Hints to Problem Set 3 (welfare implications of NNI)

III.

As proper measures of macroeconomic activity, we should adopt “real” instead of “nominal,” “income” instead of “product,” “national” instead of “domestic,” and “net” instead of “gross.” Hence, we can obtain real NNI (net national income) as the most appropriate national accounting measure. Under some simplifying assumptions, the value of real NNI is proportional to the present value of future consumption stream, which constitutes fundamentally consumers’ welfare. That is, real NNI can serves as a proper welfare measure of macroeconomic activity.

In Problem Set 1, we have understood how real GDI differs substantially from real GDP in the past decade. In Problem Set 5, on the other hand, we will see a noticeable difference between real GNI and real GDI. Whether national product is “gross” or “net” does also matter a lot for the twenty first century of the Japanese economy. Let us see this significant difference as follows by taking a look at real NDP and real GDP.

A reason for a growing difference between real NDP and real GDP is that the size of consumption of fixed capital became larger and larger in the past decade. As shown in Figure 1, the nominal consumption of fixed capital became large relative to the nominal fixed investment in the first decade of this century. Since 2009, the nominal net fixed investment (the nominal gross fixed investment minus the nominal consumption of fixed capital) became even negative. The size of the consumption of fixed capital was even large relative to the size of the national economy. Figure 2 plots the ratio of the real consumption of fixed capital to the real GDP. According to this figure, the ratio had steadily increased since the mid-1990s.

Figure 1:
As shown in Figure 3, real NDP grew slower than real GDP in the past decade. For the period between 2000 and 2011, real GDP grew by 7.3%, but real NDP grew by 5.7%. With the observed enlarging size of consumption of fixed capital, stagnant capital accumulation will fail to expand consumption opportunities in the future. In other words, high growth of real GDP does not necessarily imply long-run welfare improvement when real NDP grows slower than real GDP.