

Gross Domestic Product 2015

National Reference Metadata in Euro SDMX Metadata Structure (ESMS)

National Statistics Office (NSO)

Time Dimension: 2015

Data Flow: MALTA_GDPACMPES_A_MT

| Concept name | |
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| 1 Contact | |
| 1.1 Contact organisation | National Statistics Office (NSO) |
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| 2 Metadata update | |
| 2.1 Metadata last certified | 30/06/2015 |
| 2.2 Metadata last posted | 30/06/2015 |
| 2.3 Metadata last update | 30/06/2015 |
| 3 Statistical presentation | |
| 3.1 Data description | National accounts are a coherent and consistent set of macroeconomic indicators, which provide an overall picture of the economic situation and are widely used for economic analysis and forecasting, policy design and policy making. |

The National Accounts Unit publishes quarterly and annual national accounts, annual sector accounts as well as supply and use tables, which are each presented with associated metadata. Annual and quarterly national accounts are compiled in accordance with the European System of Accounts - ESA 2010, Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts. The first transmission in accordance with ESA 2010 was available in September 2014 and was published as a News Release [[195/2014](#)] on 17 October 2014.

The domain consists of the following two collections: GDP and main aggregates. The data are recorded at current and real prices and include the corresponding implicit price indices. Final consumption aggregates, including the split into household, government and non-profit institutions serving households (NPISHs) consumption are recorded at current and real prices. Income, saving and net lending / net borrowing are depicted at current prices and disposable income is shown in nominal terms. Exports and imports are recorded at current and real prices and include the corresponding implicit price indices.

Breakdowns of gross value added, compensation of employees, wages and salaries, operating surplus, Gross Fixed Capital Formation (GFCF) and fixed assets and other main aggregates by industry, GFCF by products and household final consumption expenditure by consumption purposes (COICOP) are recorded at current and real prices.

Auxiliary indicators: GDP per capita. The data are published in euro (i.e. in national currency), at current prices and in volume terms. Gross domestic product - GDP at market prices - is the final result of the production activity of resident producer units. It can be defined in three ways:

- 1 Output approach - GDP is the sum of gross value added of the various institutional sectors or the various industries plus taxes and less subsidies on products. It is also the balancing item in the total economy production account.
- 2 Expenditure approach - GDP is the sum of final uses of goods and services by resident institutional units (final consumption expenditure and gross capital formation), plus exports and minus imports of goods and services. At regional level the expenditure approach is not used in the EU, because there is no data on regional exports and imports.
- 3 Income approach - GDP is the sum of uses in the total economy generation of income account: compensation of employees, taxes on production, less subsidies, gross operating surplus and mixed income of the total economy.

3.2 Classification system

The European System of National Accounts ([ESA 2010](#)) is the newest internationally compatible EU accounting framework for a systematic and detailed description of an economy. The ESA 2010 was published in the Official Journal on 26 June 2013 and was implemented in September 2014. From this date onwards the transmitted data follows ESA 2010 rules.

Annual and quarterly national accounts comprise the following aggregates: GDP and its components, final consumption aggregates, income, saving and net lending / borrowing, exports and imports. Breakdowns exist for variables by economic activity (industries), asset types and final consumption purpose (COICOP).

Economic activity:

An industry (ESA 2010, para. 2.150) consists of a group of local kind-of-activity units (KAUs) engaged in the same, or similar, economic activity. Production units in the same industry have the same main activity but may have different secondary and / or ancillary activities. ESA 2010 uses aggregation levels of the NACE Rev.2 classification to define industry breakdowns (NACE stands for Nomenclature statistique des Activités économiques dans la Communauté Européenne). NACE Rev.2 is a classification of economic activities widely used in statistics and in other domains.

Asset types:

The new transmission programme of national accounts data (annex B of Regulation (EC) No 1392/2007) foresees the following asset types (AN_F6) for quarterly data on gross fixed capital formation:

- Cultivated assets (AN.1114)
- Transport equipment (AN.11131)
- Other machinery and equipment (AN.11132)
- Dwellings (AN.1111)
- Other buildings and structures (AN.1112)
- Intangible fixed assets (AN.112)

More detailed information can be found in Annex 7.1 of ESA 2010.

Consumption purpose:

Household consumption expenditure can be classified by consumption purpose according to the COICOP classification (Classification Of Individual Consumption by Purpose, see also Commission Regulation 113/2002 of 23 January 2002). COICOP categories at two-digit level are as follows:

- Food and non-alcoholic beverages
- Alcoholic beverages, tobacco and narcotics
- Clothing and footwear
- Housing, water, electricity, gas and other fuels
- Furnishings, household equipment and routine household maintenance
- Health
- Transport
- Communication
- Recreation and culture
- Education
- Restaurants and hotels
- Miscellaneous goods and services

3.3 Coverage - sector

Annual and Quarterly national accounts refer to the whole economy, but breakdowns by sectors are provided when compiling and publishing annual sector accounts.

3.4 Statistical concepts and definitions

This domain encompasses the main aggregates of national accounts. Its main variables are: GDP and its components, income, saving and net lending / borrowing, exports and imports. The above variables are calculated on an annual basis and on a quarterly basis. Breakdowns exist for certain variables by economic activity (NACE Rev.2), by asset (GFCF) and final consumption purpose (COICOP). All national accounts variables are shown in monetary units.

The following are brief definitions of concepts and variables from the European System of Accounts 2010 (ESA 2010). In general, the ESA 2010 Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 may be referred to for more detailed explanations on methodology.

- GDP - Gross domestic product. GDP at market prices is the final result of the production activity of resident producer units (ESA 2010, para. 8.89). It can be defined in three ways:

a) GDP Output approach:

From the production point of view GDP can be measured as the sum of the following components:

GDP = Total gross value added (B1g) + Taxes less subsidies on products (D.21 less D.31)

Gross Value Added (GVA) (ESA 2010, para. 8.11) is the net result of output valued at basic prices less intermediate consumption valued at purchasers' prices. Output (ESA 2010, para. 3.14) consists of the products created during the accounting period. Intermediate consumption (ESA 2010, para. 3.88) consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process. GVA is also available broken down by industries according to NACE Rev. 2 in the breakdowns collection. GVA is calculated before consumption of fixed capital.

Taxes less subsidies on products (ESA 2010, para. 4.16, 9.43) are taxes or subsidies payable or receivable respectively per unit of some good or service produced or transacted. They include in particular value added taxes, taxes and duties on imports, and taxes such as stamp taxes on the sale of alcohol and tobacco. When calculating value added, output is valued at basic prices whereas intermediate consumption is valued at purchaser's prices, and thus the difference between taxes and subsidies on products has to be put on top of value added. The resulting GDP is then valued at market prices.

b) GDP Expenditure approach:

From the expenditure side, GDP can be measured as follows:

GDP = private final consumption expenditure (P.3 for S14+S15)
+ government final consumption expenditure (P.3 for S13)
+ gross fixed capital formation (P.51g)
+ changes in inventories (P.52)
+ acquisition less disposal of valuables (P.53)
+ exports (P.6)
- imports (P.7)

Final consumption expenditure (ESA 2010, para. 3.94-3.99) consists of expenditure incurred by residential institutional units on goods or services that are used for the direct satisfaction of the individual needs or wants or the collective needs of members of the community.

Total final consumption expenditure is the sum of final consumption expenditure by all residential units. Final consumption expenditure may take place on the domestic territory or abroad. In the system of national accounts, only the following sectors incur in final consumption: households, non-profit institutions serving households (NPISHs) and general government.

Private final consumption expenditure includes NPISHs and households' final consumption expenditure. The household sector (ESA 2010, para. 2.118) consists of individuals or groups of individuals as consumers and as entrepreneurs producing market goods and non-financial and financial services (market producers) provided that the production of goods and services is not by separate entities treated as quasi-corporations. It also includes individuals or groups of individuals as producers of goods and non-financial services for exclusively own final use. Non-profit institutions serving households (NPISHs, ESA 2010, 3.97 and 2.129) are separate legal entities serving households. They include for example trade unions, professional societies, political parties, churches, charities, sports clubs etc.

Government final consumption expenditure (ESA 2010, para. 3.98) consists of expenditure, including imputed expenditure, incurred by general government on both individual consumption goods and services, net sales of goods and services. The expenditure may be divided into government expenditure on individual consumption goods and services and into government expenditure on collective consumption services.

Gross capital formation (ESA 2010, para. 3.122-3.145) consists of gross fixed capital formation, plus changes in inventories plus acquisition less disposal of valuables. It is measured gross of consumption of fixed capital. Net capital information is calculated by deducting consumption of fixed capital from gross capital formation.

Gross fixed capital formation - GFCF (ESA 2010, para. 3.124) consists of resident producers' acquisitions, less disposals of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year. Disposals of fixed assets are treated as negative acquisitions.

Changes in inventories (ESA 2010, para. 3.146-3.153) are measured by the value of the entries into inventories less the value of the withdrawals and the value of any recurrent losses of goods held in inventories.

Valuables (ESA 2010, para. 3.154-3.157) are non-financial goods that are not used primarily for production or consumption, do not deteriorate (physically) over time under normal conditions and are acquired and held primarily as stores of values. Valuables consist of precious stones and metals, antiques and other art objects and other valuables, such as collectors' items and jewellery of significant value fashioned out of precious stones and metals.

The External balance of goods and services (ESA 2010, para. 8.68) is the difference between exports and imports of goods and services. It can be derived for goods and services separately. Exports of goods and services consist of transactions in goods and services (sales, barter, and gifts) from residents to non-residents (ESA 2010, para. 3.158). Imports of goods and services consist of transactions in goods and services (purchases, barter, and gifts) from non-residents to residents (ESA 2010, para. 3.159). Imports and exports of goods are to be valued free on board (f.o.b.) at the border of the exporting country. Imports of services are to be valued at purchasers' prices and exports of services at basic prices.

c) GDP Income approach:

GDP income components and other income measures are only available at current prices, because purely monetary flows cannot naturally be decomposed into a price and a volume component. The central variables given are related with each other according to the following equations:

GDP = compensation of employees (D.1)
+ gross operating surplus and mixed income (B.2g and B.3g)
+ taxes less subsidies on production and imports (D.2 and D.3)

Gross national income (B.5g) = GDP
+ primary income receivable from the rest of the world
- primary income payable to the rest of the world

Gross national disposable income (B.6g_nat) = Gross national income
+ current transfers receivable from the rest of the world
- current transfers payable to the rest of the world

Saving, gross (B.8g) = Gross national disposable income (B.6g_nat) - final consumption expenditure

Net lending / net borrowing (B.9) = saving, gross (B.8g)
- consumption of fixed capital
+ capital transfers receivable from the rest of the world
- capital transfers payable to the rest of the world

- gross capital formation
- acquisitions less disposals of non-financial non-produced assets

Taxes less subsidies on production and imports (ESA 2010, para. 4.14) consist of compulsory, unrequited payments, in cash or in kind, levied (taxes) or made (subsidies) by general government or by the institutions of the European Union, in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production. Taxes and subsidies on production and imports (D.2, D.3) consist of taxes and subsidies on products (D.21, D.31) on the one hand and other taxes and subsidies on production (D.29, D.39) on the other hand.

Compensation of employees (at current prices) (ESA 2010, para. 4.02) is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period. Compensation of employees consists of wages and salaries, and of employers' social contributions.

Gross wages and salaries (ESA 2010, para. 4.03 and 4.04) are recorded in cash and in kind. Wages and salaries in cash include the values of any social contributions, income taxes, and other payments payable by the employee, even if withheld and actually paid directly by the employer on behalf of the employee. Wages and salaries in kind consist of goods and services, or other non-cash benefits, provided free or at reduced prices by employers that can be used by employees in their own time and at their own discretion, for the satisfaction of their own needs or wants or those of other members of their households. Gross wages and salaries differ from compensation of employees in that the latter contains also social contributions payable by the employer.

Gross operating surplus and mixed income: operating surplus (ESA 2010, para. 8.18) is the surplus (or deficit) on production activities before the interest; rents or charges which the production units must pay or receive as borrowers or owners of assets are taken into account. It corresponds to the income which units obtain from their own use of production facilities. Mixed income (ESA 2010, para. 8.19) is the remuneration for the work carried out by the owner (or members of the family) of an unincorporated enterprise. This is referred to as 'mixed income' as it cannot be distinguished from the entrepreneurial profit of the owner.

Gross national income (at market prices) (ESA 2010, para. 8.94) represents total primary income receivable by resident institutional units. Primary income (ESA 2010, para. 8.22) is the income which resident units receive by virtue of their direct participation in the production process, and the income receivable by the owner of a financial asset or a natural resource in return for providing funds to, or putting the natural resource at the disposal of, another institutional unit. Gross National Income at market prices equals GDP minus primary income payable by resident units to non-resident units, plus primary income receivable by resident units from the rest of the world. GNI replaces and is conceptually equivalent to the ESA 1979 Gross national product (GNP) at market prices. Net national income equals Gross national income after deduction of the consumption of fixed capital.

Gross national disposable income (ESA 2010, para. 8.95) equals Gross national income (at market prices) minus current transfers (current taxes on income, wealth etc., social contributions, social benefits and other current transfers) payable to non-resident units, plus current transfers receivable by resident units from the rest of the world. Net national disposable income equals Gross national disposable income after subtracting consumption of fixed capital. It may as well be derived from Net national income by adding the balance of current transfers.

Gross saving (ESA 2010, para. 8.96) measures the portion of national disposable income that is not used for final consumption expenditure. If the consumption of fixed capital is subtracted, the result is net saving.

Net lending or borrowing of the total economy (ESA 2010, para. 8.98) represents the net resources that the total economy makes available to the rest of the world (if positive) or receives from the rest of the world (if negative).

Primary income payable to/receivable from the rest of the world. If a foreign residential unit generates a primary income in the national economy's production process, this will be payable to the rest of the world. If, on the other hand, a national residential unit engages in another national economy, it will generate primary income receivable from the rest of the world.

Current transfers payable to/receivable from the rest of the world contain current taxes on income, wealth, etc, social contributions and benefits and other current transfers (e.g. non-life insurance premiums and claims, international co-operation transfers, transfers between households, fines and penalties, lotteries and gambling etc., see ESA 2010 4.77 and following) between residential and non-residential units. They are distinguished from primary income in that they do not relate directly to production processes, but rather are of a redistributive nature.

Capital transfers payable to/receivable from the rest of the world. Capital transfers (ESA 2010, para. 4.145 and 4.146) are defined as transfers of ownership of an asset (other than inventories and cash), or the cancellation of a liability by a creditor, without any counterpart being received in return. They cover capital taxes, investment grants and other capital transfers. If the parties involved are a foreign residential unit and a residential unit, a capital transfer payable to or receivable from the rest of the world is constituted, depending on which party receives the asset.

Adjustment for the change in net equity of households in pension funds reserves (ESA 2010, para. 4.141) represents the adjustment needed to make the change in the actual reserves on which households have a definitive claim and which are fed by premiums and contributions recorded in the secondary distribution of income account which appear in the savings of households as social contributions.

Acquisitions less disposals of non-financial non-produced assets refers to land (not including buildings and structures) and other tangible non-produced assets (such as subsoil assets like coal, oil and metals), that may be used in the production of goods and services, and intangible non-produced assets (such as patents, leases, goodwill, etc.).

Consumption of fixed capital (ESA 2010, para. 3.139) represents the amount of fixed assets used up as a result of normal wear and tear and foreseeable obsolescence, including a provision for losses of fixed assets as a result of accidental damage which can be insured against. Exceptional catastrophic losses are accounted for as "other volume changes in non-financial assets" which are not included in this domain.

Population and employment: although these variables are not strictly national accounts aggregates, they are widely used in a national accounts context. Employment and its components are important economic indicators in their own right, and serve in the construction of derived indicators, turning monetary aggregates from absolute into relative indicators and thus allowing comparison across countries.

Population (ESA 2010, para. 11.05 to 11.08) consists of all persons, national or foreign, who are permanently settled in the economic territory of the country, even if they are temporarily absent from it, on a given date. A person staying or intending to stay at least one year is considered to be settled on the territory. By convention, the total population includes neither foreign students nor members of foreign armed forces stationed in a country. To be in line with ESA 2010, the National Accounts unit works population by taking average of quarter and not as at end of month.

Employment (ESA 2010, para. 11.11 to 11.16) covers all persons engaged in some productive activity (within the production boundary of the national accounts). Employed persons are either employees (working by agreement for another resident unit and receiving remuneration) or self-employed (owners

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| | of unincorporated enterprises). Figures for both population and employment are understood to be stock values, not flows. |
| 3.5 Statistical unit | <p>National accounts deals with the economy (or large sub-sectors) as a whole. Data is combined from a host of base statistics, and thus no common sampling reference frame applies. ESA 2010 identifies three types of statistical units; institutional units; local kind-of-activity units; and homogeneous units (ESA 2010, para. 2.153).</p> <p>The elementary building block of ESA 2010 statistics is the institutional unit (ESA 2010, para. 2.12); "an institutional unit is an economic entity characterised by decision-making autonomy in the exercise of its principal function". This can be, amongst others, a household, a corporation or a government agency. Institutional units producing goods and services are often engaged in a combination of activities at the same time. For national accounts purposes, the institutional units are therefore split into local kind-of-activity units (ESA 2010, para. 1.58), characterised by involvement in a single activity. These are then grouped into industries, so that a big industrial enterprise may contribute to activities in a number of different branches. For further detail, please refer to ESA 2010.</p> <p>In Malta business accounts are generally available for entire enterprises, the enterprise being the smallest legally independent institutional unit. The KAU concept is used in exceptional cases only for large enterprises which are able to provide the basic data sources necessary for the compilation of production, intermediate consumption, compensation of employees, operating surplus, employment and gross fixed capital formation. In such cases legal units are split across industries. The concept of homogeneous units is not applied in Malta.</p> |
| 3.6 Statistical population | National Accounts combine data from many source statistics. The concept of statistical population is not strictly applicable in a national accounts context. |
| 3.7 Reference area | The National Statistics Office publishes national accounts data for Malta, and transmits data to Eurostat, with the latter publishing national accounts data for European Union, euro area, EU Member States, EFTA countries, candidate countries, the United States, Japan and possibly other countries on an ad-hoc basis. Malta as a Member State has legal obligations to submit data to Eurostat. These data are the inputs for Eurostat's estimates of EU and euro area. |
| 3.8 Coverage - Time | Data at current prices is available on annual data as from 1995 to date (by derogation). Data at current, previous year's prices and chain-linked volumes are available on a quarterly basis as from the year 2000 to date (by derogation). |
| 3.9 Base period | <p>When flows and stocks are valued at the price level in the accounting period they are said to be valued at current prices (ESA 2010, para. 1.94). Valuation at real prices (ESA 2010, para. 1.99) means valuing flows and stocks at the price of a previous period (called base year). The purpose of valuation at real prices is to assess the dynamics of economic development irrespective of price movements. This is achieved by decomposing changes over time in the values of flows and stocks into changes in price and changes in volume. Price, value and volume are related via the following central equation: Value = Volume × Price.</p> <p>The calculations to transform the price levels from the current year to the base year were traditionally done in one step. A drawback of this practice is that the further one moves away from the base year, the more irrelevant becomes the price structure of the base year for the economic reality. In particular for economic activities in dynamic fields with rapidly moving prices (such as information and communication technologies) expressing growth in prices of a distant year leads to serious distortions. This is why Commission Decision 98/715/EC demands that the base year must be the previous year. This guarantees that volumes are measured using the most recent price structure. However, this also means that the base is moved ahead with the observation period, and no two years have the same price base, so that volume growth rates cannot be calculated directly from series at previous year's prices. For</p> |

example, GDP growth for the year 2001 is calculated by dividing GDP 2001 at previous year's prices by GDP 2000 at current prices. What is important to note is that both figures are, effectively, expressed in prices of 2000. GDP growth for the year 2002 is in turn calculated by dividing GDP 2002 at previous year's prices by GDP 2001 at current prices. In this case, both figures are expressed in prices of 2001. Multiplying successive growth rates starting from an arbitrary reference year's level will give a true volume time series. Due to its construction, this is called a chain-linked series. The choice of reference year in chain-linking is arbitrary and a mere convention without effect on growth rates (unlike the choice for a fixed base year, which can have a significant effect on growth rates).

Base year: the year proceeding the accounting period (t-1); the prices of which are taken as a base for the calculations of accounting periods.

Reference year: a year (currently 2010) that is used as a base for presenting chain-linked indices and volumes. After some time, the reference year can be changed. Chained indices and values change when changing the reference year, but the growth rates remain exactly the same.

While the moving price base brings more accurate description of economic developments, it comes at a price: chain-linking involves the loss of additivity (i.e. the total does not equal the sum of the parts) for all years except the reference year and the directly following year, which are the only ones actually expressed purely in prices of the reference year. For other years, chain-linked components of GDP will not sum to chain-linked GDP, and chain-linked Member States' GDP will not sum to chain-linked EU GDP. For this reason also, custom aggregations not directly supplied (such as total demand = consumption (P3) + capital formation (P5) + exports (P6)) cannot be derived by simple summation of the chain-linked components, but must be derived from summing the component series at current and at previous year's prices, calculating growth rates and chain-linking the results.

In addition, chain-linking cannot be performed directly on variables that can take both negative and positive values. Thus, no chain-linked series are provided for changes in inventories (P.52), acquisition less disposal of valuables (P.53) and the external balance (B.11, B.111 for goods only, and B.112 for services only). These are available only at current prices and at previous year's prices.

Price indices (deflators) are calculated implicitly by dividing an aggregate measured at current prices by the same aggregate measured at real prices, the result being multiplied by 100. National accounts aggregates are compiled in value (nominal terms, current prices) and volume (real prices). Prices (deflators) are implicitly derived from the other two. Some direct price observations enter into the volume compilation of individual variables, but the deflators are aggregate measures of price developments.

Implicit deflators are named after the aggregate used. Final consumption expenditure deflators, gross capital formation deflators, export and import deflators measure price movements in their respective domain of the economy.

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| 4 Unit of measure | The data are published in Euro, which refers to the national currency (with previous years (1995 to 2007) converted from former national currency i.e. the Maltese Lira to Euro using the fixed rate [LM1=0.4293] for all years). Locally National Accounts data is published in thousands but the transmission to Eurostat is generally in millions. |
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| 5 Reference Period | The accounting period is the calendar year. |
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| 6 Institutional Mandate | |
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| 6.1 Institutional Mandate - legal acts | The National Statistics Office (NSO) is Malta's official national statistical agency. It was established by order of the Malta Statistics Authority's (MSAs) Act XXIV of 2000. Article 10 of this Act determines the |
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| and other agreements | <p>functions and responsibilities of the Office, which include collection, compilation, extraction, and dissemination of official statistics in Malta.</p> <p>EU law: Council Regulation (EC) No 549/2013 refers to the European System of National and Regional Accounts (ESA 2010) and the associated transmission programme. They prescribe the way in which all Member States must calculate their national and regional accounts data and the results to be transmitted. The ESA concepts are largely in line with those of the System of National Accounts (SNA) of the United Nations, which is used worldwide. At larger regular intervals, both systems are revised. The current SNA 2008 has served as a basis for revising the European System of National and Regional Accounts which, in the form of the new ESA 2010, entered into force on 26 June 2013 and was implemented throughout the European Union as from September 2014. In addition, many specific legal bases are in place at the European level, which cover individual issues such as sector accounts or financial accounts.</p> <p>Other bases: Many international handbooks that are not legally binding, for example those published by the United Nations (UN) (especially SNA 2008), by the Organisation for Economic Co-operation and Development (OECD) and by Eurostat (e.g. Quarterly National Accounts Handbook); participation in the Special Data Dissemination Standard (SDDS) of the International Monetary Fund (IMF) to provide metadata.</p> |
| 6.2 Institutional Mandate - data sharing | Data sent via the transmission programme to Eurostat are shared with other institutions in accordance with specific agreements, notably with the ECB and the OECD. |
| 7 Confidentiality | |
| 7.1 Confidentiality - policy | <p>Regulation (EC) No 223/2009 on European statistics of 11 March 2009 stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of European statistics and the access to confidential data with due account for technical developments and the requirements of users in a democratic society.</p> <p>The National Statistics Office (NSO) is governed by the Malta Statistics Authority Act, 2000. In terms of the Malta Statistics Authority Act, Act XXIV of 2000, as amended by Act XXXII of 2007 and Legal Notices 426 of 2007 and 105 of 2008, Chapter 422, Part 1 Preliminary, confidential data means data obtained by the National Statistics Office for the production of official statistics when such data allows statistical units to be identified directly or indirectly, thereby disclosing individual information. All information supplied to the National Statistics Office is treated as strictly confidential. This information is used solely in the compilation of statistical reports. No information on individual returns can be given to any external public or private entity. For more information on confidentiality issues refer to: https://nso.gov.mt/en/nso/About_NSO/Documents/NSO_Policies/Confidentiality_of_personal_and_commercial_data.pdf.</p> |
| 7.2 Confidentiality - data treatment | If data is transmitted with a confidentiality flag, these data are not disseminated until the confidentiality flag is removed in a subsequent data transmission. Confidentiality issues arise at NACE division level in Malta. Data is flagged subject to a minimum frequency count of 3 and a dominance rule of (2,80), where aggregated data is flagged if there are less than three contributors or the largest two contribute to more than 80% of the group total. |
| 8 Release policy | |
| 8.1 Release calendar | The NSO News Releases are covered by a pre-announced release calendar. Only in the occurrence of unforeseen circumstances, News Releases appearing in the NSO calendar are subject to deferral. National data become visible on Eurostat's online database usually one to two days after their reception (processing including quality monitoring). |

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| | <p>Malta is also subscribed to the SDDS (Special Data Dissemination Standard), a monitored metadata standard, established by the International Monetary Fund (IMF) focusing on economic and financial indicators. SDDS metadata about Malta may be accessed through the following link: http://dsbb.imf.org/Pages/SDDS/CtyCtgList.aspx?ctycode=MLT while information for any combination of countries and data categories on a quarter-ahead basis may be accessed here: http://dsbb.imf.org/Pages/SDDS/CustomizedQuery/ByARC.aspx.</p> |
| 8.2 Release calendar access | <p>The News Release calendar is published on the official website of NSO: http://nso.gov.mt/en/News_Releases/Release_Calendar/Pages/News-Release-Calendar.aspx.</p> |
| 8.3 Release policy - user access | <p>In line with the Malta Statistics Authority Act 2000 and the European Statistics Code of Practice, the National Statistics Office disseminates statistics on its official website respecting professional independence, objectivity, transparency in which all users are treated equitably. In fact, the mission of the office is to produce efficiently and with minimum burden on respondents high-quality statistics that are relevant, reliable and comparable, and to disseminate them in an impartial, independent and timely manner, making them available simultaneously to all users. The news release calendar is made known to users at least three months in advance. In the case of SDDS, this is available four months in advance. Changes to news release dates are implemented immediately as specified in the NSO Policy on Dissemination: https://nso.gov.mt/en/nso/About_NS0/Documents/NS0_Policies/Dissemination_07_2014.pdf.</p> |
| 9 Frequency of dissemination | <p>Annual and Quarterly.</p> |
| 10 Dissemination format | |
| 10.1 Dissemination format - News release | <p>A regular press release is published with annual and quarterly GDP data from the output, expenditure and income approach. Annual and quarterly data are estimated and updated with the subsequent releases announced on the NSO website and can be accessed online for free.</p> <p>The National Accounts Unit publishes the following news releases:</p> <ol style="list-style-type: none"> 1 Gross Domestic Product: http://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_A1/National_Accounts/Pages/Gross-Domestic-Product.aspx. 2 Non-Financial Accounts by institutional Sector: http://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_A1/National_Accounts/Pages/Non-Financial-Accounts-by-Institutional-Sector.aspx. <p>The Regional Gross Domestic Product is published by the Regional Statistics Unit: http://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_02/Regional_Statistics_(Gozo_Office)/Pages/Regional-Gross-Domestic-Product.aspx.</p> |
| 10.2 Dissemination format - Publications | <p>There are various publications in which National Accounts data is referred to, including the 'Malta in Figures', and 'Gozo in Figures' which includes the GDP at current market prices. These are available on the NSO website: http://nso.gov.mt/en/publicatons/Pages/Publications-by-Date.aspx.</p> |
| 10.3 Dissemination format - online database | <p>All news release can be accessed for free from the NSO website.</p> <p>A time series of data presented in the GDP news release is available, in greater detail, at the online Statistical Database - StatDB - on the NSO website http://nso.gov.mt/statdb/start.</p> |

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| | Data is also available for download from Eurostat's website: http://ec.europa.eu/eurostat/data/database . |
| 10.4 Dissemination format - microdata access | National Accounts data is not provided in microdata format. |
| 10.5 Dissemination format - other | National Accounts data is provided to main data users such as the government departments and other institutions on a regular basis apart from ad-hoc requests provided to researchers upon request. |
| 11 Accessibility of documentation | |
| 11.1 Documentation on methodology | The methodology used in the National Accounts Unit is described in the Gross National Income Inventory (ESA 1995) published in April 2008. The inventory in relation to ESA 2010 will be available in September 2015. |
| 11.2 Quality management - documentation | Article 2(2) of the Council Regulation on the harmonisation of gross national income at market prices (1287/2003) stipulates that Member States forward to the Commission (Eurostat) figures for GNI and its components before 22 September each year. Article 2(3) of this GNI Regulation further stipulates that at the same time a report on the quality of GNI data shall be transmitted. The quality report is provided to Eurostat. Ad hoc questionnaires on specific issues are sent from time to time to all Member States by Eurostat. |
| 12 Quality management | |
| 12.1 Quality assurance | <p>The system of national accounts reflects a complete macroeconomic circuit. The procedure of balancing the gross domestic product may be considered central to a comprehensive system of quality assurance to accompany the process of compiling national accounts. Such a quality assurance approach distinguishes between ex-ante checks (source statistics), ongoing national accounts checks (results), ex-post checks on national accounts (methods used), and external checks and consultations (e.g. Eurostat, European Court of Auditors, IMF). Discussions with user representatives (Central Bank of Malta, Ministry for Finance) take place on every release date.</p> <p>The national accounting system is based on harmonised European rules that are laid down in a legally binding form in the European System of National and Regional Accounts (ESA 2010). In addition, they are explained in more detail in a large number of international methodology handbooks (e.g. for the compilation of quarterly national accounts or seasonal and calendar adjustment).</p> <p>Ensuring exhaustiveness of gross domestic product (GDP) and gross national income (GNI) statistics has been a major goal of Maltese national accounting and a main concern of the European Commission and the GNI Committee in the process of harmonising national accounts at the European level. To this end, several measures have been adopted: supply and use tables reconciliation, reconciliation with the business register, reconciliation with VAT and income tax data, separate exhaustiveness checks in individual areas of national accounts. Based on these exhaustiveness checks, additional amounts are calculated, if required, for the areas affected by under coverage. These additional amounts are an integral part of national accounting; their sole purpose is to ensure exhaustiveness of GDP and GNI.</p> |
| 12.2 Quality management - assessment | Due to the early calculation dates, not all source data required for national accounting are available for the first release date. For this reason, the first publication is based to a considerable extent on indicators and estimates. Initially, missing data are estimated or extrapolated on the basis of rather partly provisional indicators. Later the data basis is improved by additional statistics that are successively |

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| | integrated into the calculations. Only after about four years, almost all source statistics required are available. Consequently, the national accounts data are considered as final (subject to major revisions). |
| 13 Relevance | |
| 13.1 Relevance - User Needs | <p>Annual and quarterly national accounts data are a key instrument for economic analysis. The National Accounts Unit compiles and publishes free online quarterly sets of consistent, reliable and comparable macroeconomic accounts intended to meet the needs of government and private-sector analysts, policy makers and decision takers.</p> <p>Local users include the Central Bank of Malta, Ministry for Finance, Economic Policy Department, researchers, students, politicians, etc. Foreign users include the European Commission, European Parliament, European Council, IMF, WB, International Agencies, Credit Rating Agencies, researchers, students, etc.</p> |
| 13.2 Relevance - User Satisfaction | <p>In the first quarter of 2014, a user satisfaction survey was carried out by the National Statistics Office to measure the degree to which it meets its obligations towards its users. The first survey of this kind was held in 2002/3. Additionally, in 2007, the Office carried out a satisfaction survey among registered users of the NSO website. The results which were published in a dedicated news release can be found at: http://nso.gov.mt/en/News_Releases/View_by_Unit/Unit_01/Methodology_and_Research/Pages/User-Satisfaction-Survey.aspx.</p> <p><u>Results for the National Accounts Unit:</u></p> <ul style="list-style-type: none"> • Quality of news releases: high/good (65.6%) • Timeliness of news releases by domain: high/good (86.7%) • Usefulness of news releases by domain: high/good (78.7%) • Quality of requests by domain: high/good (53.7%) |
| 13.3 Completeness | Annual and quarterly national accounts data provide detailed breakdowns on production, consumption, investment and income. GDP data is 100 per cent complete. |
| 14 Accuracy | |
| 14.1 Accuracy - overall | The quality of the national accounting calculations is continuously checked during the calculation process so that possible shortcomings or errors can be detected and eliminated. Major elements of this quality assurance procedure include checks for completeness and plausibility, comparison of the source statistics used in national accounting and of the very results of national accounts with complementary data from other sources, reconciliation of the national accounting results with the results of supply and use tables. |
| 14.2 Sampling error | <p>The national accounts is compiled from a myriad of data series derived from administrative and external survey sources (Short Term Statistics, Structural Business Statistics, Household Budgetary Survey, etc.), which are subject to sampling and non-sampling errors. Early estimates of the accounts are based on less information than will be available later. Later information relies on more comprehensive and higher quality data sources, which can yield substantial improvements in the quality of the accounts. The process of incorporating these quality improvements inevitably leads to revisions of earlier published figures. Applying estimation methods and extrapolating time series may lead to inaccuracies. However, this is necessary to meet the user requirements regarding timeliness of the national accounts data.</p> <p>For this reason, a certain degree of inaccuracy is the price to pay for having a high degree of timeliness of the national accounts data. The quality of the national accounting calculations is continuously checked during the calculation process so that possible shortcomings or errors can be detected and eliminated. Major elements of that quality assurance procedure are the following:</p> |

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| | <ul style="list-style-type: none"> • Source statistics, produced as part of official statistics and used by national accounts, are subject to quality control in the relevant specialised departments. • In national accounts, the source data provided are checked again for completeness and plausibility. • A major quality assurance element is the far-reaching comparison of the source statistics used in national accounting and of the very results of national accounts with complementary data from other sources. • The national accounting results are reconciled with the results of supply and use tables. <p>Also, due to their great importance for financial and economic policies and as they are widely used for administrative purposes in the European Union (e.g. payments to the EU budget, calculation of Maastricht criteria), national accounts are regularly subject to international audits; for example by Eurostat.</p> |
| <p>14.3 Non-sampling error</p> | <p>Non-sampling errors are in all types of data sources and include coverage errors, measurement errors, processing errors, non-response errors, and modelling errors. All of these types of errors could have an impact on the accuracy of the NA estimates. But whereas sampling errors can (in principle) be calculated by a variety of mathematical models, it is very difficult and costly to systematically calculate the non-sampling errors. Computing the accuracy of estimates in NA is rendered even more difficult because many different data sources interact in a complex process, so that even the sampling errors cannot be calculated.</p> <p>Non-sampling errors in national accounts estimates can arise from:</p> <ul style="list-style-type: none"> • Coverage errors, such as failure to accurately represent all population units in the sample, or the inability to obtain information about all sample cases; e.g.: <ol style="list-style-type: none"> 1 Administrative sources are used in absence of surveys and censuses in a number of NACE Sections, however administrative sources cover only the Non-financial sector and thus estimates have to be done for Household sector increasing thus the non-sampling error. 2 Unit coverage in the Business Register of producers which are not obliged to register relate mainly to education, health and real estate activities. Similarly, the BR may not be exhaustive with respect to accommodation services including short-stay accommodation in apartments and similar units (NACE 55.2), other accommodation activities (NACE 55.9) and the financial sector. 3 Quarterly estimation methods are sometimes based on STS indices and import data. The use of these indicators may give rise to revisions following the integration of annual datasets in national accounts. • Response errors by respondents due to for example definitional differences, misunderstandings, or deliberate misreporting; e.g. deviations of quarterly data provided in questionnaires from the annual audited final accounts. • Mistakes in recording the data or coding it to standard classifications; e.g. The Employment and Training Corporation register data is not regularly updated with the latest NACE classification as per the Business Register. This creates inconsistencies and makes room for revisions in subsequent national accounts series. • Other errors of collection, non-response, processing, or imputation of values for missing or inconsistent data. |
| <p>15 Timeliness and punctuality</p> | |
| <p>15.1 Timeliness</p> | <p>Malta, as a Member State has a legal obligation to transmit the quarterly and annual data GDP figures to</p> |

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| | <p>Eurostat at t+70 days by derogation. On average it takes four weeks to compile the quarterly news release. Supply and Use tables on average take six months to compile and Malta is obliged to provide the data at t+54 days by derogation. Work in relation to annual institutional sector accounts is spread throughout the year and Malta is obliged to provide the data at t+85 days.</p> |
| 15.2 Punctuality | <p>At present the quarterly and annual GDP figures are provided at t+70 days (by derogation). These data are revised every quarter until all annual data sources are incorporated, and Supply and Use Tables (SUT) are finalised. News releases are generally published at 11.00 am. Late publications of the quarterly and annual GDP figures may occur at times. This is generally due to detailed checking procedures. Considering News Releases related to Gross Domestic Product, disseminated between June 2012 and June 2015, 3 out of 13 were late i.e. released after 11.10am.</p> <p>Supply and Use tables are not transmitted to Eurostat on a regular basis and are generally transmitted at t+48 due to human resources constraints. Annual institutional sector accounts should be transmitted at t+85 but Malta generally transmits the data at t+145. Late transmissions for annual institutional sector accounts are also due to human resources constraints.</p> |
| 16 Comparability | |
| 16.1 Comparability - geographical | <p>The National Accounts Unit publishes quarterly and annual national accounts, annual sector accounts as well as Supply and Use Tables, and these are compiled in accordance with the European System of Accounts - ESA 2010, Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts. This ensures consistency across EU member states.</p> <p>Regional Gross Domestic Product is published on a yearly basis in December using the latest published National Accounts data for the total economy published in early December.</p> <p>At a global level, there is far-reaching comparability of national accounts thanks to the application of the worldwide guidelines on national accounting set out in the United Nations System of National Accounts (SNA). However, the SNA is not legally binding. The structure of the new ESA 2010 is consistent with the SNA 2008.</p> |
| 16.2 Comparability - over time | <p>National accounts data using a specific methodological framework are comparable over time. Agreed methodological changes are implemented in a coordinated way and include the estimation of back series. Whenever data are not comparable over time, it is considered and treated as a "break" in series with a flag. Quarterly and annual data without breaks are provided for Malta as a whole from 1995. The quarterly data are consistently linked with the annual results.</p> <p>One of the characteristics of national accounts is the fact that, in the case of fundamental changes to methods or classifications, revisions of long time series are performed going far back, so that an optimum range of data are offered to data users.</p> <p>The comparability of national accounting results over long periods will be impaired if, in the context of major revisions whose main purpose is the integration of new concepts and / or new classifications, data are calculated backwards only for the more recent past rather than for the entire period so far covered by a long time series. In the course of the 2014 major revision, all national accounts aggregates have been revised in full detail for the whole time series back to 1995.</p> |
| 17 Coherence | |
| 17.1 Coherence - cross domain | <p>In certain cases, data from other domains of economic statistics, i.e. Balance of Payments statistics, Business statistics, Public Finance or External Trade statistics, may not be coherent with published</p> |

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| | <p>national accounts data due to different methodology or the timeliness set by other EU regulations, which are not in line with the ESA transmission programme. National GDP is coherent with Regional GDP data as at December of each year. However National GDP data is revised on a quarterly basis thereafter, while Regional GDP is only updated only once per year in December.</p> |
| 17.2 Coherence - internal | <p>Internal inconsistencies may arise because:</p> <ul style="list-style-type: none"> • The use of administrative data may differ across NACE Section, e.g. while the ETC data is used for all NACE Sections; the way it is applied varies between sections. There are NACE Sections for which actual employment is taken, and other sections for which employment growth rates are used (rather than actual figures). • Annual financial statements provide more detailed information when compared to some administrative sources, thus adjustments for ESA 2010 specifications are not performed coherently across NACE sections. • Following benchmark revisions, past Supply and Use tables are not recalibrated to the new series |
| 18 Cost and Burden | Not available. |
| 19 Data revision | |
| 19.1 Data revision - policy | <p>Revisions to statistical information are an essential bridge between the timeliness and accuracy of data. A statistical system that does not encompass revisions would soon become irrelevant, as it would not be responsive to the availability of updated data, improved methodologies and developments in the socio-economic spheres. This is especially the case in complex statistical compilations such as the National Accounts, which would require inputs from a multitude of sources and substantial computations. Revisions reflect the availability of new information as well as efforts to improve methodologies. There are usually three frequencies at which data are revised backwards, namely quarterly, annually and benchmark revisions.</p> <ul style="list-style-type: none"> • Every quarter: Data are revised until all main annual data sources are finalised and integrated in national accounts. • Every year: Data are revised until all main annual data sources are finalised and integrated in national accounts. • Benchmark revisions: These are major revisions aimed at incorporating major new data sources or methodological changes, or a change in what is being described. These imply a full backward revision of all time periods. <p>Annual estimates are fully consistent with ESA 2010 standards, and the quarterly accounts and annual accounts are fully integrated. Developments in recent years have improved the coverage and quality of quarterly estimates and strengthened this method of production. Apart from major conceptual changes, such as those that were involved with the introduction of ESA 1995 and eventually with the transition to ESA 2010, there are other revisions that arise from methodological reviews and data assessments. The decision on whether to incorporate these revisions is taken during the monthly staff meeting to ensure consistency in the approach used and also to agree on a timeframe when these revisions will take place. Since the Production Approach and the Expenditure Approach are based on independent statistical sources, revisions to one of the approaches need not necessarily imply the need for revisions in the other approach.</p> |
| 19.2 Data revision - practice | <p>National accounts data are subject to continuous routine revisions as new input data becomes available. Changes in methodology may take place as a result of implementing EC Regulations. Any such change is commented in the subsequent data release after the changes are implemented.</p> |
| 20 Statistical processing | |

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| 20.1 Source data | <p>Many sources are used to compile national accounts, including administrative data from government, censuses, business surveys and household surveys. No single survey can hence be referred to. Sources used may cover a large set of economic, social, financial and environmental items, which need not always be strictly related to national accounts. In any case, there is no single survey source for national accounts. In particular, different sources are used for calculating the different approaches of GDP mentioned above under '3.4 Concepts and definitions'. If more than one of these approaches is used, their results are usually balanced, i.e. forced to be coherent, so that a single value for GDP is obtained.</p> <p>Data for most industries are based on direct methods, i.e. sample surveys for producers and administrative records for government. Extensive use is made of the separate surveys undertaken for the various groups of industries by other units within NSO. However these surveys do not cover all sectors, so alternative sources are used to fill in the gaps. Furthermore, survey data for a few industries, such as construction, were not considered to be reliable enough, so other sources, such as income data, were used instead.</p> |
| 20.2 Frequency of data collection | Annual and quarterly. |
| 20.3 Data collection | The National Accounts unit does not engage in collection of raw data, except for very large enterprises which are contacted on a quarterly basis. The data collected is secondary data provided by other units within the National Statistics Office or other external organisations. National Accounts combine data from many statistical sources. |
| 20.4 Data validation | <p>The methodology used to check the data is typically that of comparing past trends, growth rates, and published data. Where possible data at company level is requested from the different units in order to be able to cross check figures so as to ensure consistency within the NSO. Additionally, the supply and use data (SUT) balancing exercise is carried out involving various comparisons, checks and analysis on the detailed product data received. Certain validation checks lead to investigations and subsequent changes affecting either product supply or product demand, and at times, value added.</p> <p><u>Output and Income Approach:</u></p> <p>The main variables of the output and generation of income accounts are grouped such that a visual analysis of the data for the whole time series being published is clearly visible. Gross value added (GVA) and compensation of employees are compared to past releases at 2-digit NACE and by quarter. Any significant revision is verified with source data and documented. Absolute changes in GVA and compensation of employees of +/- 1 million are cross checked with the basic data source and documented. A similar procedure is done for percentage changes in these variables. The intermediate consumption to output ratio for consecutive quarters and years is analysed at NACE Division level. This is typically consistent across years and thus an increase of +/-2% is generally verified with source data. The output approach is generally finalised one week prior to the release, however further checks are generally done given that the growth rate is derived from the output approach.</p> <p><u>Expenditure Approach:</u></p> <p>The main variables in the expenditure approach computed by the NA unit are the final consumption expenditure of households and non-profit institutions serving households (NPISHs) and gross capital formation (GCF). Household consumption expenditure is checked at COICOP 4-digit level and any revisions and absolute changes of +/- 2 million are rechecked. GFCF is particularly volatile and is therefore difficult to check. The extrapolation method used is generally verified and in case of sharp increases or decreases the import data at company level is checked.</p> <p>The final consumption expenditure of the general government is supplied by the Public Finance Unit, while exports and imports of goods and services are supplied by the BOP unit.</p> |

20.5 Data compilation

The structure of the NA compilation process starts with different types of data sources as input. These include:

- Surveys and censuses; which are under the direct control of statisticians in the National Accounts Unit
- Administrative data; are obtained from various institutions such as government, regulators, banks, corporations, and so forth
- Extrapolation and models:
 - 1 Benchmark Extrapolations
 - 2 Commodity Flow Model and Ratios; estimates made in a commodity flow context (e.g. ratios applied to figures of total supply in order to derive estimates of different use categories)
 - 3 Consumption of Fixed Capital (Perpetual Inventory Model) (CFC(PIM)) and Imputed Dwelling Services; and,
 - 4 Other Extrapolations and Models; which cover all kind of estimates based on calculation (price x quantity), and fixed percentages of data from Surveys, Censuses, or Records sources.
- Combined data; which cover data from statistical inquiries and administrative records that cannot be separated.
- Other data sources

The process includes a series of adjustments to the basic data to make them consistent with each other and bring them in line with the National Accounts concepts and methods. Adjustments include the following:

- Data Validation Adjustments
- Conceptual Adjustments
- Cut-off Adjustments
- Exhaustiveness Adjustments
- Balancing Adjustments

Data validation adjustments are adjustments to correct for problems that statisticians within the National Accounts Unit have uncovered in the basic data sources. These may relate to detailed checking of the individual companies with their financial accounts, exclusion of companies covered by separate estimates based on the financial accounts, verification of SPE status (Special Purpose Entity), and reclassification of enterprises across activities or sectors.

Conceptual adjustments are (regular) adjustments designed to bring basic data into line with ESA 2010 definitions. Common Conceptual adjustments are made:

- To include net taxes on production to ensure that the output and GVA are at basic prices,
- To include software, artistic originals and other intangible assets in GFCF,
- To exclude holding gains accounted for in changes of inventories,
- To exclude capitalised values of Research and Development,
- To exclude the value of rent on land,
- To deduct cost price of trade goods to ensure that output is expressed in terms of margins.

Cut-off adjustments are adjustments made to fill gaps due to the following Non-observed economies (Ns):

- N3 - Producers not required to register;
- N4 - Legal persons not surveyed;
- N5 - Registered entrepreneurs not surveyed;

Explicit Exhaustiveness adjustments are made under a variety of headings (depending on the terminology adopted in individual countries), but these invariably include estimates for the underground economy, the misreporting of gross output and intermediate consumption, tax evasion, VAT fraud, the smuggling of goods and other illegal activities.

- N1 - Producer deliberately not registering - underground;
- N2 - Producers deliberately not registering - illegal;
- N6 - Producers deliberately misreporting;
- N7 - Other statistical deficiencies.

Balancing adjustments are those adjustments made to the compilers' best independent estimate for a given product group in order to satisfy national accounting identities. Unlike for other adjustments there are no specific reasons for balancing adjustments.

20.6 Adjustment

Quarterly GDP time series are cleared from usual seasonal fluctuations and typical calendar effects. National Accounts compiles quarterly seasonally adjusted data in line with ESS guidelines on Seasonal Adjustment. Data is transmitted to Eurostat, but is not published locally except in aggregate form as indicated in 10.1 above.

Final results represent combined seasonally adjustment and working day adjustment including moving holiday effect. Calendar adjustment is based on the Malta's national holiday calendar.

Seasonal adjustment is performed by the software Demetra+ ver 1.04. The software was developed by the National Bank of Belgium at the request of Eurostat as a flexible tool to apply European Statistical System (ESS) Guidelines on Seasonal Adjustments. Demetra+ includes two most common seasonal adjustment methods, X-12-Arima and TRAMO/SEAT, and allows comparability of the results and diagnostics from both methods.

NSO applies model based method with two linked seasonal adjustment programs TRAMO (Time Series Regression with Arima Noise, Missing Observation and Outliers) and SEAT (Signal Extraction in Arima Time series). The programs were developed by Victor Gomez and Agustin Maravall from the Bank of Spain. More information can be found in the Demetra+ User Manual, National Bank of Poland, October 2013.

The process of seasonal adjustment follows the recommendations of the ESS Guidelines of seasonal adjustments, Eurostat 2015. Automatic selection of a model and decomposition scheme is applied together with manual model selection for the important and problematic time series. No constraints are applied to ensure consistency between raw and seasonally adjusted data.

Direct approach is performed for the three GDP approaches and Export/Import data by destination.

To ensure consistency between the aggregate and components the discrepancy is appointed to the series changes in inventories (expenditure GDP approach) and components time series which reveal seasonality (output and expenditure GDP approach).

Indirect approach is used for GNI series.

Calendar adjusted series is used for Total Gross Domestic Products (GDP) and Gross Value Added (GVA at A10 NACE rev.2 aggregation).

Seasonal and Calendar adjusted series:

- GDP output approach (series in current prices): Total Gross Domestic Products (GDP), Gross Value Added (GVA at A10 NACE rev.2 aggregation), Taxes and Subsidies on products.
- GDP expenditure approach components (series in current and real prices): Households Final Consumption Expenditure, NPISH, Government Collective and Individual Consumption,

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| | <p>Export and Imports of Goods and Services, Gross Fixed Capital Formation by Investment Product (Pi6 product aggregation), Acquisition less Disposal of Valuables, Changes in Inventories inclusive of statistical discrepancy.</p> <ul style="list-style-type: none"> • GDP Income approach components (series in current prices): Compensation of employees (at A10 NACE rev.2 aggregation), Gross operating surplus and mixed income, Taxes and Subsidies on production and imports, Wages and salaries (at A10 NACE rev.2 aggregation), Final consumption expenditure of households by durability (series in current and real prices). <p><u>GNI components</u>: Primary income receivable and payable to the rest of the world, Consumption of fixed capital.</p> <p><u>Seasonal adjusted series</u>:</p> <ul style="list-style-type: none"> • Total population, Total employees, Total self-employed, Total Unemployed • Employees and Self Employed at A10 NACE rev.2 aggregation. |
| 21 Comment | Not applicable. |