

University of Illinois  
Macroeconomic Principles - Econ 103 - Spring 2013  
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Additional Reading 2——Q&A on GDP

- **Q: Why is pure financial transaction not included in GDP?**  
**A:** As we have seen in year 2012 Midterm I Multiple Choice 10, option (A) the value of a loan you take in 2010 and option (C) the value of a bond sold by the Fed Government all not counted towards GDP. This is simple because they are pure financial transaction (you borrow from agent X and Government borrows from you) and classified as **saving**, as opposed to **investment**(I) as a component of GDP using expenditure approach. Investment in GDP, in contrast to its colloquial meaning, does not mean purchases of financial products (we use "investment" this way in our everyday life). It includes purchases of equipments, machinery, software as capital goods that can be used in the process of production or households spending on a new house, etc. The main purpose of excluding the value of a transaction on bonds, loans or stocks from GDP is to avoid double-counting: for instance, if I bought T-bond from the government and the government uses the money received to build a new highway and therefore buy plant, equipment, etc., the amount will be counted toward GDP when the government spends the money on those things; to also count it when I give it to the Government would be to count twice the amount that only corresponds to one group of products. To eliminate the potential risk of double-counting, the value of T-bond should not be counted as a part of GDP. Take option A for example, the value of the loan you take shouldn't be entered into GDP at all until you have invested into a project involving the purchase of tools, software, vehicle, etc that make contributions to the production or bought a newly built house. Trading bonds or stocks on exchange is a swapping of deeds, a transfer of claims on future production, not directly an expenditure on products, so it's also not a part of GDP. In addition, the acquisition of a company by a larger company (for example 2010 Mid1 M2 (B) Dutch Boy Paint sold to US Constructor) is not counted as part of GDP because it is just a transfer of the ownership of the purchased company and does not include any production of new values.
- **Q: Is a used product included in GDP?**  
**A:** No, because at the time a used product, for example, a car or a house was produced, the value of this product had been counted as part of GDP, it would be unreasonable to include this product into GDP at the current period again. The definition of GDP entails the production being taking place in the given period of time so the output that goes into GDP for a certain period of time is constrained by the length of time.
- **Q: Should a good produced in Year X but not sold in this Year included in Year X GDP?**  
**A:** Yes. To be more precise, it should be included as inventory as a part of investment from expenditure approach. Notice that  $GDP = \text{total sales} + \text{the net change in inventories}$ . If inventories rise, then  $GDP > \text{total sales}$  while if inventories fall,  $GDP < \text{total sales}$ .
- **Q: Why is it that imports are subtracted from GDP?**  
**A:** Because the sum of consumption, investment and government purchases overstates GDP. These components may all include domestic goods and foreign goods (that are produced outside the boundaries.) For example, the US Government bought two cranes for the building of a new highway. These two cranes are included as part of Government purchases but should be subtracted from GDP since they are imported goods.
- **Q: How can I distinguish Intermediate goods from final goods?**  
**A:** **Intermediate goods** are not taken into account when computing GDP, therefore it is imperative to differentiate intermediate goods and final goods. Intermediate goods are those goods that are used by the producer for producing other goods, are known as the intermediate goods. These goods are not demanded for their own sake but for their use in producing other

goods. Raw- materials and semi-finished goods are both intermediate goods. For example, raw-cotton used for the production of yarn is intermediate goods. Similarly, when yarn is sold to the owner of a textile mill for production of cloth, yarn is an intermediate goods. Thus, intermediate goods are those goods which are sold by one industry to another either for resale or for producing other goods. In contrast, **final goods** refer to the finished goods, which are sold in the market for consumption and investment purpose. These goods are produced for their own sake, because these are finished product and do not undergo further processing. Final goods satisfy the wants of ultimate producers or consumers or both. Value of these goods constitutes GDP. Good examples are tools, machinery and equipments (refer to 2011 Mid1 M13 tractor is a final good) as investment goods while clothes food and electronics are consumption goods from expenditure angle.

You may argue that machines, for example, lathes are worn out when producing metal parts and some of their values also go into meta parts every year. So isn't it true that we may double count the values of machines if including them in GDP? My answer is that this is a reasonable accounting concern since the values that are worn out due to the production are so called depreciation and they are recorded in the accounting book of a company. However, GDP does not consider including depreciation as double counting. In other words, GDP does not care about the value loss of a machine or equipment due to worn-out. In addition, the computation of national income excludes the depreciation, so it has to be added back when converting from national income to GDP.

There is another phenomenon that is worth pointing out that the distinction between intermediate goods and final goods is not rigid. The same commodity may be an intermediate good or final good depending upon its use. For example, flour used by your mom to cook some biscuits is a final good whereas flour used by a bakery to cook the same biscuits for sale is an intermediate good. In the former case, the flour has backed out of the market or production process because the biscuits are not made for sale but for family enjoyment and therefore the flour for this purpose enters into GDP as a final good. (You may say your mom's labor is "home production" but it's not included in GDP as "formal production" so your mom's labor for the biscuits does not add value to GDP. However if your mom made the biscuits to sell it in her bakery shop then the flour is an intermediate good ).

- **Q: How should I understand the relationship between expenditure approach and income approach**

**A:** The following example may be helpful to understand their relationship: let's look at the production of a pair pants valued at 5 dollars from start to finish. First a farmer grew 10 dollars worth of raw-cotton of which 1 dollar is used to buy seeds, 2 dollars are used to buy fertilizers, 2 dollars are paid to water, electricity etc. The remaining 5 dollars go to farmers (as a combination of farmer's wage to pay his labor and compensation to his land as proprietor's income). Then, 10 dollars of raw-cotton were bought by a yarn producer to make yarn. This workers' labor were worth 4 dollars as wages and the money used to buy machines was borrowed from the bank, thus paying 2 dollar as interest per yarn for a pair of pants. In addition, the house for production was rented from a house agency and therefore, 2 dollars of rent had to be paid. The yarn for a pair of pants was sold to textile mill at 20 dollars where the last 2 dollars went to this producer's profit. Textile mill had a similar cost structure and had to pay wages, interest, rental and earn profit. This led to a total of 10 dollars of added value that go into the cloth made from the 20 dollars worth of yarn. Thus, the cloth would be sold at 30 dollars to a garment processing company which, for making a pair of pants, pay 4 dollars to a good designer, 5 dollars to the management team, 1 dollar to a worker, 3 dollars to the capital creditor as interest and 3 dollars to the landlord as rent. Finally, the pants were sold on the market at 50 dollars which gives garment company a 4 dollar profit. From this example, we can see that from expenditure approach, a pair of pants were included in GDP as a consumption goods. But at the same time we can decompose its total value into different types of incomes according to their recipients who receive these values, for example, at the last stage, 4 dollars go to a good designer as the wage income. Finally, it's worthing noting that this is a rough computation which is intended to show you the equivalence of two approaches, however, there are more at stake than these factors, for example, 1. depreciation: the farmer, the owners of yarn factory, textile mill and garment factory write off the depreciations on their accounting

book, so the profit would be lower than has been computed above ( and the national income would have been lower by the amount of depreciation).<sup>2</sup> If indirect taxes are imposed, this may also affect the computation of GDP and national income. For example, if the indirect tax (e.g. excise tax) is 2 dollars on the pair of pants, the pants might have been sold at 1 dollar higher at 51 dollars. Then the value included in GDP is 51 dollars, however, national income still remain 50 dollars.

There are three questions you need to think about in this case:

what if a company incurs a loss, should it be included in GDP using income approach?

what if some threads were not sold and became someone's inventories in year X? Is it an intermediate good or final good as part of GDP?

what if the cotton and yarn were produced in Vietnam and exported to China for producing cloth which was outsourced by a garment company in US and then shipped to US as the material for pants? How should we divide the values when computing GDPs for these three countries?

For those who are interested in how the values of what many analysts call "global commodity" such as apple iPhone, T-shirts, coffee are divided among different countries' GDPs and the implications this allocation brings about to the whole world in the amidst of global crisis, please read the following article written by John Smith, a professor who teaches political economics, human rights and genocide studies at Kingston university in London.

*GDP illusion—Value added or Value captured* 2012, Volume 64 Issue 03 Monthly Review