GNI MODIFIED/ GNI*

- Background to issue
- Measurement of the economy matters, is it big, small, growing well, declining, are we rich or not so rich, EU financial contributions, expectations, policy
- Gross Domestic Product, GDP is the generally accepted indicator or concept for measuring an economy

- GDP measures the total value in money of output or production, all the goods and services made in the economy
- It also measures the total amount of incomes (wages, profits etc.) generated by the production and can also be measured as the total amount of expenditure on that output
- Accounting rules and regulations

- Ensures estimates are comparable
- GDP per head of population
- The following issues arise in all economies but are particularly large and significant in Ireland
- Presence of multinationals is a big issue in interpreting the GDP figure
- GDP includes multinational profits

- But….. These profits are repatriated (?)…. So Irish residents do not get the use or benefit of them
- GDP has always overstated our level of income and resources
- A more appropriate measure is Gross National Product which is all the incomes accruing to Irish residents

- Issue of interpreting the national account statistics to indicate the size or income level of the economy is not new, it is longstanding
- Dealt with by referring to GNP which is GDP less net factor income from the rest of the world
- Net: Outgoing and incoming profits

- 2015 new developments, enormous increase in GDP and GNP
- Leprechaun economics (official figures fairy tale relative to economic reality)
- Unfair term because CSO follows international rules on statistics
- Arose because of various MN activities

- 2015 current prices GDP+34.7%. GNP +22.6%
- Constant prices GDP +25.2%, GNP +13.7%
- Is it likely that Irelands output increased by one quarter in a single year?
- Productivity implications

- GNP correction of GDP already used but now inadequate
- View that additional correction or interpretation should be introduced
- Increased level of globalisation around 2015
- CSO economic statistics review group
- Report Dec 2016

- Facts CSO data, table
- New concept, Gross National Income modified, GNI*
- GNI is almost the same as GNP
- Difference is EU subsidies and EU taxes
- But need to modify/adjust GNI
- Three adjustments all to do with globalisation

- Scale of the difference
- Small, then of little consequence
- Large, then more relevant
- Every economy has same measurement issues but large scale issue in Ireland due to degree of MN presence and globalisation

- 2020 GNI* is only 55.8% of GDP
- GNP 75.8% of GDP
- 2015 GNI* was 61.9% of GDP
- Other measures of size, population, employment, area,
- Limitations with all of these

- Policy implications
- Reality unchanged
- Number of people in jobs
- Wages and salaries
- Level and quality of public services
- Also note that GDP was always problematic as a measurement of the economy due to repatriation of profits

- Much economic analysis and interpretation is through ratios/fractions
- Denominator and numerator
- GDP often used as the denominator
- GDP used as a performance benchmark
- Positive and negative consequences/implications
- Not all bad

- GDP per person is an indicator of income per head and how rich/poor a country is
- Look at CSO Measuring Irelands Progress tables 2.2 and 2.4 for income level
- On GDP basis Ireland is second richest in EU after LUX and far ahead of the rest

- On GNI* Ireland is 8th richest, still well off but very different to GDP ranking
- Debt and borrowing to GDP ratio %
- Public exp/tax to GDP, aggregate or sectoral e.g.
- Sector exp is 20 GDP is 100, sector gets 20% of exp which is low by EU standards

- Immediate implication is that exp should increase but……..
- If GNI* IS A TRUER INDICATOR OF OUR RESOURCES OR WEALTH????
- 20 relative to 55.8=35.8%.... Which might be very high or high by EU standards and can raise other questions

- Public expenditure in 2022 will be around €90 billion, is this high or low
- Measure as a % of resources, % of GDP
- EU 46.6%, Euro area 47.0%....2019
- % Belg 52.1, Fra 55.4, Fin 53.2, Swe 49.3, Den 49.2%, Ger 45.2,
- Ireland 24.5%...way out of line
- Ireland as % of GNI* 40.5%

- Overall expectations, guidelines
- First step is often to compare ourselves with other country position
- are we a low tax or high tax economy?
- Critical issue, not always a clear and exact answer
- Activity per head as an indicator

- Task
- From the CSO website find the data which shows the relationships between GDP, GNP, GNI MODIFIED ETC and examine scale of difference
- https://www.cso.ie/en/releasesandpublications/ep/p-nie/nie2020/mgni

Circular flow

- CONCEPT THAT PRODUCTION GENERATES INCOME…….. AND INCOME ALLOWS SPENDING ……AND SPENDING ABSORBS OUTPUT……PRODUCTION CONTINUES AND INCOME CONTINUES
- EQUILIBRIUM

Circular flow

- LEVEL OF NATIONAL INCOME/GDP IS SUSTAINED FROM PERIOD TO PERIOD
- A GIVEN GDP Y NEEDS AN EQUAL LEVEL OF AD TO SUSTAIN ITS CONTINUED PRODUCTION
- IF AD IS LESS THAN GDP(Y) SOME OF THE Y IS NOT SOLD AND PRODUCERS WILL ADJUST Y DOWNWARDS

- SIMPLE MODEL
- ASSUME ONLY HOUSEHOLDS AND FIRMS
- FIRMS HIRE LABOUR ETC FROM HOUSEHOLDS
- FIRMS GIVE INCOMES TO HOUSEHOLDS

- HOUSEHOLDS SPEND INCOME AND BUY OUTPUT FROM FIRMS
- IF ALL INCOME IS SPENT THERE IS SUFFICIENT DEMAND TO ENCOURAGE THE CONTINUED PRODUCTION OF THE Y
- BUT…….LEAKAGE FROM FLOW BACK TO FIRMS

- SAVINGS…..PEOPLE DO NOT SPEND EVERYTHING
- PROBLEM
- OTHER SOURCE OF AD…INJECTION
- INVESTMENT
- IF INTENDED I IS EQUAL TO S THEN WE HAVE SUFFICIENT AD

- ADD IN OTHER COMPLICATIONS
- GOVERNMENT
- TAXATION AND EXPENDITURE
- FOREIGN SECTOR
- IMPORTS AND EXPORTS
- GDP------INCOME-------DISPOSABLE INCOME-------SPENDING-------- INDIRECT TAXES----------IMPORTS

- LARGE LEAKAGES FROOM THE INITIAL INCOME
- EXPORTS , GOVT EXPEND, INVESTMENT
- TO MAINTAIN GDP NEED ALL LEAKAGES TO BE MATCHED BY INJECTIONS
- SIMPLIFYING ASSUMPTIONS Y=GDP

National income determination

- Supply and demand side to macro economy level of activity
- Supply, potential GDP, determined by supply factors, labour, skills, entrepreneurship, investment, capital intensity, infrastructure, technology
- Output has to be purchased…demand
- Aggregate demand, C, I, G, X, -M

- Assume…constant potential gdp…nat y=gdp…simplifications
- Circular flow, output creates income which facilitates expenditure
- Withdrawals, injections, S,T,M,I,G,X
- Equilibrium nat y, Yt=Yt+1=Yt+2=….Ytn
- Nothing special about equil Y except that shows conditions for Y to be maintained

- W=J
- Not expected that each pair would balance
- Not expected that W=J at a desired Y
- Policy…..aggregate demand management, counter cyclical policy, stabilisation policy
- Government responsible for macro level of activity

- Will eventually reach a level of Y which matches level of Q, equilibrium but that equil may be associated with undesirable situations such as high unemployment or balance of payments problems
- Desirable to have an equil Y which is also satisfactory for other macro issues

- Why not in a particular time period…S=I….boom we spend, save less, supports I, recession we are cautious and save and enterprise is reluctant to invest
- X=M very different determinants of each, X=f(foreign demand, competitiveness, domestic firms)….M=f(domestic demand)

- G=T……boom G<T……recession G>T (unless change policy with different G and T polices)
- No reason to expect W=J at a desirable level of Y (EG HIGH EMPLOYMENT)

- Keynesian economics
- 1930s
- Previously, classical view, recession, unemployment, wages pushed down, eventually employment increases as demand for labour increases
- Keynes….this may take a long time…in long run we are dead….intervene to accelerate recovery

- Govt has means, fiscal, lower taxes, increase expenditure
- Macro objectives, growth, full employment, external balance, inflation
- Model
- Exogenous
- Endogenous

- Says Law
- Act of production leads to income which is spent and buys the output, ie supply creates its own demand
- See from circular flow that is not the case, leakages from flow of income into purchases

- LIMITATIONS TO AgD Management
- BORROWING/FINANCES
- EXPERIENCE OVER TIME
- TIME LAGS
- B/P
- TYPE OF UNE
- CROWDING OUT
- UNCERTAINTIES
- IDENTITIES AND EQUATIONS
- MULTIPLIER

Model and equations

- NATIONAL INCOME/GDP/GNP
- POTENTIAL AND ACTUAL Y
- GIVEN POTENTIAL
- AD
- COMPONENTS
- Y=C+I+G+X-M
- MODEL
- C=f(INCOME)
- C=f(Y disp)
- AS Y RISES C RISES ALSO
- MPC

- CHANGE IN Y CAUSES CHANGE IN C
- C FUNCTION
- VARIOUS FORMULATIONS
- CURRENT Y/PERMANENT Y
- S=F(Y)
- MPS
- SAVINGS FUNCTION
- M=F(Y)

- MPM
- IMPORT FUNCTION
- VALUES OF C, S, M DETERMINED IN MODEL
- SAME FOR T
- VALUES OF G, I, X DETERMINED BY OTHER INFLUENCES
- EXOGENOUS AND ENDOGENOUS

- W/J DIAGRAM
- EXP/Y DIAGRAM
- EQUIL Y, Yt=Yt+1=Yt+2……..
- Y sustained
- W=J
- Y=EXP
- AD MANAGEMENT
- Yequil LESS THAN FULL EMPLOY
- INCREASE G AND RAISE Y EQUIL
- LOWER T

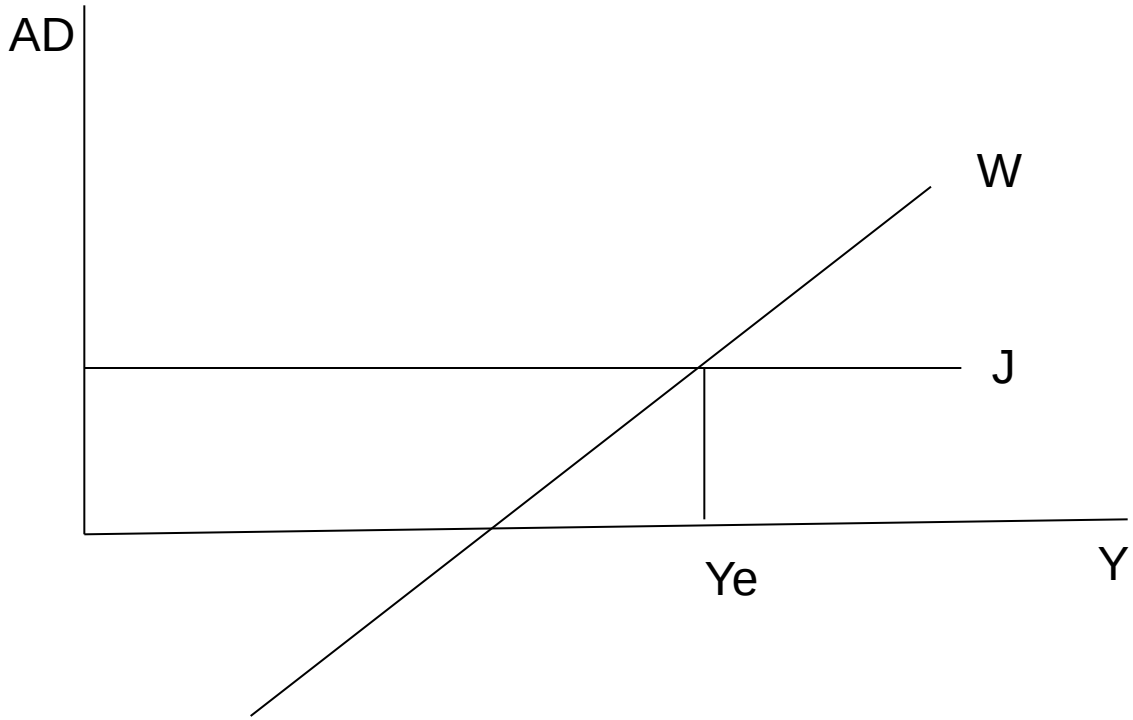
- **ILLUSTRATIONS OF AD, EQUATIONS AND EQUILIBRIUM**
- **Y=C+I+G+X-M**
- **EQUIL Y WHERE Y =AD**
- **C= a+b(Ydisp)…CONS FUNCT.**
- **IF I=50, G=80, X=40, M=30, (EXOG)**
- **T=30%, MPC = 0.8 , a= 40**
- **WHAT IS EQUIL Y?**
- **APPROACH IS THAT A CERTAIN C COMES FROM Y AND THE OTHER SOURCES OF AD ARE EXOGENOUS**

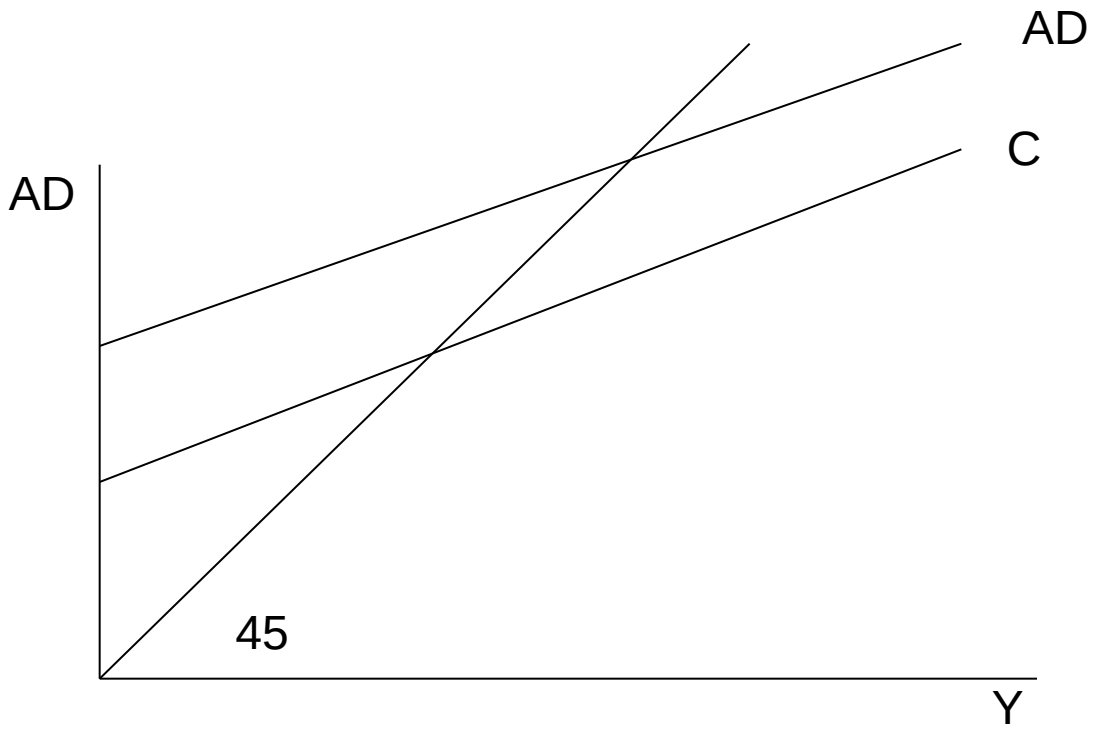
- Y =C+I+G+X-M
- C=a+b(Yd)
- C= 40+.8(Yd)
- C= 40+.8(Y-.3Y)
- C=40+.8(.7Y)
- C=40+.56Y
- Y= 40+.56Y+I+G+X-M
- Y= 40+.56Y+50+80+40-30
- Y= 40+.56Y+140
- Y=.56Y+180
- .44Y=180
- Y=409
- BASED ON BEHAVIOUR IN THE ECONOMY EQUIL Y ARISES AT LEVEL OF 409
- CHECK WHAT IS THE LEVEL OF AD WHEN Y=409

- IF Y IS AT EQUIL IT MUST BE 409
- IF Y= 409
- Yd= .7 TIMES 409=.7(409)
- C IS 40 PLUS .8 TIMES .7(409)
- C= .56(409) PLUS 40
- C=229+40
- AD=269+I+G+X-M
- AD=269+140
- AD=409
- AD=Y
- EQUIL

diagram

- diagram




AD
AD
C
45
Y

Multiplier

- Multiplier refers to the ratio of the change in GDP/GNP from one equilibrium to the next caused by a change in INJECTIONS (components of AD)
- Eg change in investment, change in exports will cause change in GDP possibly by more than the exports or investment changes, hence multiplier

- Fiscal multiplier refers to change in G or T and effect on GDP
- Other multipliers, investment, money
- Applies to both ups and downs
- Relate to AD management or counter cyclical policy
- Concept

- Government spends additional €1b on roads construction
- Money received by firms
- Firms pay wages and salaries etc which is partly spent on other goods and services increasing output
- Recipients of this spend part and generate increased output

- This process continues on until all the initial injection is withdrawn
- Ratio of combined changes in GDP divided by the change in injection is the multiplier
- From fiscal policy expansion measure the higher the multiplier the better
- In closed economy all except savings is passed on to next round of expenditure

- Multiplier is large in this case
- Textbook example mps=.25 and mpc=.75
- Stages of increased consumption 750 (.75 of 1000), .75 of .75 of 1000, .75 of .75 of .75 of 1000 and so on
- 1+ mpc+mpc(mpc)+mpc(mpc)(mpc)
- Geometric series
- 1 divided by (1-mpc)

- Passed on part will be low due to T and M
- Multiplier will therefore be lower than previous example
- Eg Leddin and Walsh page 91
- Mps=.26, mpt=.24, mpm=0.4
- 1 divided by 0.9= 1.11
- Higher or lower depending on fiscal measure, eg tax reduction versus expenditure increase, type of expenditure increase, infrastructure and s/w

- High multiplier increases the attractiveness and impact of fiscal policy to boost (or lower) aggregate demand
- Does not change fundamental position of GOVT role in managing AD and the various criticisms but does change scale of impact and attractiveness
- Eg new borrowing and increased tax revenue

- Formulae
- 1 divided by 1-MPW
- 1 divided by MPC
- MPC=1-MPW
- CROWDING OUT
- IRISH LITERATURE AND SIZE OF MULTIPLIER

- IFAC Fiscal Assessment Report 2013 april p80
- NERI working paper 2013 no.10. dec Rory O Farrell
- ESRI QEC 2014 Aut special article D Cronin and K Mc Quinn
- General issues about AD management and specific issues abut multiplier