

Econ 362 Intermediate Macro (Hanes)
Growth Accounting Assignment

The following pages give data from the BLS and BEA on real GDP, capital stock, and employment in the nonfarm business sector in 1948 and 2002.

Use the data to calculate average annual growth in total factor productivity in the nonfarm business sector over that span of time, as in Mankiw's Table. Your result will not match Mankiw's numbers exactly.

Assume α is equal to 0.30.

Something you need to know: the average annual growth rate from 1948 to 2002 for a variable that has a value of X_{1948} in the year 1948, and a value of X_{2002} in the year 2002, is:

$$100 \cdot \left(\underbrace{54 \sqrt[54]{\frac{X_{2002}}{X_{1948}}}}_{\text{In Excel, this is}} - 1 \right)$$

In Excel, this is $(X_{2002}/X_{1948})^{(1/54)}$

this means
"take the 54th root"

**Bureau of Economic Analysis
National Income and Product Accounts Table**

Table 1.3.3. Real Gross Value Added by Sector, Quantity Indexes
[Index numbers, 2000=100]

Today is: 2/12/2007 Last Revised on January 31, 2007 Next Release Date February 28, 2007

Line		1948
1	Gross domestic product	16.738
2	Business ¹	15.318
3	Nonfarm ²	14.873
4	Farm	26.911
5	Households and institutions	12.203
6	Households	12.630
7	Nonprofit institutions serving households ³	12.098
8	General government ⁴	33.805
9	Federal	69.674
10	State and local	19.001
	Addendum:	
11	Gross housing value added	12.383

year

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National Income and Product Accounts Table**

Table 1.3.3. Real Gross Value Added by Sector, Quantity Indexes

(Index numbers, 2000=100)

Today is: 2/12/2007 Last Revised on January 31, 2007 Next Release Date February 28, 2007

Line		2002
1	Gross domestic product	102.362
2	Business ¹	101.829
3	Nonfarm ²	101.867
4	Farm	98.001
5	Households and institutions	104.643
6	Households	103.019
7	Nonprofit institutions serving households ³	106.786
8	General government ⁴	103.819
9	Federal	102.518
10	State and local	104.360
11	Addendum:	
	Gross housing value added	101.848

YEAR

**Bureau of Economic Analysis
Fixed Assets Table**

**Table 1.2. Chain-Type Quantity Indexes for Net Stock of Fixed Assets and
Consumer Durable Goods**

[Index numbers, 2000=100]

Today Is: 2/12/2007 Last Revised on August 15, 2006

Line		1948
1	Fixed assets and consumer durable goods	18.760
2	Fixed assets	21.141
3	Private	19.156
4	Nonresidential	17.886
5	Equipment and software	10.036
6	Structures	24.898
7	Residential	20.595
8	Government	28.630
9	Nonresidential	29.081
10	Equipment and software	39.614
11	Structures	26.386
12	Residential	16.669
13	Consumer durable goods	6.359
	Addenda:	
14	Private and government fixed assets	21.141
15	Nonresidential	21.546
16	Equipment and software	14.264
17	Structures	25.567
18	Residential	20.522
19	Government fixed assets	28.630
20	Federal	60.292
21	State and local	17.586

year

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**Bureau of Economic Analysis
Fixed Assets Table**

**Table 1.2. Chain-Type Quantity Indexes for Net Stock of Fixed Assets and
Consumer Durable Goods**

[Index numbers, 2000=100]

Today is: 2/12/2007 Last Revised on August 15, 2006

Line		2002
1	Fixed assets and consumer durable goods	105.624
2	Fixed assets	104.760
3	Private	104.892
4	Nonresidential	104.229
5	Equipment and software	105.998
6	Structures	103.139
7	Residential	105.531
8	Government	104.266
9	Nonresidential	104.322
10	Equipment and software	102.917
11	Structures	104.523
12	Residential	102.990
13	Consumer durable goods	113.563
	Addenda:	
14	Private and government fixed assets	104.760
15	Nonresidential	104.261
16	Equipment and software	105.547
17	Structures	103.726
18	Residential	105.477
19	Government fixed assets	104.266
20	Federal	99.358
21	State and local	105.886

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Employment, Hours, and Earnings from the Current Employment Statistics survey (National)

Series Id: CES0500000001
 Seasonally Adjusted
 Super Sector: Total private
 Industry: Total private
 NAICS Code: N/A
 Data Type: ALL EMPLOYEES, THOUSANDS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Anni
1948	39062	38922	39057	38726	39114	39296	39386	39384	39489	39421	39325	39140	

year

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Employment, Hours, and Earnings from the Current Employment Statistics survey (Nat

Series Id: CES0500000001
Seasonally Adjusted
Super Sector: Total private
Industry: Total private
NAICS Code: N/A
Data Type: ALL EMPLOYEES, THOUSANDS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2002	109217	109086	108999	108904	108810	108822	108746	108686	108660	108765	108751

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