

URBANIZATION AND ECONOMIC DEVELOPMENT

Paul Romer, NYU Marron Institute of Urban Management
paul@paulromer.net

Urbanization and Poverty Reduction Research Conference

February 1, 2016

ABSTRACT THEORY OF CATCH-UP GROWTH

- ▶ Technology already exists in rest of the world
- ▶ Using it to produce better standards of living involves complementarity between domestic private goods and public goods
- ▶ The fundamental constraint lies in the limited capacity of the state to provide the public goods

SETTING PRIORITIES

- ▶ Given the inevitable capacity constraints, it is not helpful to list all the things that a government “should” do, as in the MDGs
- ▶ The relevant questions are: What is most important to do today versus what can it do later when it has more capacity?

IS x A HIGH PRIORITY PUBLIC GOOD?

- I. Does a plausible theory justify an important role for public good x in raising GDP per capita (y)?
- II. In the data, do x and y vary together?
- III. Are there feasible policies that can increase x ?
- IV. Does (at least) some causation run from x to y ?

If x fails I, II, or III, it's not a promising candidate for speeding up growth. It may not be worth even trying to answer question IV.

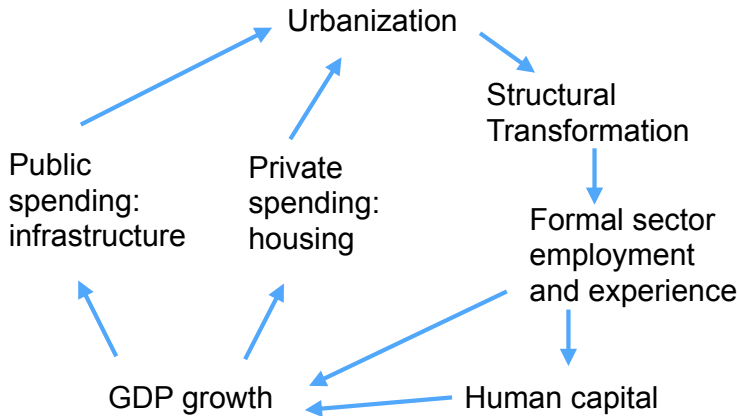
THREE CANDIDATE TYPES OF PUBLIC GOODS

- ▶ Health
- ▶ Education
- ▶ Urbanization

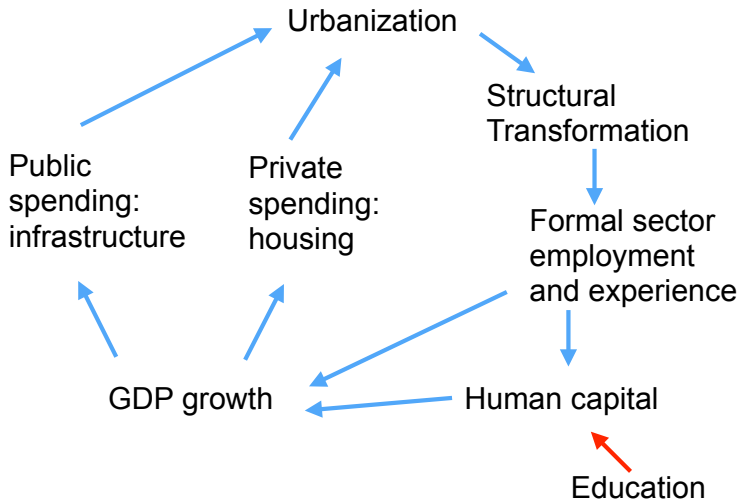
HEALTH

- ▶ We have seen relatively more progress in health; e.g. more convergence in health than in market income
- ▶ This could be partly because nonstate entities can provide relevant public, e.g. vaccines
- ▶ These are a natural opportunity for external participation
- ▶ However better health might not increase capacity of the state; nonstate provision might even undermine it
- ▶ Nothing more to say about presentation about health in the rest of this presentation

I. THEORY: HUMAN CAPITAL AND URBANIZATION

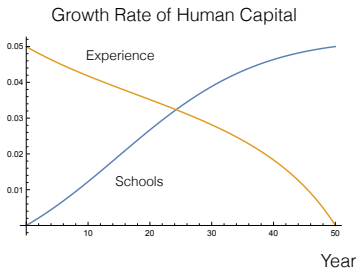
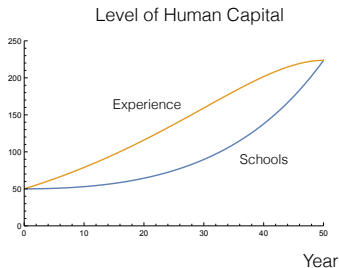


EDUCATION AS LEVER?

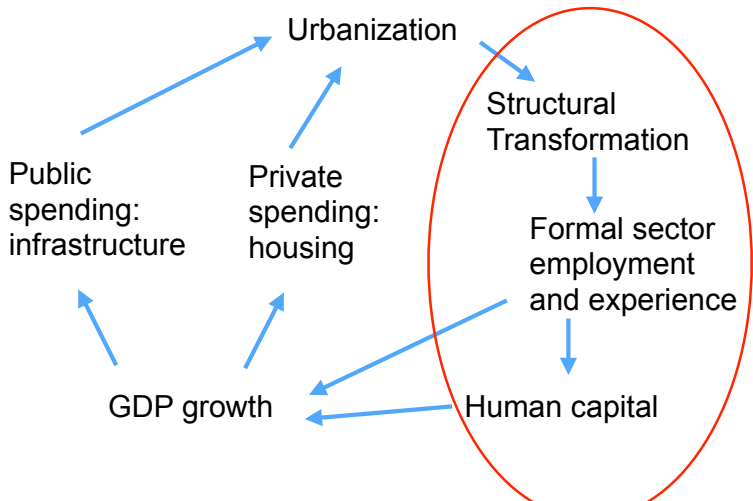


LONG LAG BETWEEN BETTER SCHOOLS AND MORE H

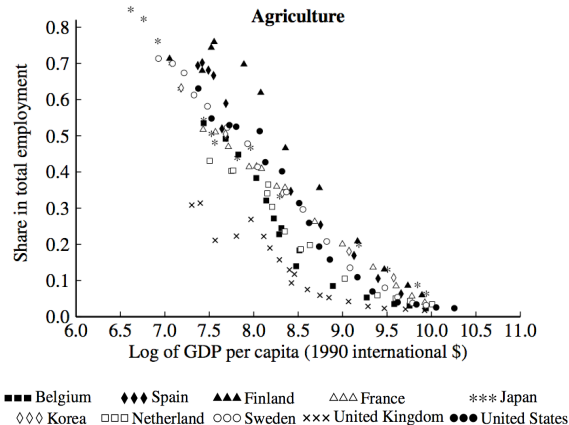
Suppose people work for 50 years. Start at $t = 0$ with workforce with human capital $H = 1$ for all ages. Compare two possible effects from public goods: a) H of school leavers starts increasing by 5% per year or b) workers start acquiring an additional 5% of H for each year of experience on the job:



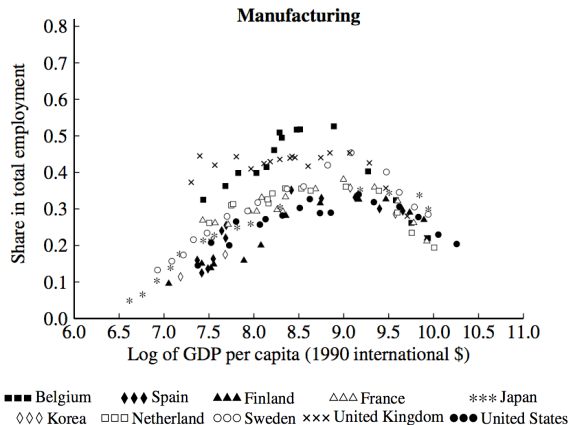
? STRUCTURAL TRANS \Rightarrow FORMAL
SECTOR JOBS \Rightarrow HUMAN CAPITAL



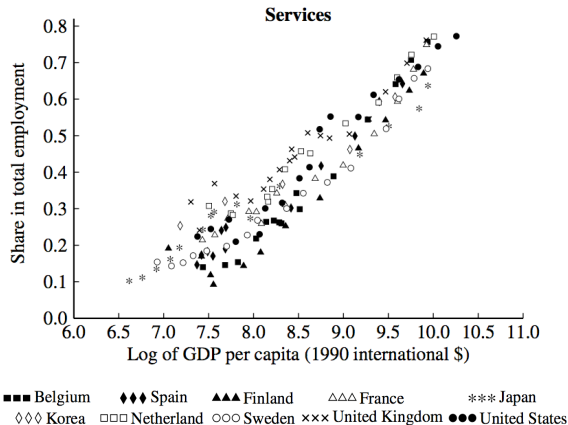
Employment Share 1800-2000



Employment Share 1800-2000



Employment Share 1800-2000



STRUCTURAL TRANSFORMATION DEPENDS ON URBANIZATION

- ▶ One problem with agriculture, particularly by small holders, is that it may not generate as much H via experience
- ▶ Formal sector jobs in manufacturing and services are more productive in an urban area
- ▶ Workers are more likely to be matched with a more educated manager in an urban area
- ▶ Complementary inputs provided by the rest of the world (e.g. via DFI) are more likely to be present in an urban area

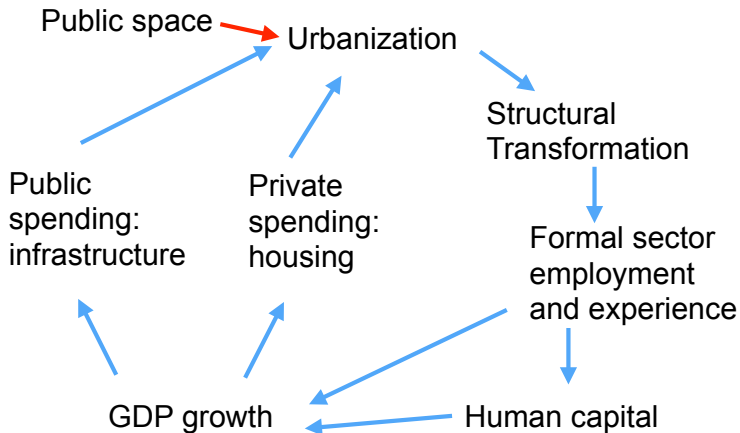
TYPES OF *H* ACQUIRED VIA EXPERIENCE

"Non-cognitive human capital"

- ▶ Punctuality
- ▶ Reliability
- ▶ Adherence to strict quality standards
- ▶ Team work

In most countries, formal sector employment may be better at developing these skills than the school system

HENCE, ENCOURAGE URBANIZATION



II. DO URBANIZATION AND INCOME VARY TOGETHER?

1. Historical Examples of increases of x and y by large factors?
2. Post WWII data - correlated in the cross section?
3. Post WWII data - correlated in changes over time?
4. Coincident change in rate of growth of x and y ?

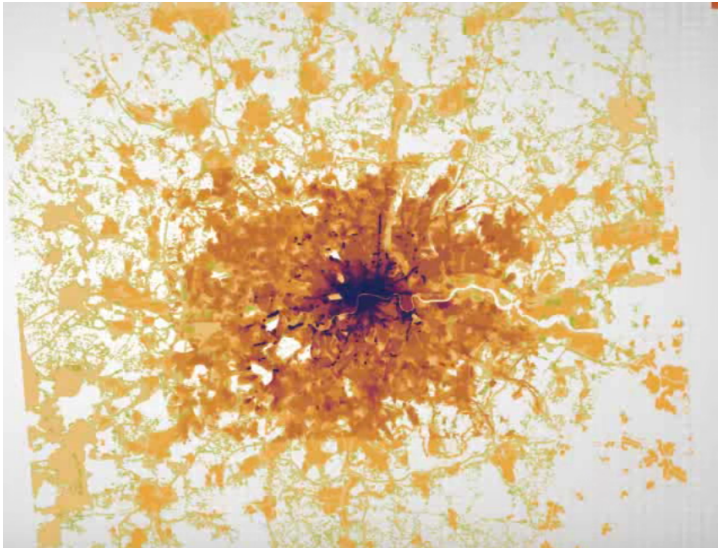
II.1: HISTORICAL CASES

Looking over a century or more, do countries that have successfully raised GDP per capita experience a parallel increase in urbanization? Yes of course.

II.1: HISTORICAL CASE - LONDON 1800



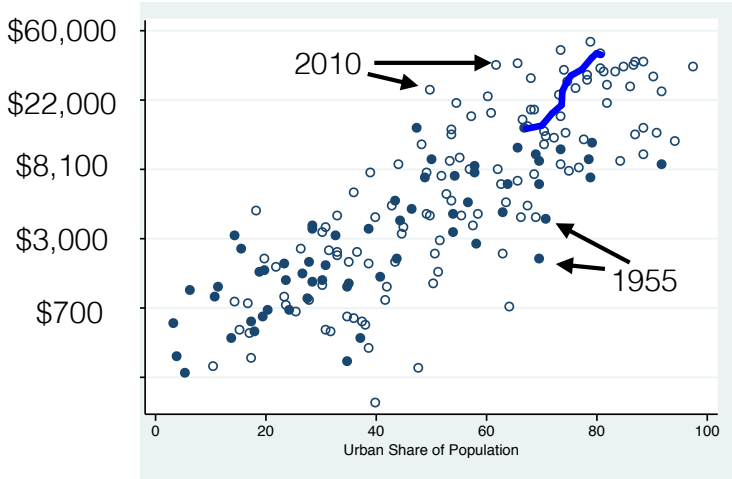
II.1: HISTORICAL CASE - LONDON 2000



II.2 AND II.3: CORRELATION OF x AND y BETWEEN COUNTRIES AND OVER TIME?

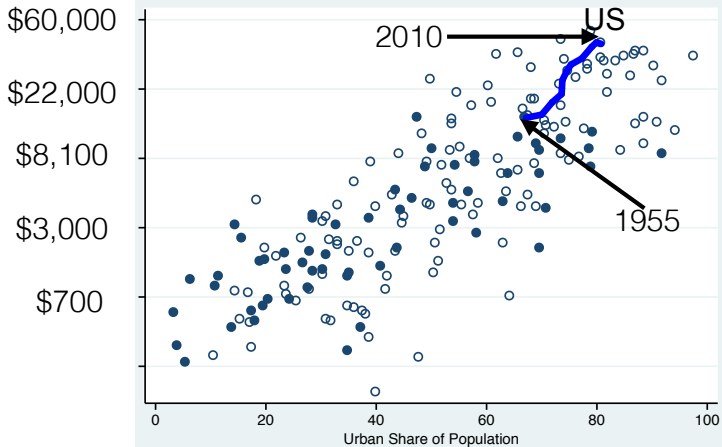
In the post WWII sample, do we see cross-sectional and time series correlation between urbanization and GDP per capita?
Yes.

Urban Share and GDP per capita



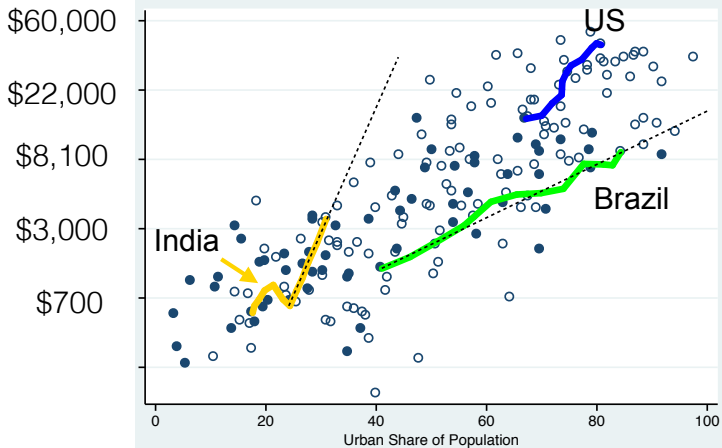
Trend in US

GDP
per capita



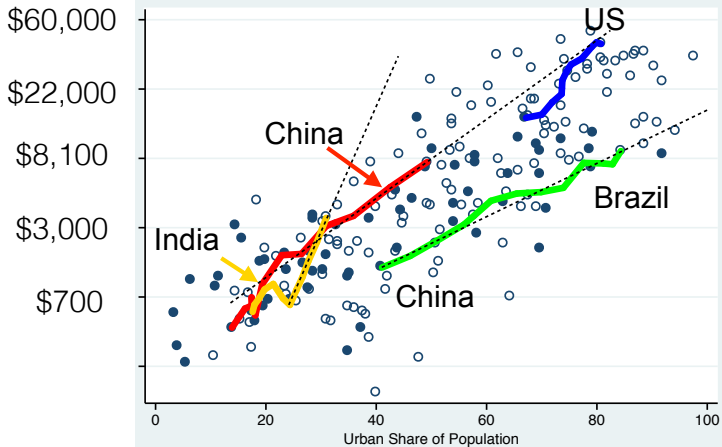
Add India and Brazil

GDP
per capita



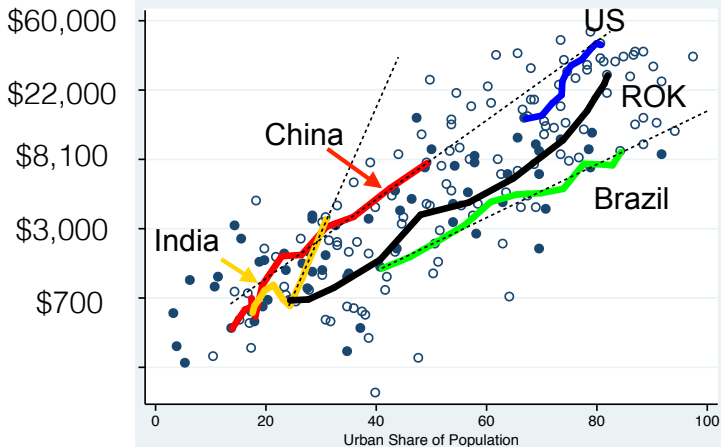
Add China

GDP
per capita



Add South Korea (ROK)

GDP
per capita



ASIDE: INTERACTION EFFECTS

- ▶ The slope of the relationship between u and y varies a lot between countries
- ▶ Suggests that it is $u * z$ that might encourage growth, not u
- ▶ Labor market policy is a likely candidate for z
- ▶ Jedwab also points to evidence that "unsuccessful urbanization" is common and perhaps becoming more common
- ▶ Even if it is $u * z$ that matters for growth rather than u alone, attention to u may be the highest priority because it is so difficult to change once development takes place

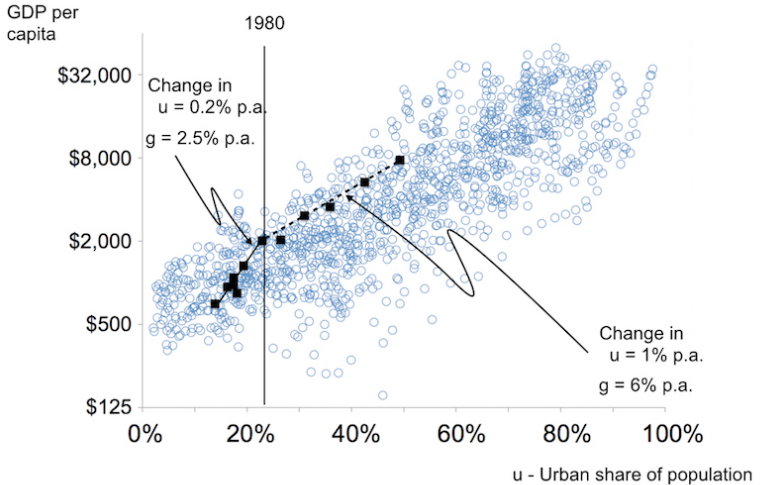
II.4 COINCIDENT CHANGES

Are there cases in which a big change in the rate of growth of urbanization coincides with a big change in the rate of growth of GDP per capita? Yes.

In China, after reform in 1980:

- ▶ the rate of increase of the urban population share increased from 0.2% per year to 1%
- ▶ the rate of growth of GDP per capita increased from 2.5% per year to 6% per year

China, 1955-1980 and 1980-2010



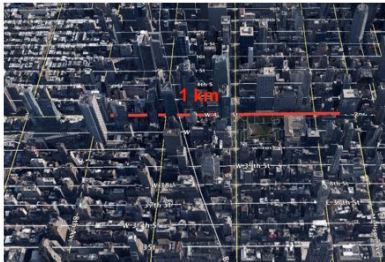
III. CAN ANYONE INCREASE THE PACE AND QUALITY OF URBANIZATION?

- ▶ Built urban area differs from a good like restaurant meals.
 - ▶ Governments can let the market supply restaurant meals.
 - ▶ If regulation is required for health reasons, it can be added later.
- ▶ Collective action is required first to get the public space that allows urban mobility and interconnection
 - ▶ The market does not supply it
 - ▶ Once urban development takes place, almost impossible to increase or reconfigure public space

PUBLIC SPACE FOR MOBILITY

The 1811 Commissioner's plan for New York City set aside 32% of the land in midtown Manhattan for surface mobility. A 1 km line on 42nd Street is bisected by many avenues that a bus can go down.

New York



Bangkok



PUBLIC SPACE FOR MOBILITY

In parts of Bangkok that developed in an uncoordinated, "atomistic" fashion, there are regions where a comparable 1 km line is not bisected by a single road that a bus can travel.

New York



Bangkok

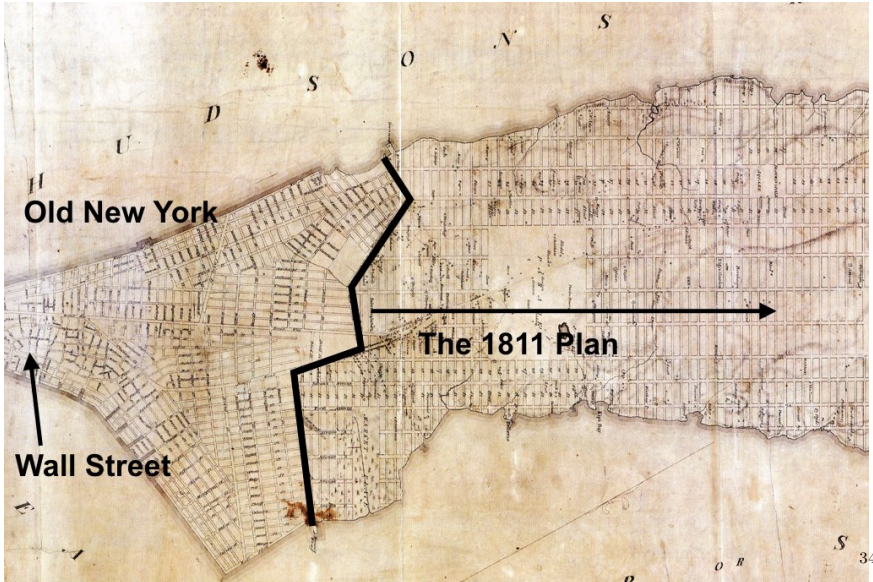


STREETS ARE FOREVER

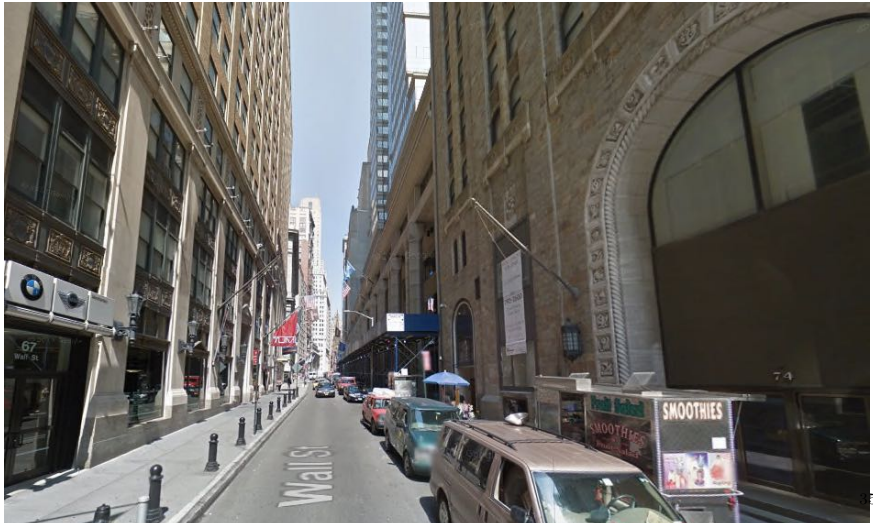
Once urban development takes place and some division of land into public space and private space is established, it almost never is changed.

- ▶ It is unlikely that the real estate interests that backed Haussman's additions to public space in Paris in the 19th century will ever again have the political power to tear down buildings and redraw property lines.
- ▶ Because of political opposition, Hausmann himself was fired.

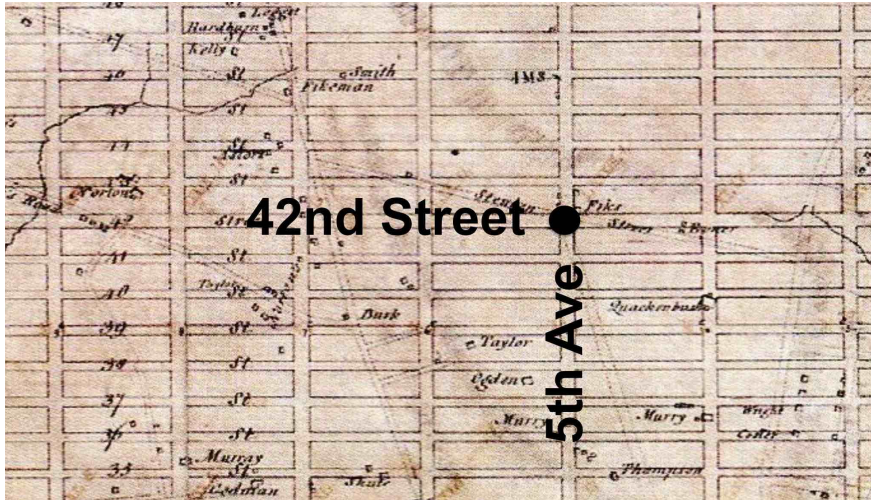
WALL STREET WAS BUILT BEFORE THE 1811 PLAN FOR NYC



TODAY, THE STREET SYNONYMOUS
WITH CAPITALISM STILL HAS NO ROOM
FOR A BUS OR PEDESTRIANS



STREETS IN MIDTOWN ARE WIDER BECAUSE OF THE 1811 PLAN



A BUS ON 42ND STREET



PEDESTRIANS ON 5TH AVE



OTHER GRIDS

Establishing a grid is easy

If someone puts "stakes in the ground" before development takes place, this is enough to coordinate private activity

One surveyor and (at most) three commissioners drew the 1811 grid for Manhattan

The surveyor and a few helpers then staked all the intersections

In a few cases, nonstate actors provide the stakes in the ground

EL CARMEN SQUATTER SETTLEMENT, PERU



BURNING MAN CAMP



WHAT ABOUT CAUSALITY AND OTHER CAUSAL FACTORS?

- ▶ Causality almost surely goes both ways: $u \iff y$
- ▶ Worst case, $y \implies u$ and planning for a grid allows more functional urban development even if it does not increase the rate of growth of y
- ▶ More likely, better and faster urbanization does also encourage faster growth
- ▶ Defining public space is easy and inexpensive
- ▶ It is arguably the highest priority in the developing world today
- ▶ Other policies, e.g. to encourage formal sector employment, can be adopted later

RECAP

- I. Does a plausible theory justify a big role for urbanization in raising GDP per capita? Yes, provided formal sector employment is also tolerated or encouraged
- II. In the data, do urbanization and GDP per capita vary together? Yes
- III. Can the government or some form of collective action facilitate urbanization? Yes. In fact, some kind of prior action is essential for successful urbanization.