for the growth experienced over 2014 are expected to be sustained over both 2015 and 2016. These investments relate to the construction of a new gas power plant and the conversion of another power plant to the use of natural gas as primary source of energy production. Furthermore a number of private investment projects are also expected to materialize over the forecast horizon within various sectors of the economy. These projected investment streams were incorporated by the EPD in their forecast exercise following information gained through a number of meetings with the relevant entities. It is the MFAC's opinion that the attainment of the underlying 2015 and 2016 growth estimates are contingent on the effective absorption rate of the anticipated investment. This may be viewed as one of the main elements of risk which have to be acknowledged within the evaluation of the underlying forecast estimates.

Following the contraction of both imports and exports of goods and services in nominal terms in 2014, the external sector is however expected to register positive growth rates throughout the rest of the entire forecast horizon. Exports and imports of goods and services in both real and nominal terms are expected to expand over 2015 and even in 2016. The anticipated robust increase in imports throughout 2015 and 2016 is expected to be spurred on primarily by the significant expected growth in gross fixed capital formation, combined with expanding private household consumption expenditure. Imports of goods and services are expected to grow at 8.2% (5.0% in real terms) over 2015 and by 5.7% (3.5% in real terms) over 2016. These developments are thus contingent on the actualization of a number of specific public and private investment projects, which contain a high relative import content and are expected to take place over 2015 and 2016.

Over 2015, exports of goods and services are anticipated to pick up from the contraction, in both nominal and real terms, experienced over 2014 and are estimated to grow at 5.4% in nominal terms (2.8% in real terms). This growth in exports is anticipated to be driven primarily from the economic benefits originating from the assumed depreciation of the euro and from the assumed positive outlook in terms of GDP growth for Malta's main trading partners. The depreciation of the euro is expected to play an important role with respect to export performance for a number of manufacturing and service industries as well as to help boost the tourism sector. Other factors which support the anticipated positive outlook for the tourism sector are the increases which are expected to take place with respect to both airline and cruise ship seat capacity to Malta and the investments which are anticipated to occur within the hotel sector. Of significant importance to the developments within the external sector are thus the expectations for growth within Malta's main trading partners and the underlying risks associated with the changing geo-political scenario, which could hinder the positive developments expected within the tourism sector.

Although, over 2015 and 2016, exports of goods and services in real terms are expected to expand, imports of goods and services, spurred on by a sizeable expansion in gross fixed capital formation and by higher private final consumption expenditure, are expected to grow at a faster pace. As a result of this discrepancy the contribution of the net exports component to the overall growth in GDP is expected to be negative over both 2015 and 2016.

Over the remainder of the forecast horizon exports are expected to grow at a slower pace (in both real and nominal terms), based on the anticipation that a number of non-traditional industries, which have expanded significantly over the recent years, converge towards a period of consolidation. Similarly over 2017 imports of goods and services in nominal terms are expected to grow at a more subdued pace (effectively contracting in real terms over 2017), as the gross fixed capital formation component experiences a contraction. Over 2018, it is expected to expand by 2.9% (1.0% in real terms) as gross fixed capital formation returns to a positive growth rate. This turnaround in terms of the position of the external sector results in the growth of imports being more subdued than the growth in exports which over 2017 and 2018 would, contrary to 2015 and 2016, generate a positive contribution of net exports to real GDP growth.

In 2014 the actualized growth of 3.5% for GDP in real terms was principally driven by the contribution of final domestic demand with net exports generating a negative contribution to growth. This pattern is expected to be sustained over both 2015 and 2016. The contribution to growth of final domestic demand is projected to increase marginally in 2015, from the 5.7 percentage points realized in 2014 to 6.3 percentage points and to subsequently decline to 4.6 percentage points over 2016. Underpinning the role that final domestic demand is expected to occupy within the context of the overall contribution to growth is the increase in gross fixed capital formation which is based on the expectation of substantial increases in both private and public investment projects. The actualization of these anticipated investment projects will therefore be key to the attainment of the anticipated real GDP growth forecasts over both 2015 and 2016. Over the remainder of the forecast horizon the contribution to real GDP growth attributable to final domestic demand is expected to still be positive, but to be significantly lower due to the projected developments in gross fixed capital formation. Nonetheless, one notes that over the forecast horizon private final consumption expenditure is still expected to maintain a positive contribution to real GDP growth.

In 2015 and 2016, net exports are projected to yield a negative contribution to growth of 2.9 percentage points and 1.6 percentage points, respectively. These negative contributions stem from the expectation of faster growth in imports of goods and services compared to the growth in exports of goods and services. Partially supporting this anticipated negative contribution of net exports over 2015 and 2016 is the increase in imports brought about as a result of the increase in investment projects which carry a relatively high import content. Over 2017 and 2018 the contribution to real GDP growth of the external sector is expected to turn positive as the growth in gross fixed capital formation declines, significantly effecting the growth in imports due to the assumed import content links underpinning investment developments. It should be noted that within its forecast exercise the EPD assumes that changes in inventories do not contribute materially to GDP growth, implying a zero contribution to GDP growth rates across the entire forecast horizon.

The main indicator for inflation and price stability within the economy, the Harmonized Index of Consumer Prices (HICP) is expected to remain subdued but nonetheless marginally increase from the 0.8% rate actualized in 2014 to 1.0% in 2015 and to accelerate further in

2016 by 1.8% prior to stabilizing at 2.4% over the remainder of the forecast horizon. The expectation that inflationary pressures are expected to remain subdued over 2015 is based on the anticipation of very minimal changes in the average price level of the food and services components and the actualization of the spillover effects from lower utility tariffs within the commercial sector which are expected to mitigate inflationary pressures. The acceleration of inflationary pressures over the remainder of the forecast horizon is supported by the assumed increase in energy prices and further increases in the average price level of the food and services components.

The positive developments within the labour market over 2014 are expected to remain over the entire forecast horizon. The positive rate of employment growth of 3.1% attained in 2014 is expected to grow by a further 2.0% over 2015. Employment growth is anticipated to retain this positive momentum and grow at approximately 1.8% per annum throughout from 2016 to 2018. The unemployment rate is expected to remain stable around the rate recorded for 2014 throughout the entire forecast horizon. The positive outlook for both the rate of employment growth and the unemployment rate which is anticipated over 2015 and 2016 is to be spurred on both by anticipated improvements in the economic environment as well as by the expected positive impact originating from a host of active labour market policies undertaken by the Government in relation to targeted segments of the labour market. In particular one notes policies aimed towards increasing the female participation rate as well as policies aimed at increasing employment flexibility in terms of labour hours.

As may be observed from Table 2, changes in unit labour costs are expected to be more subdued over 2015 compared to 2014 and grow by a rate of 1.2% notwithstanding the expected increase in compensation per employee throughout 2015 of 3.1%. Underpinning the anticipated slower rate of growth of unit labour costs are the expected developments with respect to labour productivity, which after the decline of 0.1% in 2014, is expected to expand and grow by 1.8% over 2015. Unit labour costs are expected to increase by around 2.0% over the forecast years driven by developments in compensation per employee and overall lower labour productivity growth rates. This implies that over the remaining years the anticipated increases in productivity are expected to lag behind average wage growth. The EPD expects the growth in unit labour costs to be effected by increases in the price of output as measured by the GDP deflator, in fact, real unit labour costs are projected to fall by an average of approximately 0.2% over the forecast horizon.

The projected developments in potential output and subsequently the output gap for the 2015-2018 periods are also included within Table 2. One positively notes that the estimates provided by the EPD are based on a methodology commonly agreed upon with the COM. The production function approach is adopted in this forecast round and data generated by MFIN are applied on the approved COM methodology. Over the forecast years, MFIN is projecting an overall gradual increase in potential output, averaging around the 3.3% level, driven by the expected improvements in investments and the labour market. The expected developments in actual GDP growth and the estimated potential output explain the trajectory for the output gap over the years 2015-2018. There is a positive output gap projected for 2015, a closing gap for 2016 and an output gap turning slightly negative over 2017 and 2018.

5. Comparison of the MFIN's October 2014 forecast for the year 2014 to the actualized data for 2014.

This section provides an evaluation of the forecasts presented by the Ministry for Finance for the year 2014 within their October 2014 forecast exercise against the actualized figures for the same year which are presented within the SP document. Data for this comparison is presented in Table 3 overleaf. Official data published on the 9th of March 2015 by the NSO (release no.046/2016) shows that the real GDP growth of 3.0% for 2014 estimated in October 2014 by the MFIN was effectively a cautious estimate given the actualized registered growth rate of 3.5%.

Although there are no significant divergences with respect to the overall impact of the contribution to real GDP growth generated by each of the three components it should be noted that there exist a number of discrepancies in terms of their overall magnitude. Compared to the actualized figures, final domestic demand was estimated to contribute marginally less and net exports to yield a marginally larger negative contribution to real GDP growth.

Table 3: A comparison of the actualized 2014 macroeconomic variables with the MFIN October 2014 forecast¹¹.

At current prices	2014	
	Actual	MFIN OCT
Private final consumption expenditure	3.4	2.7
General government final consumption expenditure	8.8	7.7
Gross fixed capital formation	13.7	14.4
Exports of goods and services	-0.5	0.1
Imports of goods and services	-1.1	0.3
Nominal GDP	5.2	5.1
At chain linked volumes by year (reference year 2010)		
Private final consumption expenditure	3.4	2.1
General government final consumption expenditure	7.3	6.0
Gross fixed capital formation	14.0	14.3
Exports of goods and services	-0.2	0.7
Imports of goods and services	0.1	1.9
Real GDP	3.5	3.0
Contributions to real growth (percentage points)¹²		
Final domestic demand	5.7	5.0
Inventories	-0.5	0.0
Net exports	-1.6	-2.0
Inflation rate		
HICP	0.8	0.7
Labour market		
Employment growth	3.1	2.1
Unemployment Rate	5.9	6.0

Sources: Economic Policy Department, Ministry for Finance, National Statistics Office

¹¹ Forecast estimates represent growth rates unless stated otherwise.

¹² Chain-linking by volumes gives rise to the contributions of GDP not adding up to the aggregate real GDP series.

Examining the individual components of final domestic demand it may be noted that this discrepancy may be attributable to a more than expected increase in both government final consumption expenditure and private final consumption in 2014 compared to the forecasted pick up. In terms of net exports it should be noted that although the contribution to growth of net exports was negative there are a number of significant discrepancies which emerge. Although both imports and exports of goods and services were expected to expand, in real terms, their performance was considerably weaker than expected. Exports of goods and services recorded a contraction of 0.2% rather than the expected expansion of 0.7% and imports of goods and services grew at the more subdued rate of growth of 0.1% compared to the expected 1.9% increase. One also observes the marginal negative contribution of 0.5 percentage points of changes in inventories to real GDP growth recorded for 2014. The practice employed by the EPD, in assuming a zero contribution rate to growth over the forecast horizon, is viewed as plausible given the high volatility exhibited by the variable over time. It is nonetheless important to note that further improvements in the treatment of this variable would be desirable and of benefit to the overall accuracy of the forecast exercise. The forecasted 2014 estimates for the unemployment rate and the HICP inflation rate are approximately in line with the actualized data. One notes a variation in the projection for employment growth of 2.1% compared to the actualized 3.1%, representing the notable progress registered within the labour market.

6. Comparison of MFIN April 2015 forecast with other institutions' expectations for the Maltese economy.

This section of the report provides a comparison of the forecasted macroeconomic variables as projected by the MFIN in the April 2015 forecast exercise to other forecast estimates prepared by other institutions, namely the COM and the Central Bank of Malta (CBM). Apart from the possible differences relating to methodologies and modeling assumptions utilized within the forecasting exercises undertaken by the different institutions, another significant cause of possible discrepancies relates to the extent of information available at the time the forecast was undertaken by the different institutions. It is important to highlight that the forecast exercise undertaken by the COM in its Winter forecast only made use of GDP statistics for 2014 available up to and including the third quarter of that year¹³. It is thus important to use caution when comparing the different forecasts as these might not be strictly and directly comparable. Furthermore, given that both the CBM and the COM Winter forecasts only present projections which extend up to 2016, this section shall thus compare and contrast the macroeconomic projections for only 2015 and 2016. This section also includes an evaluation of the forecasts prepared by the EPD in April 2015 for year 2015 evaluated against the forecast estimates generated by the EPD for the same year in October 2014. This serves to assess the implications of the main forecast revisions that were undertaken within this forecasting round. These projected macroeconomic estimates are summarized for ease of reference within Table 4 overleaf. Figures 2 and 3 also provide a graphical comparison of the differences in the estimated individual components of real GDP which are provided by the various institutions for 2015 and 2016 respectively.

¹³ The National Statistics Office publication on Gross Domestic Product 2014 (news release 046/2015) was published on the 9th March 2015.

Table 4: Comparison of macroeconomic projections.¹⁴

At chain linked volumes by year (reference year 2010)	2015				2016		
	MFIN OCT 2014	MFIN APR	COM WIN	CBM	MFIN APR	COM WIN	CBM
Private final consumption expenditure	2.1	3.4	2.3	3.2	2.7	2.4	3.0
General government final consumption expenditure	2.5	0.6	1.2	0.9	1.2	4.9	3.6
Gross fixed capital formation	4.8	23.6	8.0	8.5	13.1	0.0	3.9
Exports of goods and services	5.9	2.8	4.7	2.9	2.4	5.2	3.3
Imports of goods and services	5.5	5.0	4.7	3.2	3.5	5.0	3.7
Real GDP	3.5	3.4	3.3	3.4	3.1	2.9	2.8
Contributions to real growth (percentage points) ¹⁵							
Final domestic demand	2.7	6.3	2.9	3.5	4.6	2.3	3.1
Inventories	0.0	0.0	0.1	0.0	0.0	-0.1	0.0
Net exports	0.7	-2.9	0.3	-0.2	-1.6	0.6	-0.4
Deflators							
Private final consumption expenditure	2.1	0.9	1.2	N/A	1.5	1.9	N/A
General government final consumption expenditure	3.2	3.2	N/A	N/A	3.0	N/A	N/A
Gross fixed capital formation	-1.2	1.9	N/A	N/A	1.9	N/A	N/A
Exports of goods and services	-1.1	2.4	-1.8	N/A	2.3	1.7	N/A
Imports of goods and services	-0.8	3.1	-2.2	N/A	2.1	1.6	N/A
GDP Deflator	1.2	1.3	1.5	N/A	2.1	1.7	N/A
Inflation rate							
Overall HICP	1.5	1.0	1.0	1.2	1.8	1.9	1.9
Labour market							
Employment growth ¹⁶	1.9	2.0	2.0	2.1	1.8	1.9	1.8
Unemployment Rate	5.9	5.8	5.9	5.8	5.7	5.9	5.9
Compensation per employee ¹⁷	N/A	3.1	1.8	1.5	3.7	2.2	2.4
Unit Labour Cost ¹⁸	N/A	1.2	0.5	0.3	2.2	1.2	1.4
External balance							
External Goods & Services Balance (% of GDP)	5.3	2.3	5.5	6.0	0.8	5.5	5.8

Sources: Ministry for Finance, Central Bank of Malta, European Commission

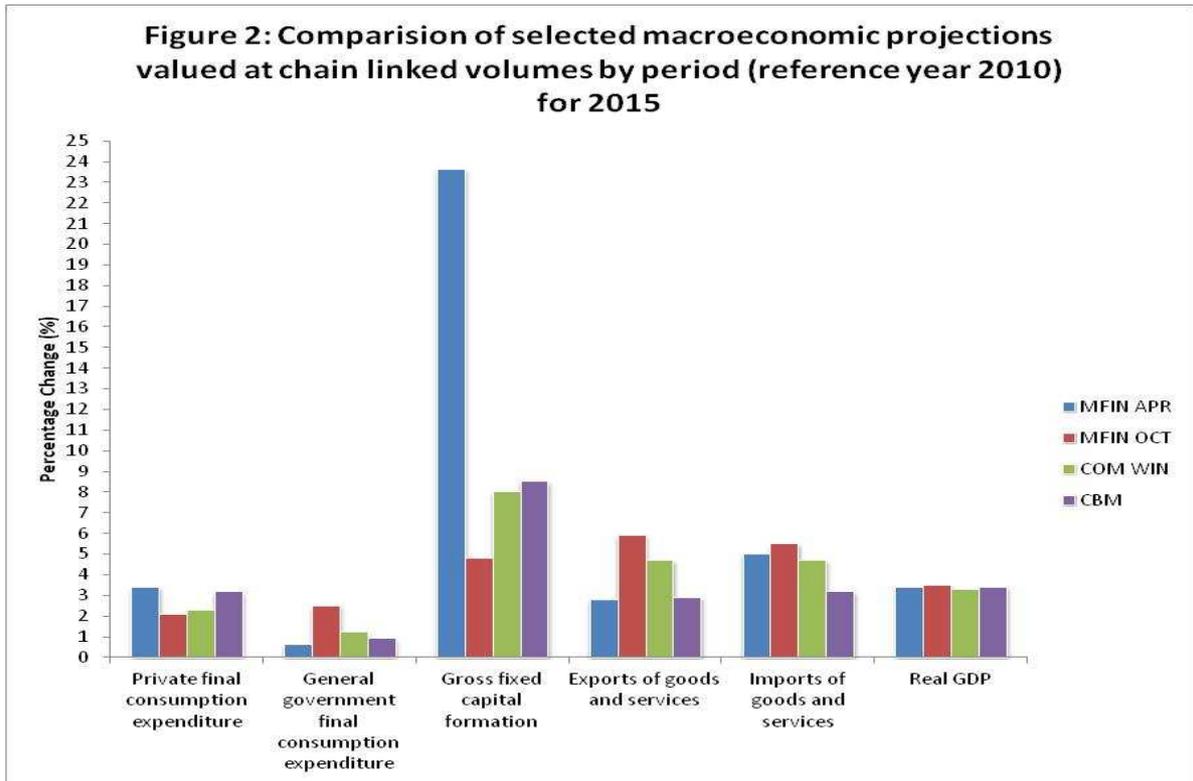
¹⁴ Forecast estimates represent growth rates unless stated otherwise.

¹⁵ Chain-linking by volumes gives rise to the contributions of GDP not adding up to the aggregate real GDP series

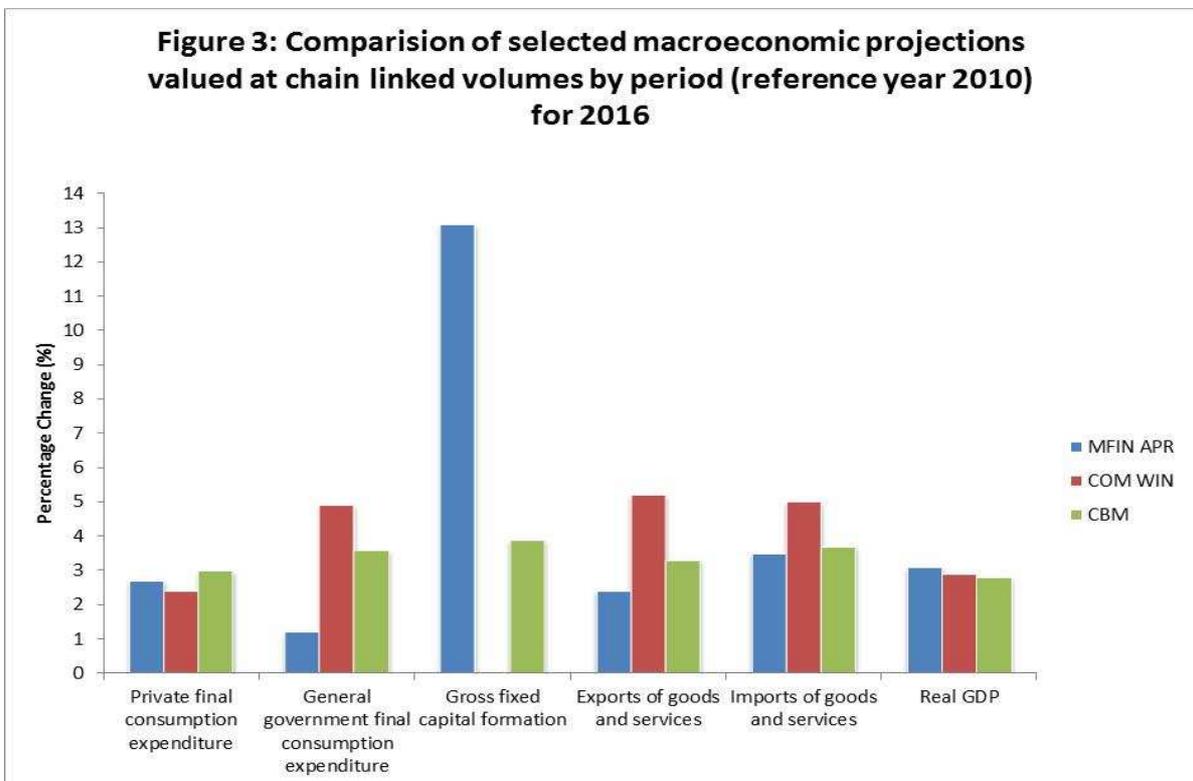
¹⁶ Figures for employment growth may not be directly comparable between the various forecast estimates of the various institutions. MFIN makes use of the LFS definition of total employment, based on the resident population concept, whilst on the other hand CBM and COM adopt the Eurostat national accounts definition.

¹⁷ The estimate for the percentage change in Compensation per Employee is based upon the National Accounts definition of total employment.

¹⁸ The estimate for the percentage change in Unit Labour Cost (ULC) is based upon the National Accounts definition of total employment.



Sources: Ministry for Finance, Central Bank of Malta, European Commission



Sources: Ministry for Finance, Central Bank of Malta, European Commission

6.1 A comparison of the macroeconomic projections in the SP (April 2015) with those generated by the European Commission in its Winter Forecast (February 2015).

The COM published its official Winter 2015 forecasts on the 5th of February 2015. The latest data related to the GDP aggregates published by the NSO carries a publication date of 9th March 2015. In this regard one notes that the forecasts being presented by the COM start from year 2014 in comparison to the forecasts presented by MFIN in the previous section of this report which start from year 2015. Furthermore, the forecast presented by the COM covers the period up to and including 2016, whilst the forecasts presented by MFIN extend up to 2018. The COM forecasts presented back in February 2015 project an increase in real GDP for 2014 at 3.3%. The actual data for 2014 published in March by the NSO sets real GDP growth in Malta at 3.5%. Real GDP is projected in the COM Winter 2015 forecast to grow at a further rate of 3.3% in 2015 and at a relatively slower rate of 2.9% in 2016.

As can be seen in Table 4, the real GDP growth forecasts presented by the COM project a moderately lower rate of growth for years 2015 and 2016 when compared to the projected rates expected for the Maltese economy by the MFIN in this April 2015 forecast. Both institutions expect the growth rates for 2016 to be positive but slightly lower compared to the growth rate for 2015. One though notes differences in the main contributors to growth as forecasted by both institutions. The COM expects a positive contribution to real GDP growth from both the domestic and the external sector of the economy in 2015 and 2016. The main contribution to GDP growth is expected to be the domestic component. This is in contrast to the forecast of MFIN which expects real GDP growth to be underpinned solely by the positive contribution of the domestic demand component. MFIN in fact projects a negative contribution from the external sector towards GDP growth. The divergence in contribution rates to GDP has to be evaluated in terms of differences in forecast expectations between the two institutions for a number of particular GDP components. This could be partly attributed to the fact that the forecasts prepared by MFIN include information from published and other ad-hoc sources which were not available to the COM prior to February 2015.

The domestic demand component contribution to GDP growth in 2015 forecasted by the COM (2.9 percentage points) is primarily driven by the expected growth rates for private consumption expenditure and gross fixed capital formation. One notes a clear difference in magnitude between the expected growth rates for these particular two components between the forecasts presented by the COM and the most recent MFIN forecasts. The contribution of the domestic demand component contribution to GDP is forecasted by the MFIN to be as high as 6 percentage points. Underpinning this estimate is the MFIN's assumed significant increase in gross fixed capital formation which is based on the latest information available to date for this forecasting round. Both institutions expect a significant contribution to GDP growth from the domestic component also in 2016, with relatively higher contribution rates forecasted by the MFIN. As expected, the developments within the domestic demand components expected for 2015 have an impact on the projected net exports contribution to GDP growth.

The COM is forecasting a marginal positive net exports contribution (0.3 percentage points) to real GDP growth. This is based on practically similar growth rates for real exports and imports of goods and services. The relatively large increases expected for both private consumption expenditure and gross fixed capital formation in 2015 by MFIN lead to a significantly higher forecast for the imports of goods and services component in comparison to the exports of goods and services component. In addition, following the developments

within a number of export oriented sectors over the latest months the MFIN has lowered the export sector's growth expectations for 2015. The divergences between the export and import components are expected to remain during 2016 in the MFIN forecasts whereas the COM is projecting that exports in real terms will grow at a higher pace in relation to imports of goods and services.

A very similar trajectory is being forecasted by both institutions in terms of price developments over 2015 and 2016. Both institutions expect the HICP rate to increase to 1.0% in 2015 and increase by close to the 2% mark in 2016. Similar growth rates are also being expected within the labour market with employment growth rates around the 2% mark for 2015 and 2016 and unemployment rates below the 6.0% mark during the same time horizon. The expected trajectory for unit labour costs, with lower rates of growth for 2015 compared to 2014 and slightly higher rates for 2016 compared to 2015, are also similar for both institutions. Such rates, however, are not strictly comparable given the differences in the respective methodologies applied for the derivation of this estimate.

6.2 A comparison of the macroeconomic projections in the SP (April 2015) with those generated by the Central Bank of Malta in its Annual Report for 2014 (published April 2015).

This section compares the projected GDP growth rates for the years 2015 and 2016 as published by the MFIN and the CBM. Both forecasts carry a cut-off date for the inclusion of data and information of the 18th March 2015. Data referred to in this section can be reviewed in Table 4 and in Figure 2 and Figure 3 which compare the projections for the two institutions. The CBM's latest macroeconomic forecasts, like the forecasts of the MFIN, expect that the Maltese economy will continue to grow in real terms at a strong pace in 2015 following the expansion registered for 2014. Both institutions expect real GDP to increase by 3.4% in 2015. The CBM forecast then projects a slight reduction in the expected growth for 2016, reaching 2.8% compared to the projected increase of 3.1% of the MFIN.

For both institutions and for both years of forecasts, the main driver of GDP growth is the domestic demand component although the magnitude of the contribution from the individual components of domestic demand differ between institutions for both years. The CBM projects a significantly more moderate rate of expansion for gross fixed capital formation expenditure over the 2015 and 2016 years when compared to the forecasts presented by MFIN. Both institutions also expect a relatively strong impetus from the private final consumption expenditure component over 2015, increasing by more than 3.0% when compared to the relatively high rate of 3.4% registered for 2014. In 2016, this component of aggregate demand is expected to remain strong and thus continue to contribute significantly to GDP growth, albeit at a slightly lower rate. Furthermore, one notes that the CBM estimate for government final consumption expenditure in both 2015 and 2016 are above those being projected by MFIN. The divergence in the expected growth rates is particularly pronounced for 2016, with the CBM expecting an increase of 3.6% compared to one of 1.2% by MFIN. These differences in the projected composition of final domestic demand also impinge on the expected developments in the overall net export sector contribution to GDP growth. Both institutions expect a negative contribution from this component to GDP growth but the magnitude of such a contribution is more negative in the MFIN forecast given the higher projected increases in private final consumption expenditure and gross fixed capital

formation. Furthermore, the assumptions on the import content for the expected domestic demand activity seem to differ between the two forecasting entities.

Developments in the exports of goods and services components over 2015 are expected to be similar for both institutions, reaching close to 3.0% growth. The expected growth rates for 2016 slightly differ though, with the CBM forecast assuming a growth rate in exports of goods and services of 3.3% for 2016 based on the expected improvements within the services component on top of the additional improved foreign demand conditions.

Assessing the developments in the inflation rate for both institutions, one notes that both expect a slight acceleration in the rate for 2015 and 2016 in comparison to 2014. These projections are based on a very similar set of common technical assumptions for oil price developments and euro exchange rate expectations. As to the expected developments in the labour market, one notes a very similar trajectory for employment growth and unemployment rates for both institutions. Care should be taken in the comparison of the employment growth figures as different definitions¹⁹ are used by the institutions when defining the employment variable.

6.3 A comparison of the macroeconomic projections in the SP (April 2015) with those generated by the MFIN in their October 2014 forecast.

This section of the report provides a comparative assessment of the forecasted macroeconomic variables for 2015 estimated by the MFIN within the April 2015 forecast exercise evaluated against the forecast estimates for the same year generated within their October 2014 forecast²⁰. This evaluation aims to highlight and describe the main forecast revisions which were undertaken since October 2014. Table 4 includes all the data referred to in this section.

One notes that although the overall rate of real GDP growth has remained relatively equal between the two forecast exercises, there have been a number of significant revisions to several of the expenditure components. These revisions have implicitly impacted the relative contribution to growth of both the final domestic demand and net exports components. Final domestic demand is now expected to be the sole driver of economic growth whilst the relative contribution of net exports has changed from a positive 0.7 percentage points to a negative 2.9 percentage points. The revised estimates for 2015 as provided in the SP 2015-2018 portray a contribution to GDP growth from the domestic demand component which is more than twice what was being anticipated back in the October 2014 forecast. This revised forecast position is underpinned primarily by the anticipation of considerable developments within the gross fixed capital formation component which are to be supported by a number of large one-off private and public investment projects and by a stronger expected growth in private consumption expenditure. To note is also the downward revision undertaken with respect to government final consumption expenditure over 2015 which reflects the latest information pertaining to the implementation of the Government's fiscal consolidation efforts.

¹⁹ Whereas MFIN utilizes the LFS definition of total employment based on the resident population concept, both the CBM and COM follow the Eurostat national accounts definition.

²⁰ It should be noted that the MFIN October 2014 forecast had a cut-off date of 15th of September 2014.

The contribution of net exports to GDP growth over 2015 within the SP (April 2015) is thus now expected to turn negative partly due to an anticipated lower growth relating to the exports of goods and services. Although both imports and exports are assumed to grow at a slower pace (in real terms), the decline in the growth of exports is of a higher magnitude thus resulting in a higher negative contribution of net exports to real GDP growth. This more subdued growth in exports of goods and services is partially supported by a slower than anticipated pick-up of exports within a number of manufacturing and service sectors. One further notes that the expected growth in imports of goods and services depends significantly on the import content weight attached to the projected developments in gross fixed capital formation and private final consumption expenditure.

Furthermore, it should be highlighted that considerable revisions have been carried out within nearly all the deflators of the various expenditure components. The deflators for gross fixed capital formation, exports and imports of goods and services within the October 2014 forecast exercise were all anticipated to decline over 2015. The revised estimates portray a considerably different scenario in which all three deflators are now expected to increase. Of particular significance is the change in the deflator for imports of goods and services, which is now anticipated to increase by 3.1%. The upward revision in the deflator for imports of goods and services is a contributing risk factor in the forecast estimates. It should be pointed out that although the deflators of the individual expenditure components have been revised significantly, the overall change in the GDP deflator is assumed at 1.3%, which is very similar to that projected in October 2014. Whilst recognizing the difficulty in accurately forecasting deflators, it is the MFAC's opinion that more effort should be made to ensure a better quality and reliability of these estimates in light of the considerable impact they can have within the context of analyzing the performance of the economy in real terms.

The figures for 2015 presented within the SP (April 2015) indicate the expectation of inflationary pressures which are to be more subdued and fall by 0.5 percentage points, compared to the October 2014 forecast. A factor which supports this revision is the change in the assumed oil price for 2015 between the two forecast exercises. Within the October 2014 forecast the assumed oil price for 2015 is nearly double that of the assumed oil price utilized within the SP (April 2015). One also records no significant divergences relating to the outlook on labour market developments for 2015 in relation to employment growth and the unemployment rate.

7. Conclusion.

This assessment recognizes that the headline GDP figures (both in nominal and real terms) as forecasted by the MFIN may indeed be achievable for the forecast years under consideration. One notes the similarity in the overall forecasted real GDP growth figures for 2015 by each of the institutions under consideration. For 2016, MFIN is projecting a more positive outlook when compared to the forecasted rates expected by both the COM and CBM. The attainment of the GDP growth rates forecasted by MFIN is highly dependent on the expected contribution of the gross fixed capital formation and private final consumption expenditure components over the period. Of importance to the current short term forecasts for 2015 and 2016 are the projected negative contribution rates from the net exports sector. The developments within this component are also very much dependent on the projected rates for private final consumption expenditure and overall investment together with the assumed relative import content linkages for each of these components. There is therefore a certain

degree of risk associated with the expected GDP forecast values in relation to the overall expected developments within the domestic demand variables as well as the external sector.

Whilst acknowledging the various elements of risk linked to the forecasts, one positively notes the structured and well documented process leading to the final preparation of the forecasts. The main assumptions underpinning the modelling exercise are based on the independent views of international reputable organizations and this is deemed as a good practice which ensures that the most recent and objective information available to date is taken into account. The process used by the EPD to internalize into the forecast all ad-hoc information available to date is a sound and well documented process which helps to reduce from the uncertainty which surrounds the overall forecast exercise.

The MFAC is however of the opinion that there is the need for more streamlining and coordination between the different Government and non-Governmental entities which provide their input and contribution to the forecast exercise. In view of the fact that the output from this forecast is used as a base for the preparation of a number of other government official documents, the need to ensure that such forecasts are prepared with enough lead time to ensure a smoother running of the overall processes is imperative.