U.S. Infrastructure, Government Deficits, Social Discount Rate

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Abstract

This paper examines the history of U.S. infrastructure and in the process reports an interesting fact about the U.S. economy. Infrastructure stock as a percent of GDP began a steady decline around 1970, and the government budget deficits became positive and large at roughly the same time. The infrastructure pattern in other countries does not mirror that in the United States, so the United States appears to be a special case. At least part of the fall in infrastructure as a percent of GDP is likely due to an increase in environmental concerns that began in the 1960's. However, to explain the large government deficits beginning in 1970 requires more. One possibility, discussed in Section 5, is a taste change corresponding to an increase in the average social discount rate around 1970, triggered by the events around that time.

1 Introduction

This paper examines the history of U.S. infrastructure and in the process reports an interesting fact about the U.S. economy. Annual U.S. data for the 1929–2023 period on government fixed assets from the Bureau of Economic Analysis (BEA) show a large and close-to-monotonic decline in the size of the infrastructure stock

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as a percent of GDP beginning around 1970, both defense and nondefense. It is also the case, as will be seen, that the government budget deficit as a percent of GDP changed around 1970 from being close to zero to being large and positive.[1] This increase in the deficit has been sustained except for a brief period in the late 1990's. The deficit data thus show that the government began consuming more relative to its income around 1970, and the infrastructure data show that the government began investing less as a fraction of GDP around the same time.

This paper also examines the history of infrastructure for other countries using annual data for the 1960–2019 period from the International Monetary Fund (IMF). It will be seen that no other country has a pattern similar to that of the United States, namely a roughly monotonic decline in the ratio of infrastructure to GDP beginning around 1970. The United States appears to be a special case in this regard, although some countries have seen large declines beginning somewhat later.

As discussed in Section 4, at least part of the fall in infrastructure as a percent of GDP is likely due to an increase in environmental concerns that began in the 1960's. However, to explain the large government deficits beginning in 1970 requires more. One possibility, discussed in Section 5, is a taste change corresponding to an increase in the average social discount rate around 1970, triggered by the events around that time.

Most of the work using the BEA and IMF data has been concerned with estimating the effects of infrastructure on aggregate output. Aschauer (1989) used an early version of the BEA data to examine whether private sector total factor productivity was affected by public sector infrastructure. Ford and Foret (1991) examined this question for other countries using the IMF data. Munnell (1992) is an early review article. A large literature followed Aschauer (1989), and much of this literature has been summarized in a meta study by Bom and Ligthart (2015). They reviewed 68 studies for the 1983–2008 period. A later study using panel time series data is Calderón, Moral-Benito, and Servén (2015). This question, while

[1] "Government" here means both the federal government and state and local governments.

interesting, is not of concern here. Rather, the focus is on the historical patterns of infrastructure—category by category for the United States and country by country for the other countries. It does not appear that this type of examination has been done before. There has been, of course, much discussion about the sad state of U.S. infrastructure, with many examples, but now systematic examinations.

2 U.S. Data

Infrastructure

The BEA data are taken from Table 7.2 from the Fixed Assets Accounts (FAA) tables, dated October 2, 2024. These data are index numbers, and they were converted to 2017 dollars by using the nominal values for 2017 from Table 7.1. The two main categories in the BEA data are defense and nondefense. For present purposes federal nondefense and state and local nondefense have been aggregated. This is because much of the infrastructure investment done by state and local governments is financed by the federal government through grants in aid. The interest here is on total government infrastructure. Let D denote defense, N denote nondefense, and T the sum of the two. Also, for use below, let H denote the stock of highways and streets, and let E denote the stock of educational. These are the two largest components of nondefense, N.

The BEA fixed asset data are constructed using the perpetual inventory method—see U.S. Department of Commerce (2003) plus discussion on the BEA website: $www.bea.gov$. The construction method for, say, asset j begins with investment for each year in j. The nominal value of investment is deflated by a price index to put it in real terms (2017 dollars). The investment is assumed to depreciate at a geometric rate, with the rate depending on the asset. The stock of the asset in a given year is then the sum of current and past depreciated investments.

For present purposes the infrastructure stocks have been divided by GDP. Real

GDP data were obtained from the BEA National Income and Product Accounts, Table 1.1.6, dated December 19, 2024. The data are in billions of 2017 dollars. They are available on an annual basis back to 1929. Let Y^a denote real GDP. Y^a is cyclical, and to avoid having the ratio of assets to GDP be cyclical because of this, a non-cyclical measure of GDP was constructed. $\log Y^a$ was plotted for the 1929–2023 period, and a peak-to-peak interpolation was done. The peaks were 1929, 1968, 2005, and 2023. In a few years, like 1943, 1944, and 1945, the actual value was above the line. The three annual growth rates between the peaks are 3.8, 3.1, and 1.9 percent, respectively. The non-cyclical measure of GDP was taken to be the exponential of the points on the interpolation lines. The results in this paper are unlikely to be sensitive to other measures of non-cyclical output. Y will be used to denote this non-cyclical measure of GDP, and it will simply be called GDP. Although the asset data are available back to 1925, only data since 1929 have been used because this is where the data on Y^a begin.

Figure 1 plots T/Y for the 1929–2023 period along with its mean over this period. The World War II years and the four years following clearly stand out, as expected. More interesting is the period after the war, say beginning in 1950. Figure 2 plots D/Y (defense) for the 1950–2023 period and the mean for this period, and Figure 3 plots N/Y (nondefense) and its mean for the same period.[2]

Figure 2 shows that D/Y has fallen steadily since the mid 1950's. The large decline in defense infrastructure as a percent of GDP may seem surprising, since many are of the view that the Unites States is spending too much on the military. The ratio D/Y in Figure 2 does level off in the 1980's before continuing to fall, which reflects the increased spending of the Reagan administration, but the overall trend is clearly downward. One might think that the downward trend is true of defense investment but not defense consumption, but this is not the case. The ratio of defense consumption to GDP has fallen from 0.1499 in 1951 to 0.0280 in 2023. (In this same period the ratio of defense gross investment to GDP fell from 0.0197

[2]For reference purposes a vertical line has been placed at 1969 in the plots in this paper.

Figure 1

Total Infrastructure/GDP (T/Y)

1929--2023

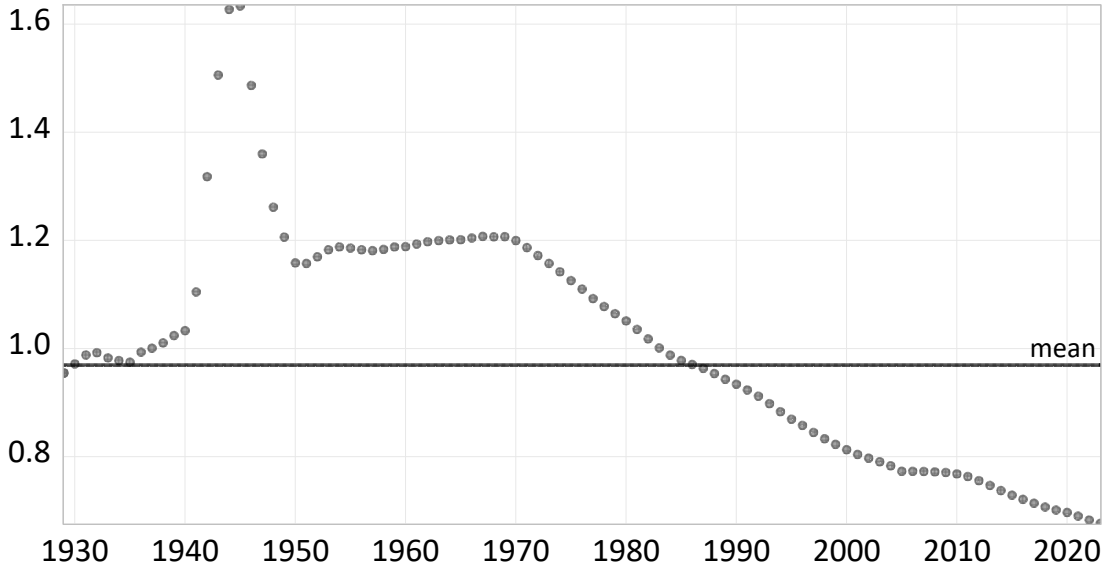


Figure 2

Defense/GDP (D/Y)

1950--2023

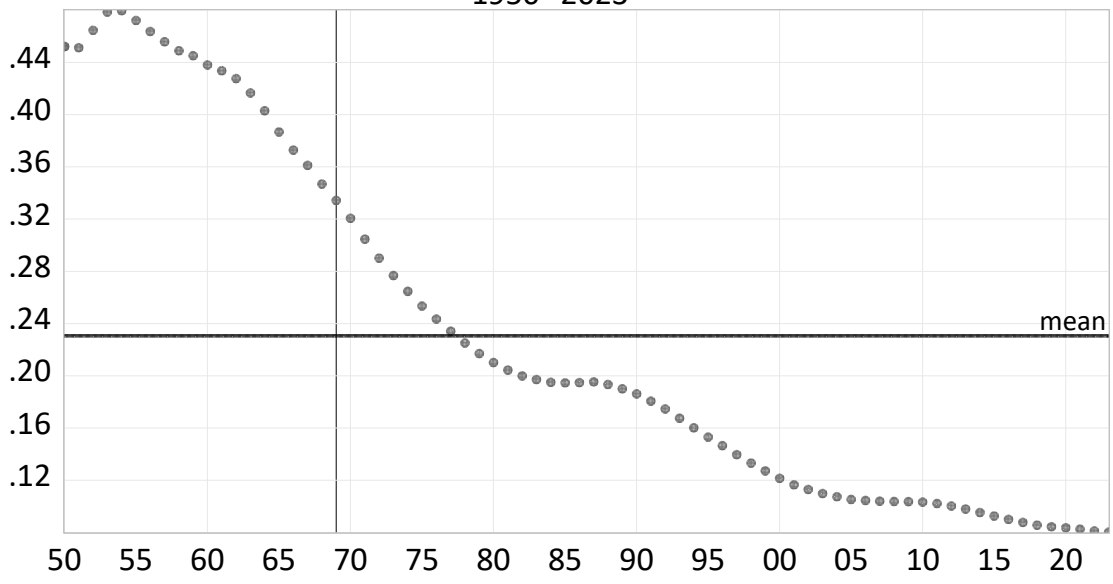
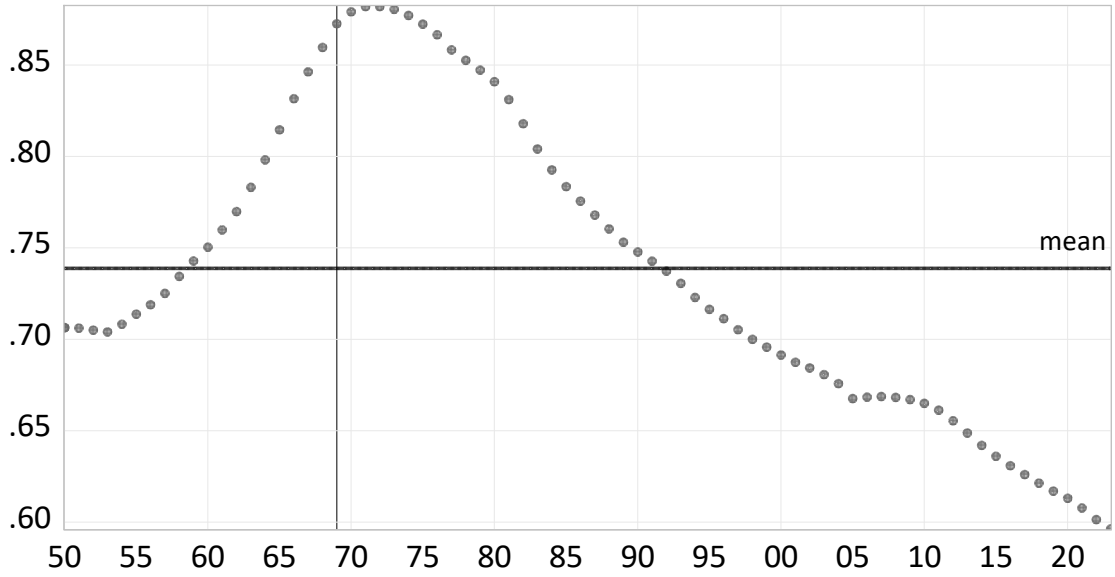


Figure 3

Nondefense/GDP (N/Y)

1950--2023



to 0.0085.)[3] The overall picture is thus of a substantial decline in defense spending as a percent of GDP since the 1950's.

For nondefense, which is the main concern in this paper, Figure 3 shows a sharp rise from the 1950's to the early 1970's, where the roughly monotonic decline begins. The early rise reflects in part the construction of the interstate highway system and the increase in educational infrastructure driven by the baby boom. The peak ratio was 0.882 in 1971. In 2023 it was 0.596, a decline of 32 percent.

Figures 4 and 5 plot the two largest subcategories of nondefense infrastructure, highways and streets and educational.[4] Figure 4 shows a steady decline since the early 1970's in highways and streets as a percent of GDP—H/Y. In Figure 5, educational/GDP—E/Y—has been divided by the number of children between the ages of 5 and 18, roughly the student population.[5] The student population is denoted $POP518$ in Figure 5. The student population increased about 50 percent between 1953 and 1970 (the baby boom). Figure 5 shows that educational infrastructure did not quite keep pace with the student population in the 1950's and early 1960's, but then turned around until the 1970's. Between the late 1970's and the late 1990's there was a large decrease and then flattening out. Between 1970 and 2023 educational infrastructure per GDP per student fell by about 35 percent.

Bridges

The BEA stock estimates are obviously only approximations to the true values. They are based on estimates of nominal investments, estimates of price deflators, and assumptions about depreciation. As noted in footnote 4, Fraumeni and Korn-

[3]Defense consumption and defense gross investment are taken from BEA Table 3.9.3, lines 18 and 19. These data are index numbers, and they were converted to 2017 dollars using the dollar values in 2017 in Table 3.9.5. They were then divided by Y.

[4]Fraumeni and Kornfeld (2024) argue that the depreciation rate for highways and streets used by the BEA may be too low, which if so means that the estimates of capital stocks of highways and streets are too high.

[5]For the construction of the population data by age, see Fair (2024), p. 18.

Figure 4

Highways and Streets/GDP (H/Y)

1950--2023

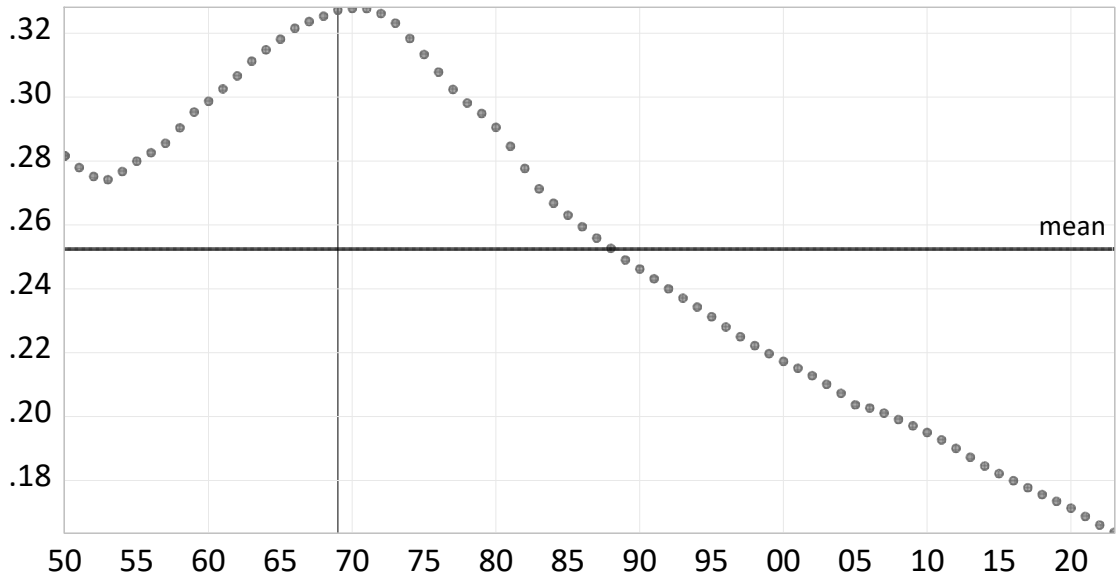
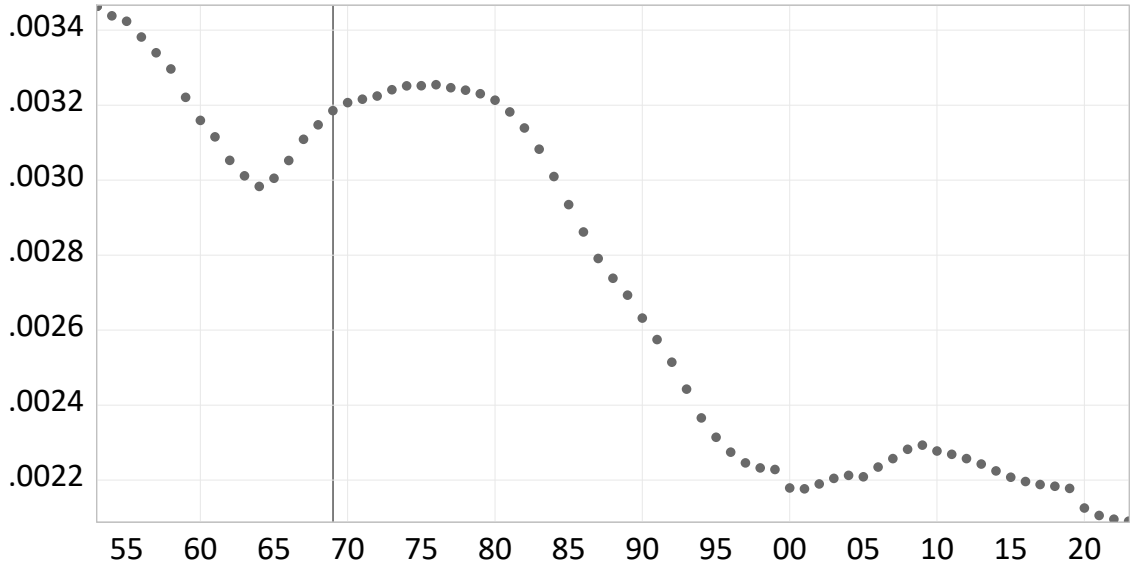


Figure 5

(Educational/GDP)/POP518---(E/Y)/POP518

1953--2023



feld (2024) argue that the depreciation rates used for highways and streets may be too low, which would make the decline in infrastructure even larger than the BEA estimates.

There is independent information on the status of bridges in the United States, which is of interest to examine. The BEA infrastructure estimates suggest that the status may not be good, which is the case. In 2024 6.8 percent of the bridges were in poor condition and 49.1 percent were in fair condition—see the U.S. Department of Transportation (2024a). The U.S. Department of Transportation (2024b) estimates that the rehabilitation needs are $191 billion. The Infrastructure Investment and Jobs Act (IIJA), passed in 2021, allocated $40 billion for bridges. The bridge information is thus consistent with low infrastructure spending.

Infrastructure Shortfall?

Is the decline in the ratio of nondefense infrastructure to GDP a cause for concern? The literature mentioned in the Introduction suggests that infrastructure may have a positive effect on aggregate output, so, other things being equal, declining infrastructure may have a negative effect on output. Also, the current political discourse is that infrastructure is too low. Without a model of the optimal size of infrastructure, however, it is unclear how big the problem is if there is in fact a problem. Developing such a model is beyond the scope of this paper.

One can, however, use the present results to consider possible shortfalls. Consider the ratio of nondefense infrastructure to GDP in Figure 3. In 2023 the ratio was 0.60. GDP (Y) in 2023 was $22.7 trillion, so nondefense infrastructure was 0.60×22.7 = $13.6 trillion. The mean ratio over the 1950–2023 period is 0.74, and so if the ratio in 2023 were at the mean, nondefense infrastructure would be $16.8 trillion, $3.2 trillion more. If the ratio were at the 1970 value, which is 0.88, nondefense infrastructure would be $20.0 trillion, $6.4 trillion more. These values are in 2017 dollars. The GDP deflator in 2023 was 1.223, so in 2023 dollars the

two shortfalls are $3.9 trillion and $7.8 trillion.

The IIJA authorized $1.2 trillion for transportation and infrastructure spending with $550 billion for new investments and programs. The $550 billion is in 2021 dollars; in 2023 dollars it is about $600 billion. This is extra spending over 10 years. This is about 15 percent of the $3.9 trillion shortfall and about 8 percent of the $7.8 trillion shortfall. Using this metric the size of the bill is modest.

Another way of looking at size of the bill, if the $600 billion were added to the stock in 2023, which is $13.6 trillion, (rather than spread out over 10 years) the ratio of the stock of nondefense infrastructure to GDP would be 0.626. This gets the ratio back to its value in 2017, again a modest improvement.

The Government Budget Deficit

As noted in the Introduction, the government budget deficit as a percent of GDP became large and positive beginning in 1970. The deficit generally increases in recessions, and the interest here is the structural deficit, the deficit at roughly full employment. The mean of the unemployment rate over the 1950–2023 period is 5.7 percent. Figure 6 plots the real government deficit as a percent of GDP for the 1950–2023 period for those years when the unemployment rate was below its mean, periods at least close to full employment. The deficit data are taken from BEA Table 3.1 in the National Income and Product Accounts, dated December 19, 2024. The deficit is the negative of "net government saving" on line 31, which is the difference between current receipts and current expenditures. The main categories of current expenditures are consumption expenditures, current transfer payments, and interest payments. The deficit has been divided by the GDP deflator to put it in real terms, and then the deficit in real terms is divided by Y to compute the ratio. The GDP deflator is taken from Table 1.1.9, line 1, also dated December 19, 2024.

Figure 6

Real Government Deficit/GDP

Values plotted when the unemployment rate was less than 5.7 percent

1950--2023

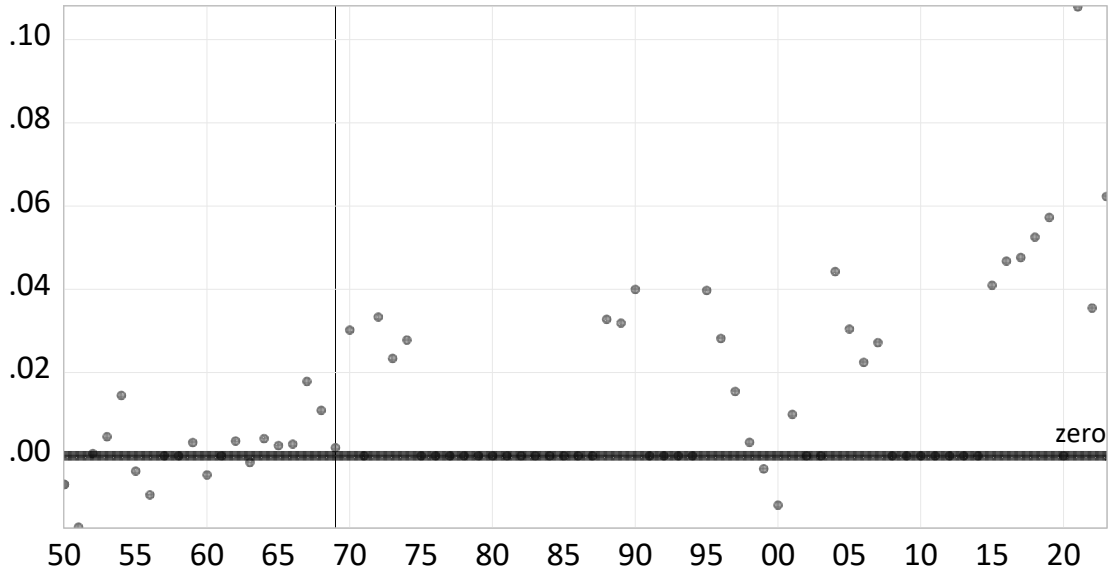


Figure 6 shows that the deficit as a percent of GDP hovered near zero until 1970, when it became positive.[6] It has remained positive except for 1999 and 2000. And it is high by the standards of the 1950's and 1960's except for 1996-2001. This period in large part was driven by the stock market boom that began in 1995. Most of the large deficits are from the federal government.

3 IMF Data and Graphs

The Fiscal Affairs Department of the International Monetary Fund has compiled data on the stock of public capital in 194 counties. The data are annual, and for most countries they begin in 1960. They end in 2019. Data are also available for GDP. The units are in 2017 international dollars. GDP in this case is actual GDP; it has not been adjusted for cyclical variation. The IMF procedure for computing stocks is the same as the BEA's, namely the perpetual inventory method.

The IMF categorizes countries into 1) low income developing countries (LIDC), 2) emerging markets (EM), and 3) advanced economics (AE). Three aggregates stocks were constructed. First, countries were excluded if they had any missing data from 1970 on. Countries were used if they had missing data only between 1960 and 1969, where they simply were not included in the aggregates for these years. This left 116 countries out of 194. For each year the values of the capital stock were summed across countries to get an aggregate capital stock, and the values of GDP were summed across countries to get an aggregate GDP value. The ratio of the aggregate capital stock to aggregate GDP was then computed. This was done separately for the LIDC countries, the EM countries, and the AE countries. Calculations were done for the United States, but the United States was excluded from the AE calculations.

Figure 7 plots the ratio of public capital to GDP for the AE countries and for

[6]The deficits not plotted are generally higher than surrounding values because of the more sluggish economy.

Figure 7
AE Countries Public Capital/GDP
US Public Capital/GDP
1960--2019

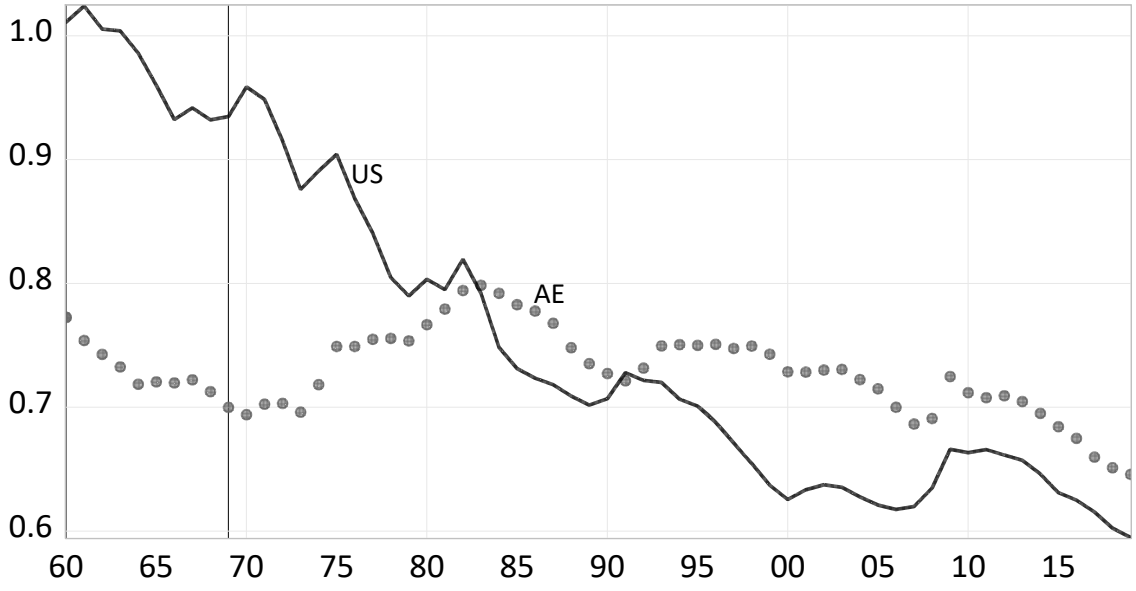


Figure 8

EM Countries Public Capital/GDP

1960--2019

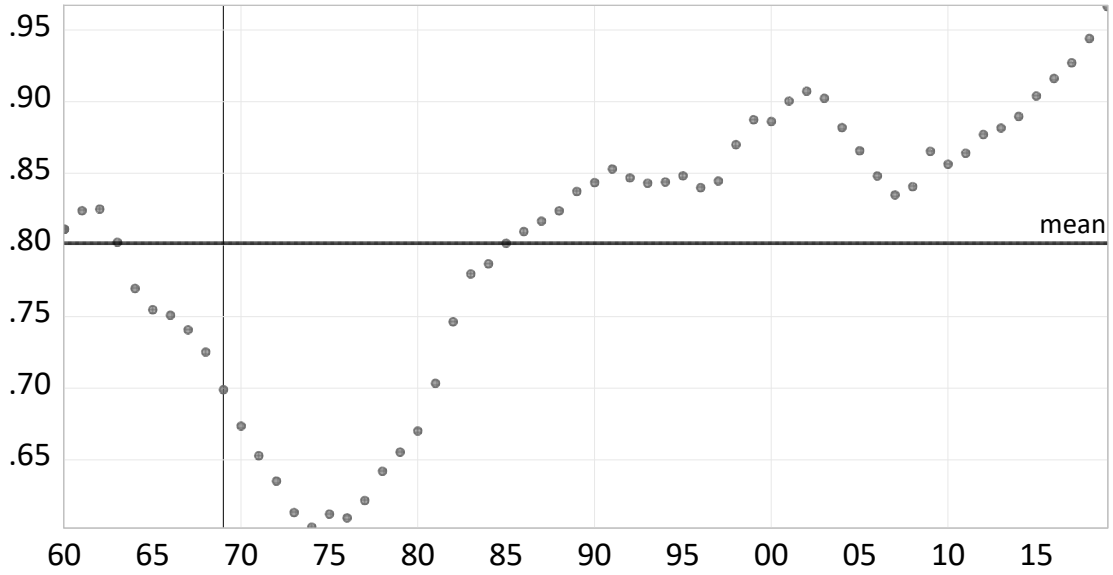
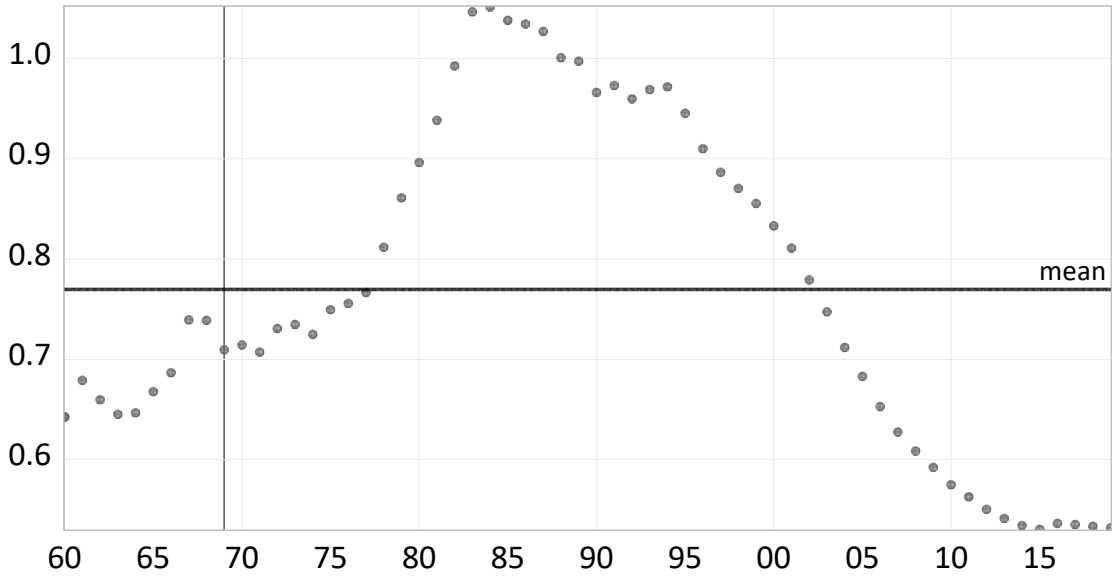


Figure 9

LIDC Countries Public Capital/GDP

1960--2019

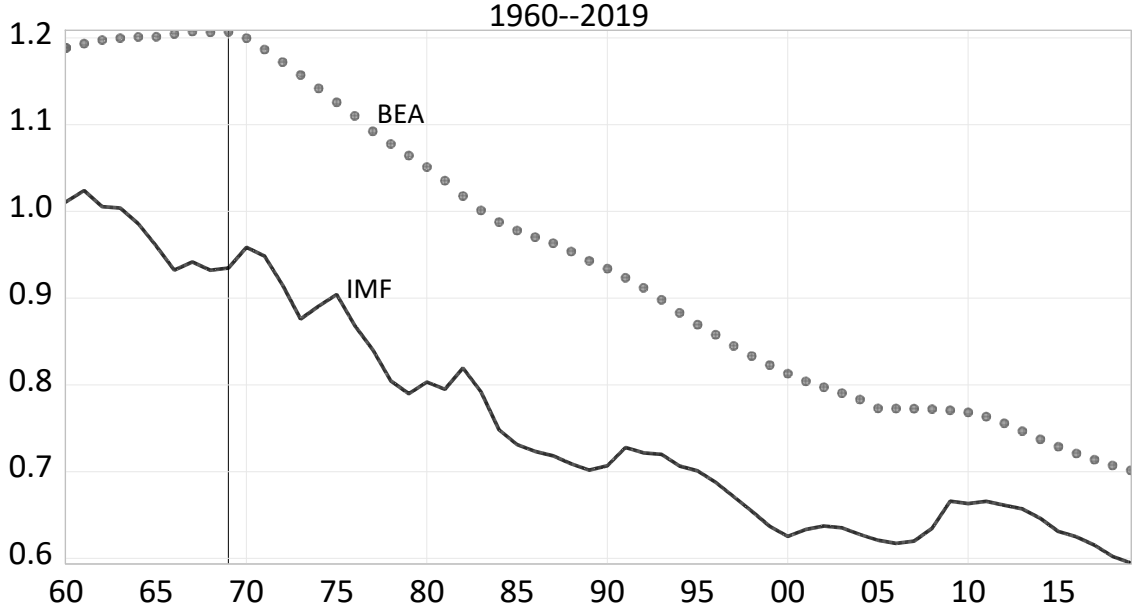


the United States. It is clear that the behavior of the two is quite different. The ratio is generally falling for the US, as was true using the BEA data. For the AE countries the ratio falls in the 1960's, rises in the 1970's, falls in the 1980's, levels out in the 1990's, and then generally falls. This is an erratic path and does not have a generally declining path as the United States does. For completeness, Figure 8 plots the ratio for the EM countries and Figure 9 plots the ratio for the LIDC countries. The ratio has generally risen since the 1970's for the EM countries, and it has generally fallen since the 1980's for the LIDC countries.

The Appendix contains plots for 14 individual countries. One question of interest for present purposes is whether any of the plots for the individual countries exhibit a pattern since 1970 similar to that for the US. For none of the countries does the decline begin in 1970. The countries that have fairly persistent declines since the 1980's are Germany, India, The Netherlands, Sweden, and the United Kingdom. The main conclusion for present purposes is that none of the countries follow the U.S. pattern.

Finally, as a check on the data, the U.S. BEA and IMF data for the common period 1960–2019 are plotted in Figure 10. The patterns of the two series are similar. The IMF series is more erratic, which may reflect more measurement error for the IMF data and the fact that the cyclical component of GDP has not been removed for the IMF data. The decline between 1970 and 2019 is larger for BEA than for IMF, 0.523 versus 0.364.

Figure 10
BEA United States Total Infrastructure/GDP
IMF United States Public Capital/GDP
1960--2019



4 Explaining the Decline in Infrastructure as a Percent of GDP

Private Fixed Assets

Economists tend to look for changes in tastes and technology as driving forces behind other changes. What might these changes be regarding the decline in the infrastructure stock as a percent of GDP beginning in 1970? One possibility is that there was also a decline in U.S. private fixed assets relative to GDP, which would make any changes in tastes and technology broader than just pertaining to public assets. To examine this, Figure 11 plots the ratio of total private fixed assets as a percent of GDP.[7] This ratio has fallen, but beginning in 1980 rather than 1970. Also, the decline is smaller than that for nondefense infrastructure. The ratio fell by 17 percent between 1980 and 2023, which compares to a decline in nondefense infrastructure as a percent of GDP (N/Y) of 32 percent between 1970 and 2023. Private fixed assets do not include consumer durable goods. Figure 12 plots the stock of durable goods as a percent of GDP.[8] This ratio has generally increased over time. Overall, there are large differences between the behavior of nondefense infrastructure and private fixed assets and consumer durable goods. If there were a taste change, it appears to pertain mostly to public assets.

Relative Prices

Regarding possible technology changes, it might be that these changes were such as to lead to an increase in the relative price of infrastructure goods. To examine this, Figure 13 plots the ratio of the price deflator for government nondefense

[7]Most of private fixed assets are nonresidential structures and residential. Total private fixed assets are taken from Table 1.2, line 3, in the FAA. These data are index numbers, and they were converted to 2017 dollars using the nominal value for 2017 from Table 1.1.

[8]The stock of durable goods is taken from Table 1.2, line 15, in the FAA. These data are index numbers, and they were converted to 2017 dollars using the nominal value for 2017 from Table 1.1.

Figure 11

Private Fixed Assets/GDP

1950--2023

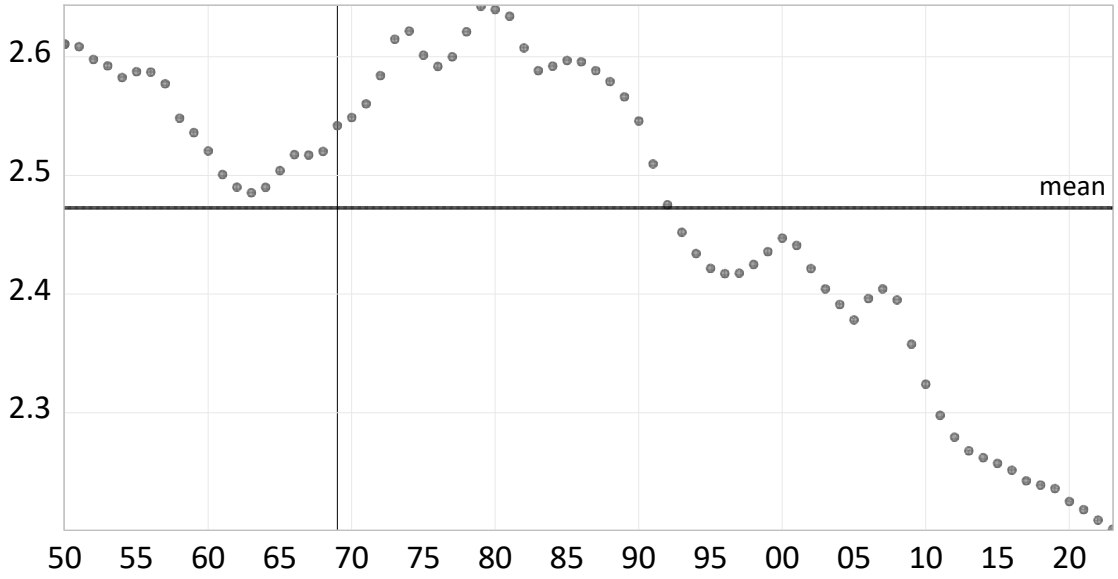


Figure 12

Stock of Durable Goods/GDP

1950--2023

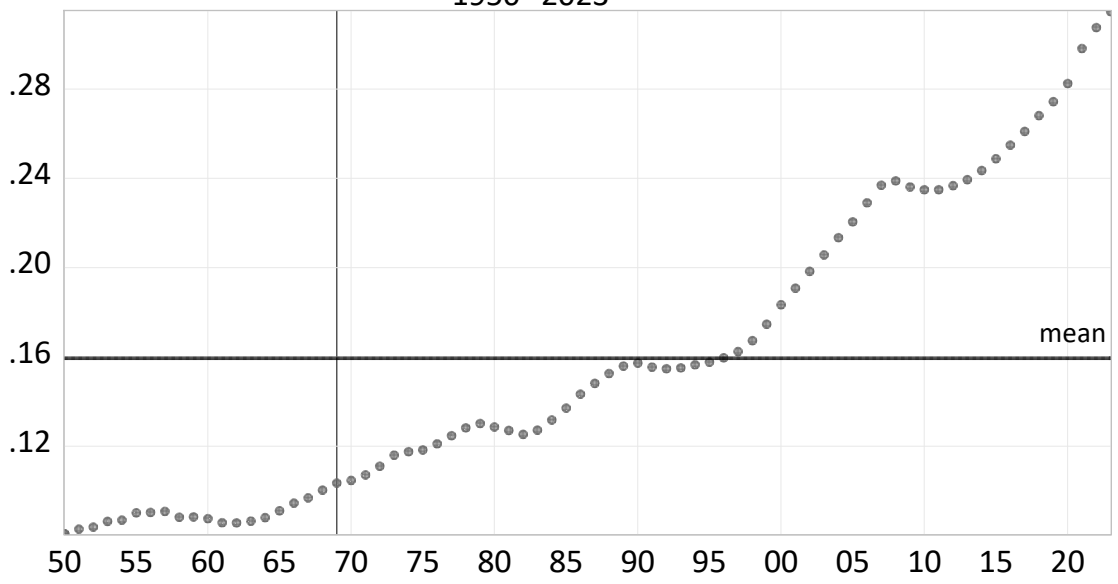


Figure 13

Price Deflator Government Nondefense Investment/GDP Deflator

1950--2023

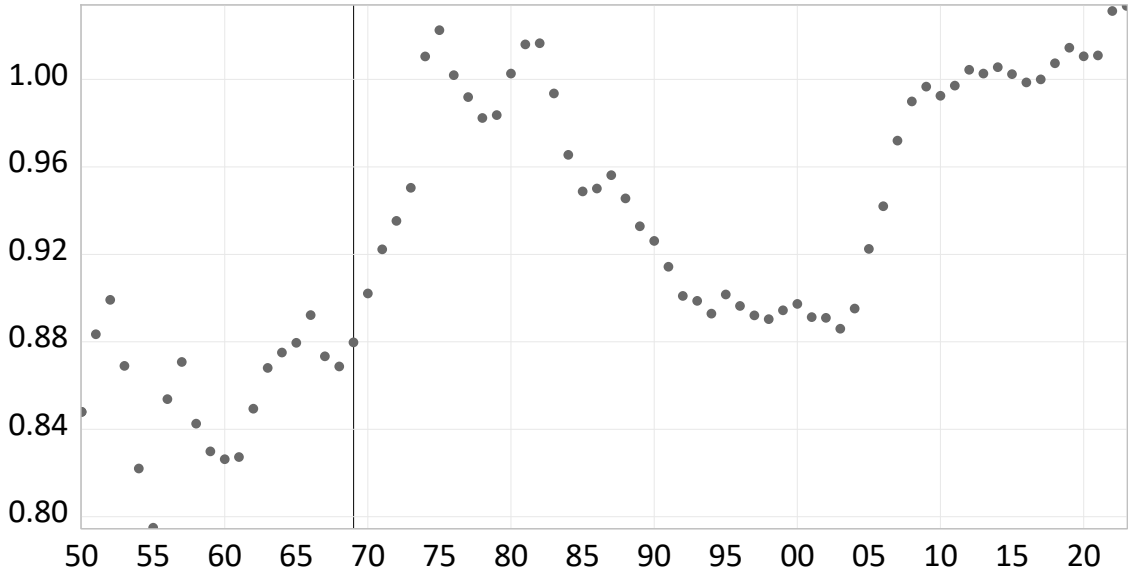
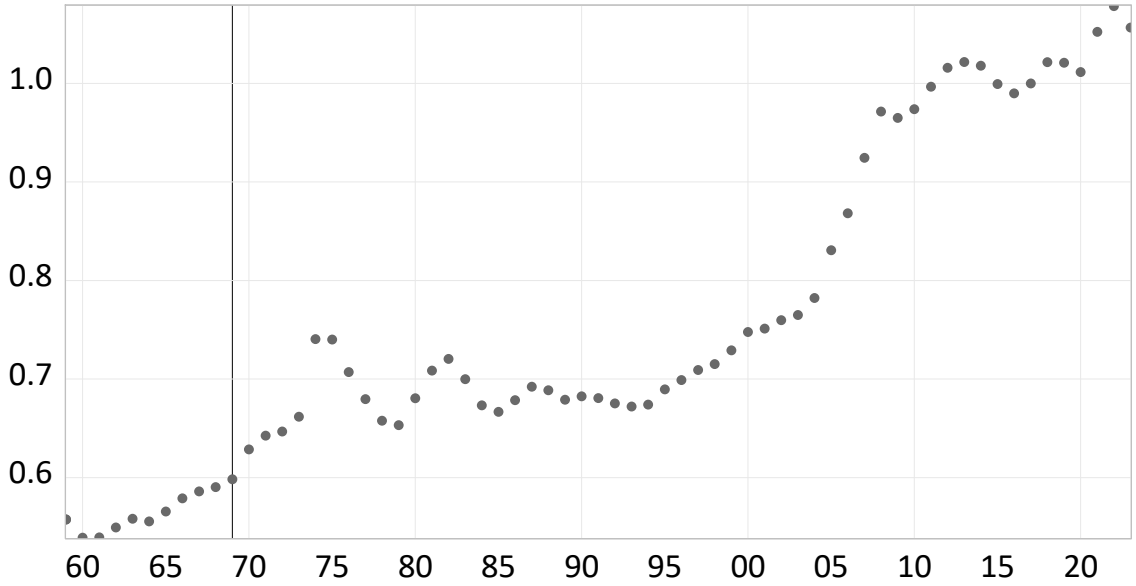


Figure 14

Government Transportation Price Deflator/GDP Deflator

1959--2023



investment to the GDP deflator.[9] If this ratio steadily increased since 1970, this could be at least part of the explanation for the fall in infrastructure investment. Figure 13 shows a somewhat erratic ratio, rising to 1974, falling to 2003, rising to 2009, and then roughly flat. There thus does not seem to be a systematic price effect.

Since government transportation investment is a large component of government nondefense investment, it is of interest to see how its relative price varies over time. Figure 14 plots for the 1959-2023 period the government transportation deflator relative to the GDP deflator. These data are from the NIPA.[10] This price ratio was roughly flat between 1970 and the mid 1990's, rose until 2013, and then has remained relatively flat since. Again, there appears to be no systematic price effect.

Increased Environmental Concerns

There began in the 1960's an increased concern for the environment. Three salient events were:

1. Rachel Carson, *Silent Spring*, 1962.

2. Negative reaction to some infrastructure spending: Jane Jacobs arrested protesting the Lower Manhattan Expressway project, 1968. Backlash against Robert Moses.

[9]The price deflator for government nondefense investment was computed as follows. Nominal federal nondefense gross investment was taken from line 27 in Table 3.9.5 in the BEA National Income and Product Accounts (NIPA). Nominal state and local gross investment was taken from line 35 in the same table. These were summed to get the total. Quantity indices were taken from lines 27 and 35 in Table 3.9.3. The quantity indices were converted to 2017 dollars using the respective nominal values for 2017 from Table 3.9.5. These real values were then summed to get the total. The price deflator is then the ratio of the total nominal value to the total real value.

[10]The transportation+ deflator is the ratio of nominal government transportation consumption and investment from line 13 in BEA Table 3.15.5 to real government transportation consumption and investment from line 6 in Table 3.15.3, where the quantity indices in Table 3.15.3 are converted to real values using the nominal value in 2017 from Table 3.15.5.

3. Ralph Nadar, *Unsafe at Any Speed*, 1965.[11]

Altshuler and Luberoff (2003) document the reaction in the 1970's to the urban renewal projects of the 1950's and 1960's. People became more energized in opposing projects that adversely affected existing neighborhoods and the like. Brooks and Liscow (2023) label this an increase in the "citizen voice," an increased opportunity for citizens to influence government decisions. D'Amico et al. (2024) document an increase in land use regulations at about this time. These regulations affected mostly private construction, but it is likely that some pubic investment was affected.[12]

Glaeser and Ponzetto (2018) develop a theoretical model that explains the decline in mega-projects stressed by Altshuler and Luberoff (2003) because of increasingly more organized and educated urban voters. This theory is consistent with the view of Brooks and Liscow (2023) of an increasing citizen voice. An important consequence of the increased citizen voice was in 1970 a large expansion of Clean Air Act and the establishment of the EPA.[13] There began to be increased pressure for environmental reviews of infrastructure projects like highways. Many more procedures had to be followed for any one project and usually environmental protections had to be added. Brooks and Liscow (2023) find that input prices explain little of the increased costs. Figure 14 is consistent with this result, where the relative price of government transportation does not show large increases in the 1970's, 1980's, and 1990's. The increased costs were instead from environmental concerns and the like.

One explanation of the fall in the infrastructure stock as a percent of GDP is the increased costs from environmental concerns—the citizen voice. This can be considered a change in tastes for a better environment. Whether this is enough

[11] See Sabin (2023) for discussion of Nadar's effects on the country.

[12] Goolsbee and Syverson (2023) and D'Amico et sl. (2024) document that there was the beginning of a decrease in construction productivity around 1970. This again is mostly private construction.

[13] See Currie and Walker (2019) and Schmalensee and Stavins (2019) for a history.

to explain all of the fall is unclear. Infrastructure includes educational structures, sewers, water systems, and power systems, which may be less sensitive to environmental concerns.

5 A Social Discount Rate Hypothesis

What the increased environmental concerns discussed in the previous section do not explain are the large government budget deficits in Figure 6. The budget deficits were obviously not used to finance infrastructure spending. One possibility is that there was an increase in the average social discount rate beginning about 1970, where the U.S. society became less future oriented. Why might there have been an increase in tastes of this sort?

The late 1960's and early 1970's was an unusual time in the United States, with large social and cultural changes. The following is a list of some of the events:

1. Martin Luther King Jr. and Robert Kennedy assassinated, 1968.
2. A sharp fall in the fertility rate between 1960 and 1980, from 3.654 in 1960 to 1.839 in 1980, births per woman.[14]
3. The early baby boomers moved into their 20's.
4. The beginning of the women's movement. The pill began in 1960.
5. The draft, the bombing of Cambodia, unrest on college campuses.
6. "Turn on, tune in, drop out"—Timothy Leary.
7. Influence of Eastern religions on the counterculture.

[14] World Bank Group: *https://data.worldbank.org/indicator/SP.DYN.TFRT.IN*. The decline in the fertility rate in this period was true in many countries, so the United States is not unique in this respect.

8. Stonewall, 1969.

9. Woodstock, 1969.

Some of these events, especially 5, likely led to a disillusionment with the government, less confidence in the government working for the common good. When Bob Dylan is on the pavement thinking about the government in “Subterranean Homesick Blues,” one does not get a sense that these are positive thoughts! It could be that the counterculture movement, triggered by the events of the late 1960’s and early 1970’s, led to a change in tastes, in particular more negative views about the establishment and the government. This may have led to less interest in having the government do anything, like investing in the future. There may have been more interest in personal pleasures, as exemplified by Leary’s famous statement above. This could be considered an increase in the social discount rate.

Not all of this change should be considered selfish. The Eastern philosophies of selfless service were part of the movement, where perhaps added emphasis was placed on the present. The idea of valuing the present moment more than the distant future aligns with certain Hindu philosophical concepts, particularly the emphasis on living in the "now" and focusing on fulfilling one’s Dharma (duty) in the current life.

Note that no mention has been made of political parties nor of the different presidential administrations over the years. The decline in the infrastructure stock as a percent of GDP is quite smooth since 1970, and the government deficits are high since 1970 except for the years of the Clinton administration, which was helped by the boom in the stock market beginning in 1995. The disillusionment with the government, from Ralph Nadar to the countercultural movement, was mostly with the government per se, not specifically Democrats or Republicans. If there is something to this social discount rate hypothesis, it is deeper than differences in attitudes about the two parties and in the policies of the two parties. .

6 Conclusion

This paper documents that there was a large, roughly monotonic, fall in the ratio of the U.S. infrastructure stock to GDP beginning about 1970. This is not a pattern found for other countries. There also began to be large government deficits as a percent of GDP beginning in 1970. The fall in the infrastructure stock as a percent of GDP can at least in part be explained by increased costs due to environmental concerns that began in the 1960's. However, to explain the government deficits more is needed. One possibility is that there was a change in tastes that led to an increase in the average social discount rate beginning about 1970, triggered by events of this period.

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Figure A1
Canada Public Capital/GDP
1960--2019

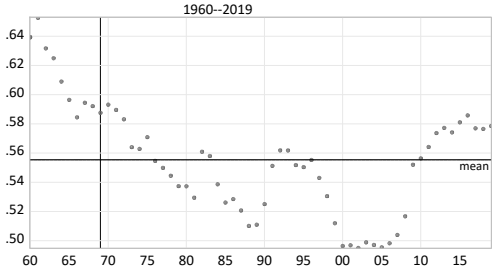
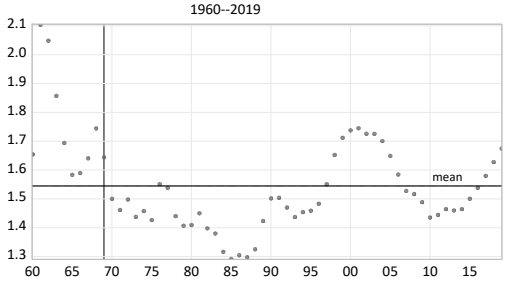


Figure A2
China Public Capital/GDP
1960--2019



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1960--2019

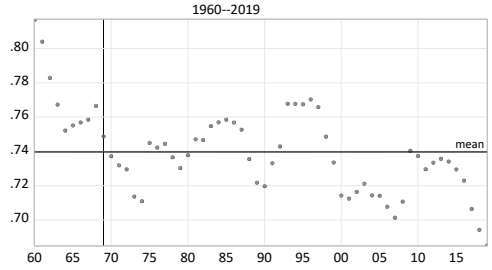

Figure A4
Germany Public Capital/GDP
1960--2019

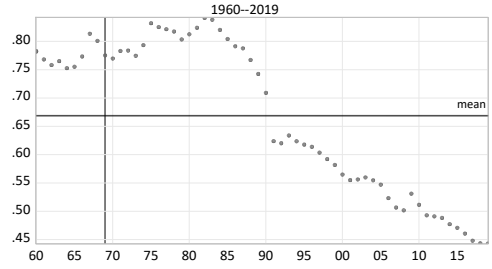

Figure A5
India Public Capital/GDP
1960--2019

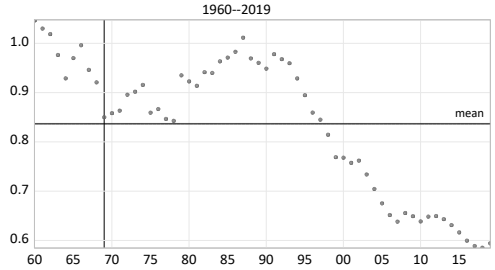

Figure A6
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1960--2019

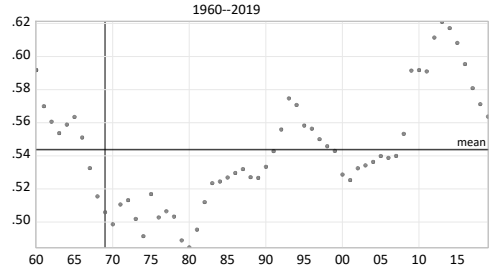

Figure A7
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1960--2019

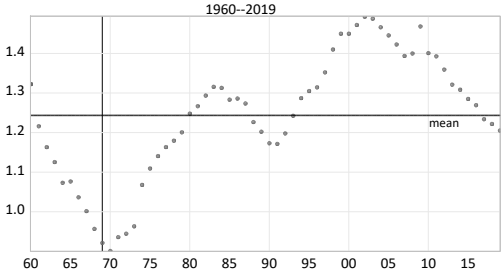

Figure A8
Korea Public Capital/GDP
1960--2019

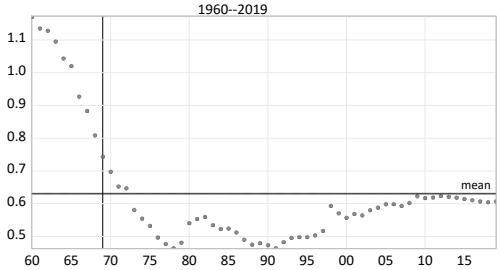

Figure A9
Mexico Public Capital/GDP
1960--2019

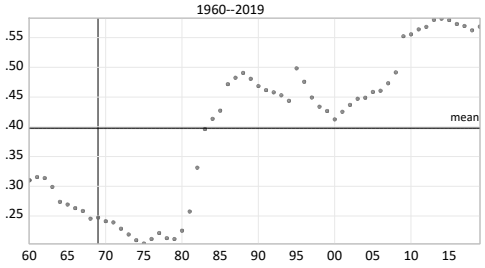

Figure A10
The Netherlands Public Capital/GDP
1960--2019

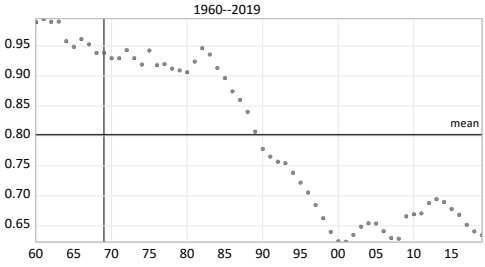

Figure A11
Norway Public Capital/GDP
1960--2019

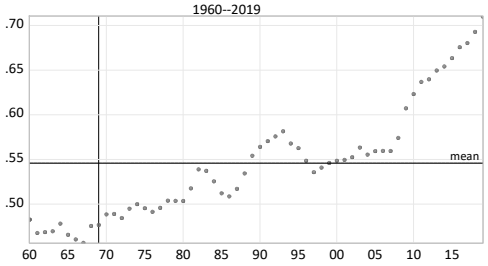

Figure A12
Spain Public Capital/GDP
1960--2019

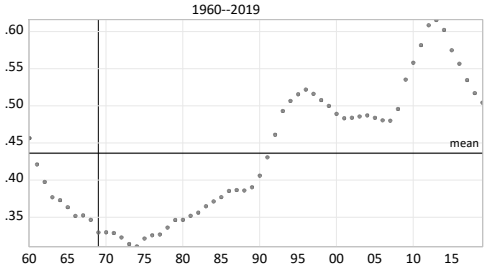

Figure A13
Sweden Public Capital/GDP
1960--2019

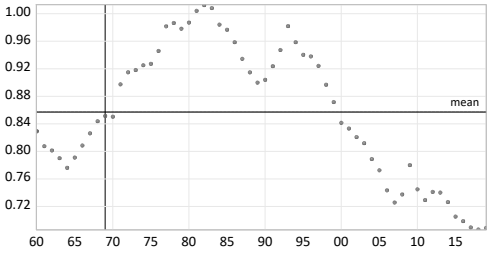

Figure A14
United Kingdom Public Capital/GDP
1960--2019