World Macroeconomic Overview

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Outline

Part 1: Latin America Discussion
   o Overview of recent conditions
   o Commodity price reliance
   o Inflation and inflation expectations
   o Long run growth discussion

Part 2: Housing Markets

Part 3: Weak Labor Markets and Populism in Developed Countries

Part 4: Europe and Brexit

Part 5: Questions/Discussion
Part 1: Latin American Discussion
Real GDP Growth, Brazil (2010 US Dollars)
Real GDP Growth, Venezuela (2010 US Dollars)
## Broad GDP Growth: Latin America

<table>
<thead>
<tr>
<th>Country</th>
<th>2015 Actual</th>
<th>2016 Projected</th>
<th>2017 Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td>-0.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Argentina</td>
<td>2.1%</td>
<td>-1.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Bolivia</td>
<td></td>
<td>3.7%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Brazil</td>
<td>-3.8%</td>
<td>-3.3%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Chile</td>
<td>2.1%</td>
<td>1.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Columbia</td>
<td>3.1%</td>
<td>2.3%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Ecuador</td>
<td>0.3%</td>
<td>-2.9%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.5%</td>
<td>2.9%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>3.0%</td>
<td>2.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Peru</td>
<td>3.3%</td>
<td>3.6%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1.0%</td>
<td>0.6%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Venezuela</td>
<td>-5.7%</td>
<td>-9.0%</td>
<td>-2.3%</td>
</tr>
</tbody>
</table>
Recent Cause of Slow Growth

• Reliance on commodity sector
• Inefficiency in labor market
• Large public transfer commitments
• Housing bubble correction
• Corruption
Recent Cause of Slow Growth

- Reliance on commodity sector  \textit{(will discuss more)}
- Inefficiency in labor market
- Large public transfer commitments \textit{(will discuss more)}
- Housing bubble correction \textit{(will discuss more)}
- Corruption
Recent Cause of Slow Growth

- Reliance on commodity sector  *(will discuss more)*
- Inefficiency in labor market *(restrictions make it hard to hire/fire workers)*
- Large public transfer commitments *(will discuss more)*
- Housing bubble correction *(will discuss more)*
- Corruption *(recent scandals have created uncertainty)*
Recent Cause of Slow Growth

• Reliance on commodity sector  (will discuss more)

• Inefficiency in labor market (restrictions make it hard to hire/fire workers)

• Large public transfer commitments (will discuss more)

• Housing bubble correction (will discuss more)

• Corruption  (recent scandals have created uncertainty)

• Note: Decline in economic activity in Brazil is occurring despite the ramp up for the Olympics.
Part 1a:
Latin America and Commodity Markets
Importance of Commodity Sector to Latin American Economies

• Many popular press articles concerned about Latin American dependence on commodity prices

• The Economist (9/9/2010)

  “Commodities alone are not enough to sustain flourishing economies”

• During the 2000’s, 52 percent of regions exports were commodities (World Bank).

• Chile, Peru, and Venezuela rely on raw materials for three-quarters of their exports.

• Estimates suggest that one-third to one-half of regions growth during the 2000s can be attributed to higher demand for commodities.
Tax Revenues From Natural Resources

Can’t do without them
Tax revenue from natural resources as % of total tax revenue

<table>
<thead>
<tr>
<th>Country</th>
<th>1998</th>
<th>2008</th>
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<tbody>
<tr>
<td>Venezuela</td>
<td></td>
<td></td>
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<tr>
<td>Ecuador</td>
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<td></td>
</tr>
<tr>
<td>Mexico</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolivia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin America &amp; Caribbean average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peru</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: World Bank

Taken from economist magazine
Monthly Oil Prices Since 2000

Source: US. Energy Information Administration
fred.stlouisfed.org
Trends in Composite Commodity Prices Over Time (IMF)

Figure 1. SF.1. Commodity Market Developments

1. Commodity Price Indices
   (2005 = 100)

- All commodities
- Energy
- Food
- Metals

2005 06 07 08 09 10 11 12 13 14 16
What Drove the Commodity Price Boom?

• Chinese and Indian growth

• Massively large countries grew very fast.
  o Increased demand for commodities and energy
  o As economic growth in those countries moderates, so will their commodity demand.
  o Additionally, they will start to mine their own commodities (seeing this already in resource rich China).
Oil Price Forecasts (IMF)

4. Brent Price Prospects²
(U.S. dollars a barrel)

- Futures
- 68 percent confidence interval
- 86 percent confidence interval
- 95 percent confidence interval

2012 13 14 15 16 17 18 19
Concerns About Commodity Price Reliance

- Volatility (commodity prices are volatile)

- “Dutch Disease” – referred to the North Sea’s gas boom in the mid-1970s on the economy of the Netherlands.
  - Commodity prices drive value of the currency making other parts of the economy less competitive. Increases reliance on commodity sector.
  - I expand the definition to refer to anything that draws resources towards one sector and away from another sector.

- Many non-agricultural commodities are not renewable. When they are gone, they are gone.

- Short run supply restrictions on commodity extractions yields large rents that are often expropriated by government (often leading to corruption).
Commodity Price Boom and Low Growth

• As commodity prices grow, incentive of commodity rich countries to focus on extraction.

• The relative “monopoly” of the commodity exporters creates rents.

• There is not as much incentive to increase efficiency given the excess rents to the economy.

• Can result in large growth in output (and employment) without a corresponding increase in productivity.

• **If the resource boom is temporary, can have lasting effects on a countries growth prospects.**

• A similar story can be told for effects of housing boom in U.S., Spain, etc. during the 2000’s.
Part 2b: Latin America Inflation and Inflation Expectations
Annual Brazilian Inflation Rate (2002-2016)
Monthly Inflation Rate, Argentina

Source: State Street
fred.stlouisfed.org
“Classic” Theories of Money

- Quantity Theory of Money (Milton Friedman)

  \[ \text{Money growth} + \text{velocity of money growth} = \]

  \[ \text{real GPD growth} + \text{inflation} \]

- Velocity of money growth is how much times an average unit money turns over in the economy (Nominal GDP divided by money supply)

- If velocity of money is constant and real GDP is beyond the Central Bank’s long run control then ... **tight link between money growth and inflation!**

- Friedman quote: “Inflation is always and everywhere a monetary phenomenon”

- Relationship holds empirically.

- However, there are some deviations because neither the velocity of money nor real GDP growth is constant.
Money Growth and Inflation: 1990

Correlation between inflation and money growth ~ 0.90 over long periods of time.

Data from Greg Mankiw’s Text Book
Where Does Inflation Come From

1. “Monetizing” Deficits (printing money to pay for government outlays)

2. Cost shocks (e.g., oil prices go up for a net oil consuming country)

3. Negative productivity shock (e.g., oil prices go down for net oil producing country)

4. Expectations – Can lead to persistent inflation.
Brazilian Debt to GDP Ratio (Bloomberg)
Government Debt, Money and Inflation

- Often times, governments increase the money supply to pay for government debts.

- Government outlays:
  - Expenditures (roads, military, Olympics, etc.)
  - Transfers (old age pensions, welfare programs, etc.)
  - Interest on government debt

- Government inflows:
  - Taxes
  - Government investments (natural resources, etc.)

- If outlays > inflows
  - Borrow to fund outlays
  - Increase the money supply
Government Debt, Money and Inflation

- Most modern periods of inflation are the result of government deficits.
- Key to solving this type of inflation: balancing the government budget.
- Balancing budget results from:
  1. Cutting government spending
  2. Cutting government transfers
  3. Raising taxes
- All three methods can lead to recessions in the short run. Often politically infeasible.
- Inherent tradeoff between fighting inflation and promoting GDP growth!
Central Banks and Deficit Fueled Inflation

- Standard way central banks fight inflation: raise interest rates

- **Raising interest rates, however, can increase government outlays associated with servicing the debt.**

- Trade off – raising interest rates can help choke off demand lowering price pressures. However, raising interest rates can increase deficit pressures.

- Also, raising interest rates chokes off demand reducing output – i.e., making the current recession worse.

- Central banks tend to be hand-cuffed with deficit driven inflation.
Fiscal Deficits and Sovereign Default

- As deficits increase, probability of default rises.

- As default probabilities rise, lenders require a default premium → interest rates on government debt rises.

- As interest rates rise, outlays associated with debt servicing also rise – this increases the probability of default (by increasing the need to borrow).

- Small initial changes in default probabilities can subsequently lead to rapid changes in subsequent default probabilities.

- Think Greece over the last few years.

- Makes it harder to solve the fiscal issues!
A Simple Macro Model of Economy
A Commodity Price Collapse (Commodity Producing Economy)
Central Bank Fights Inflation

Prices

New Aggregate Demand (Lower because interest rates went up)

Aggregate Demand

Aggregate Supply

New Aggregate Supply

Output (GDP)
Central Bank Accommodates Inflation

New Aggregate Demand is higher because interest rates went down.

Output (GDP)
Expectations are the Key to Sustainable Low Inflation

- Low inflation expectations can CAUSE low actual inflation!


Source: US. Bureau of Labor Statistics
Shaded areas indicate US recessions - 2015 research.stlouisfed.org
Keeping Brazil and Argentina Inflation in Check

- Solve fiscal issues

- Reduce government transfers.
  - Reduce government pension commitments
  - Increase tax base
  - Reform labor market policies – increase formal sector workers.

- Establish central bank credibility (being tough on inflation). Hard to do until the fiscal conditions improve.
Part 2c:
Long Run Growth in Latin America
A Primer on Measuring Economic Growth

\[ Y = f(A, K, N, \text{raw materials}) \]

\[ Y = \text{GDP} \]

\[ f(.) = \text{Some production function} \]

**Inputs into production**

\[ K = \text{capital stock (machines, buildings, production equipment, etc.)} \]
\[ N = \text{labor force (number and quality of workers)} \]

\[ A = \text{Defined as “Total Factor Productivity”} \]
Defining Total Factor Productivity

- Total Factor Productivity (TFP) is basically a catch all for anything that affects output other than K, N and raw materials

- **Examples**
  - Innovation (including innovation in management practices)
  - Competition
  - Specialization
  - Regulation
  - Infrastructure
  - Work week of labor and capital
  - Quality of labor and capital
  - Changes in “discrimination” or “culture”
Growth Accounting

Output growth in a country comes from:

- Growth in TFP (see entrepreneurial ability, education, roads, technology, etc.)
- Growth in Capital (machines, equipment, plants)
- Growth in Hours (workforce, population, labor participation, etc.)

One can decompose output growth into the part determined by A, K, and N.
What Causes Sustained Growth?

• Sustained increases in the growth of A are the only thing that can cause a sustained growth in output per person.

• Empirically, when a country exhibits faster Y/N growth …..

  33% typically comes from growth in K/N  
  67% typically comes from growth in A

(where N = employment (not hours) - limited data).
Growth Across Countries

- Most developed economies grow at the same rate that the “technological frontier” grows. Roughly 2% per year.

Some helpful definitions:

**Convergence** – countries inside of the technological frontier move towards the technological frontier.

**Divergence** – countries inside of the technological frontier grow at a rate less than the technological frontier.
Distribution of World GDP in 2014 (IMF, $)
## Distribution of World GDP in 2014 (IMF, $)

<table>
<thead>
<tr>
<th>Top 10</th>
<th>Other Notable</th>
<th>Bottom 10</th>
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</thead>
<tbody>
<tr>
<td>Qatar</td>
<td>132,099</td>
<td>Lithuania</td>
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<td>Luxembourg</td>
<td>98,987</td>
<td>Russia</td>
</tr>
<tr>
<td>Singapore</td>
<td>85,253</td>
<td>Chile/Argentina</td>
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<tr>
<td>Brunei</td>
<td>79,587</td>
<td>Turkey</td>
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<td>Kuwait</td>
<td>70,166</td>
<td>Venezuela</td>
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<td>Norway</td>
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<tr>
<td>UAE</td>
<td>67,617</td>
<td>China</td>
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<td>Switzerland</td>
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<td>South Africa</td>
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<td>Hong Kong</td>
<td>56,701</td>
<td>Ukraine</td>
</tr>
<tr>
<td>USA</td>
<td>55,805</td>
<td>India</td>
</tr>
</tbody>
</table>
Some Data: Distribution of World GDP in 2000

From Barro, 2003 – includes 147 countries. Horizontal axis is a log scale. All data are in 1995 U.S. dollars.
Some Data: Distribution of World GDP in 1960

From Barro, 2003 – includes 113 countries. Horizontal axis is a log scale. All data are in 1995 U.S. dollars.
Growth Rate of GDP Per Capita: 1960 - 2000

From Barro, 2003 – includes 111 countries.
Recent Growth Rates for Developing Countries

- 1992-2010 Annual Growth Rates (United Nations Data)
  - Asia (All): 6.4%
  - East Asia: 7.3%
  - Africa: 4.5%
  - South America: 3.1%

- Note – these numbers pre-date the recent slowdown

- South America has not had sustained large growth rates over multiple decades (at least not in last 50 years).

- Reasons: Reliance on commodity production, labor market regulations, corruption, large fiscal transfers
Part 2: Understanding Housing Markets
What I Will Do

- Establish three “facts” about the nature of housing prices.

- Provide a simple model to understand housing price dynamics.

- Forecast housing prices out for the U.S., China and Latin American (broadly).

- Discuss potential housing price collapse on Chinese economy.
Real House Price Index (2005Q1 = 100)

Source: BIS Monetary and Economic Department
Three Facts About Housing Prices in Developed Countries

1. Long run house price appreciation averages 0 – 2 percent real per year.

2. Housing prices cycle (big booms are almost always followed by big busts)

3. Supply and demand pin down house prices.

• Caveat – “gentrification” can lead to sustained house prices over time.

• What is gentrification? Is it more likely to occur in developing economies?
Massive Housing Boom
Real House Price Growth: Brazil (2002-2016)

Massive Housing Bust

Source: BIS Monetary and Economic Department
# Average Annual Real Price Growth Across Countries

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>0.021</td>
<td>0.049</td>
<td>0.033</td>
</tr>
<tr>
<td>Canada</td>
<td>0.007</td>
<td>0.061</td>
<td>0.047</td>
</tr>
<tr>
<td>Germany</td>
<td>0.000</td>
<td>-0.018</td>
<td>-0.007</td>
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<tr>
<td><strong>Denmark</strong></td>
<td><strong>0.009</strong></td>
<td><strong>0.069</strong></td>
<td><strong>0.013</strong></td>
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<tr>
<td>Spain</td>
<td>0.014</td>
<td>0.094</td>
<td>0.015</td>
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<tr>
<td>Finland</td>
<td>0.008</td>
<td>0.059</td>
<td>0.028</td>
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<tr>
<td>France</td>
<td>0.011</td>
<td>0.084</td>
<td>0.041</td>
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<td><strong>UK</strong></td>
<td><strong>0.026</strong></td>
<td><strong>0.075</strong></td>
<td><strong>0.032</strong></td>
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<tr>
<td>Ireland</td>
<td>0.038</td>
<td>0.073</td>
<td>-0.004</td>
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<tr>
<td>Italy</td>
<td>0.003</td>
<td>0.052</td>
<td>0.009</td>
</tr>
<tr>
<td>Japan</td>
<td>0.011</td>
<td>-0.034</td>
<td>-0.025</td>
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<tr>
<td>Luxembourg</td>
<td>0.035</td>
<td>0.073</td>
<td>0.039</td>
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<tr>
<td>Norway</td>
<td>0.012</td>
<td>0.043</td>
<td>0.039</td>
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<tr>
<td>Sweden</td>
<td>-0.006</td>
<td>0.060</td>
<td>0.039</td>
</tr>
<tr>
<td>S. Africa</td>
<td>-0.024</td>
<td>0.112</td>
<td>0.051</td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td><strong>0.012</strong></td>
<td><strong>0.048</strong></td>
<td><strong>0.005</strong></td>
</tr>
<tr>
<td>Average</td>
<td>0.011</td>
<td>0.056</td>
<td>0.022</td>
</tr>
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</table>
Real House Price Growth in Spain
(Annual Appreciation)
Real House Price Growth in Ireland
(Annual Appreciation)
Real House Price Growth in Japan
(Annual Appreciation)
Real House Price Index in South Korea
Typical “Local” Cycle: California
Typical “Local” Cycle: Nevada
Equilibrium in Housing Markets

\[ P_H \]

\[ Q_H \]

Fixed Supply

Demand
Equilibrium in Housing Markets

![Diagram showing equilibrium in housing markets with fixed supply and demand curves.]

- Fixed Supply
- Demand
- $P_H'$
- $P_H$
- $Q_H$
Equilibrium in Housing Markets

Fixed Supply

Supply Eventually Adjusts

Demand

$P_H$, $P_H'$, $P_H''$

$Q_H$
How Does Supply Adjust?

- Build on Vacant Land
- Convert Rental or Commercial Property
- Build Up
- Build Out (Suburbs)
- Build Way Out (Create New Cities)
- Some of these adjustments can take considerable amounts of time.

Caveat: Gentrification/Agglomeration can lead to sustained increases in house prices.
Why Do House Prices Cycle?

• Supply and demand forces.

• When demand increases (increasing prices), supply eventually adjusts (build more houses).

• The increase in housing supply moderates price growth.

• Housing supply – in the long run – is very elastic (convert old properties, build on vacant land, create new cities, etc.).
U.S Quarterly Housing Starts (in 1,000s): 1970M1-2015M7

Source: US. Bureau of the Census
Shaded areas indicate US recessions - 2015 research.stlouisfed.org
Housing Prices in China

- China house prices have grown massively during the 2000s (e.g., ~500% in Beijing, ~350% in Shanghai, and 200% in mid-sized cities).

- Is the housing price boom in China “a bubble”?

- Some academics/officials say no bubble. Income growth was also high. Income growth and housing growth have been tracking each other (although housing growth is slightly higher).

- As seen above, it is hard for economic theory to predict a tight relationship between housing price growth and income growth (because supply can adjust).

- Empirically, no relationship between house price growth and income growth.
House Price Growth in China (Fang et al, 2015)
## House Price Growth vs. Income Growth

<table>
<thead>
<tr>
<th>Country</th>
<th>Cumulative Real Per Cap. Income Growth</th>
<th>Cumulative Real House Price Growth</th>
<th>House Price Growth/Income Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>0.13</td>
<td>0.19</td>
<td>1.46</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.26</td>
<td>0.79</td>
<td>3.04</td>
</tr>
<tr>
<td>Spain</td>
<td>0.27</td>
<td>-0.25</td>
<td>-0.93</td>
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<tr>
<td>Denmark</td>
<td>0.37</td>
<td>0.48</td>
<td>1.30</td>
</tr>
<tr>
<td>Italy</td>
<td>0.37</td>
<td>-0.01</td>
<td>-0.03</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.47</td>
<td>0.34</td>
<td>0.72</td>
</tr>
<tr>
<td>France</td>
<td>0.50</td>
<td>0.89</td>
<td>1.78</td>
</tr>
<tr>
<td>Canada</td>
<td>0.52</td>
<td>0.91</td>
<td>1.75</td>
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<td>Germany</td>
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<td>-0.01</td>
<td>-0.02</td>
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<tr>
<td>Australia</td>
<td>0.53</td>
<td>1.21</td>
<td>2.28</td>
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<tr>
<td>Sweden</td>
<td>0.56</td>
<td>0.59</td>
<td>1.05</td>
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<tr>
<td>Japan</td>
<td>0.60</td>
<td>-0.20</td>
<td>-0.33</td>
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<tr>
<td>United States</td>
<td>0.63</td>
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<td>0.73</td>
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<tr>
<td>Ireland</td>
<td>0.71</td>
<td>1.19</td>
<td>1.68</td>
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<tr>
<td>United Kingdom</td>
<td>0.76</td>
<td>1.21</td>
<td>1.59</td>
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<tr>
<td>Norway</td>
<td>0.92</td>
<td>0.94</td>
<td>1.02</td>
</tr>
<tr>
<td>South Korea</td>
<td>1.53</td>
<td>0.13</td>
<td>0.08</td>
</tr>
<tr>
<td>Croatia</td>
<td>2.58</td>
<td>0.08</td>
<td>0.03</td>
</tr>
</tbody>
</table>
What is Driving Property Price Boom in China?

- How much of the increase in Chinese housing demand during last decade is due to lack of alternate investment options?

- Antidotal evidence that housing is a preferred investment vehicle in China given low returns on bank accounts and restricted access to equity markets.

- Some evidence that foreign Chinese investors have propped up housing prices in London, Vancouver, and Toronto.

- Little formal analysis on this topic.
Data on Multiple Ownership of Residential Property

- Data from China’s Urban Household Survey
- Analyzed data for Liaoning, Shanghai, Guangdong, and Sichuan
- Fraction of households (by income category) who own 1 or 2 houses.

<table>
<thead>
<tr>
<th>Year = 2012</th>
<th>Number of Homes (All Homeowners)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Liaoning</td>
<td>88.68</td>
</tr>
<tr>
<td>Shanghai</td>
<td>84.99</td>
</tr>
<tr>
<td>Guangdong</td>
<td>76.55</td>
</tr>
<tr>
<td>Sichuan</td>
<td>79.42</td>
</tr>
</tbody>
</table>
# Data on Multiple Ownership of Residential Property

- Data from China’s Urban Household Survey
- Analyzed data for Liaoning, Shanghai, Guangdong, and Sichuan
- Fraction of households (by income category) who own 1 or 2 houses.

<table>
<thead>
<tr>
<th>Income Quartile</th>
<th>Shanghai 1 house</th>
<th>Shanghai 2 house</th>
<th>Guangdong 1 house</th>
<th>Guangdong 2 house</th>
<th>Sichuan 1 house</th>
<th>Sichuan 2 house</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom</td>
<td>93.82</td>
<td>5.77</td>
<td>90.75</td>
<td>8.23</td>
<td>89.97</td>
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<td>Second</td>
<td>90.39</td>
<td>9.61</td>
<td>81.76</td>
<td>16.09</td>
<td>85.44</td>
<td>11.99</td>
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<td>Third</td>
<td>84.07</td>
<td>15.52</td>
<td>71.45</td>
<td>23.26</td>
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<td>Top</td>
<td>71.64</td>
<td>24.02</td>
<td>62.18</td>
<td>26.75</td>
<td>66.94</td>
<td>27.66</td>
</tr>
</tbody>
</table>
Housing Supply Growth in Chinese Cities

Deng et al. (2015), NYU working paper
Unsold Housing Inventories in Chinese Cities

Figure 9: Unsold Inventory Held by Developers As a Share of Sales Volume, A Closer Look at 12 Major Markets

Deng et al. (2015), NYU working paper
Vacancy Rate in Chinese Cities

Deng et al. (2015), NYU working paper
House Prices and The Macroeconomy

- Three channels of house prices on economic activity
  - Building channel (high housing demand creates jobs in construction sector).
  - Wealth channel (high house prices can drive spending because people feel wealthier or because they tap into home equity).
  - Bank channel (falling house prices could cause defaults which causes banks to lose money – effects aggregate lending).

- Lower leverage in Latin America limits the latter channel (bank losses could be less from a property price decline).
House Price Forecast: U.S.

- Housing prices have – for the most part - stabilizing in nominal terms.

- We should expect annual real housing price growth of somewhere in the range of 0% to 3% in the medium run.

- Housing market will not be “rebonding” toward 2006 levels anytime soon.
  - Housing supply has stabilized
  - No reason to expect a large housing demand shock
House Price Forecast: Latin America

- Fair amount of heterogeneity across markets

- Hard (impossible) for large housing booms to not be followed by large housing busts.

- Evidence in Brazil

- Even more surprising given the Olympics (using Olympics provide a boom to house prices).

- Would not expect to see house prices rebound in Brazil anytime soon.
House Price Forecast: China

- I believe housing prices to be over-inflated.

- Prices are stabilizing in tier 2 cities. Still growing rapidly in tier 1 cities.

- Demand is propped up – housing being treated as an investment vehicle.

- Financial liberalization may cause a housing price collapse.

- Supply reforms could also cause property prices to plummet (local government could sell off land).

- Government has shown a willingness to prop up property prices.

- Will the housing price collapse effect the overall economy?
Risks to the Chinese Economy

- Chinese growth has slowed substantially

- Effects have been felt worldwide (particularly for commodity producing countries).

- I believe house prices are overvalued. (Maybe stocks to – hard to know when Chinese government is actively managing stock prices).

- Chinese economy is something definitely to monitor going forward.
Part 3: The US Labor Market
– The Cause of Recent Populism
Male Employment Rate, Age 21-54, By Skill

Higher Skilled Men

Lower Skilled Men
Employment Rate, Lower Skilled Men, Age 21-30 (March CPS)
## CPS Employment Rate By Sex-Skill-Age, March CPS

<table>
<thead>
<tr>
<th></th>
<th>Lower Skilled Men</th>
<th></th>
<th>Lower Skilled Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21-30</td>
<td>31-50</td>
<td>21-30</td>
<td>31-50</td>
</tr>
<tr>
<td>2000</td>
<td>0.82</td>
<td>0.86</td>
<td>0.72</td>
<td>0.75</td>
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<tr>
<td>2007</td>
<td>0.79</td>
<td>0.84</td>
<td>0.69</td>
<td>0.74</td>
</tr>
<tr>
<td>2010</td>
<td>0.68</td>
<td>0.77</td>
<td>0.64</td>
<td>0.70</td>
</tr>
<tr>
<td>2015</td>
<td>0.72</td>
<td>0.80</td>
<td>0.67</td>
<td>0.71</td>
</tr>
<tr>
<td>2015-2000</td>
<td>-0.10</td>
<td>-0.06</td>
<td>-0.05</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Higher Skilled Men</th>
<th></th>
<th>Higher Skilled Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21-30</td>
<td>31-50</td>
<td>21-30</td>
<td>31-50</td>
</tr>
<tr>
<td>2000</td>
<td>0.90</td>
<td>0.95</td>
<td>0.86</td>
<td>0.82</td>
</tr>
<tr>
<td>2007</td>
<td>0.90</td>
<td>0.95</td>
<td>0.82</td>
<td>0.79</td>
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<tr>
<td>2010</td>
<td>0.84</td>
<td>0.92</td>
<td>0.80</td>
<td>0.79</td>
</tr>
<tr>
<td>2015</td>
<td>0.84</td>
<td>0.93</td>
<td>0.81</td>
<td>0.81</td>
</tr>
<tr>
<td>2015-2000</td>
<td>-0.06</td>
<td>-0.02</td>
<td>-0.05</td>
<td>-0.01</td>
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</tbody>
</table>
Employment Rate/Employment + Schooling Rate, Lower Skilled Men Aged 21-30 (October CPS)

Share Employed and/or Enrolled in School

Share Employed

Year


0.65 0.70 0.75 0.80 0.85 0.90 0.95
## CPS Employment and/or Schooling Share (October CPS)

### Age 21-30

<table>
<thead>
<tr>
<th>Year</th>
<th>Lower Skilled Men</th>
<th>Lower Skilled Women</th>
<th>Higher Skilled Men</th>
<th>Higher Skilled Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.89</td>
<td>0.74</td>
<td>0.95</td>
<td>0.88</td>
</tr>
<tr>
<td>2007</td>
<td>0.87</td>
<td>0.73</td>
<td>0.94</td>
<td>0.90</td>
</tr>
<tr>
<td>2010</td>
<td>0.80</td>
<td>0.70</td>
<td>0.91</td>
<td>0.87</td>
</tr>
<tr>
<td>2014</td>
<td>0.83</td>
<td>0.71</td>
<td>0.92</td>
<td>0.87</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difference (2014-2000)</th>
<th>Lower Skilled Men</th>
<th>Lower Skilled Women</th>
<th>Higher Skilled Men</th>
<th>Higher Skilled Women</th>
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</thead>
<tbody>
<tr>
<td>-0.06</td>
<td>-0.03</td>
<td>-0.03</td>
<td>-0.01</td>
<td></td>
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</table>
CPS Employment and/or Schooling Share (October CPS)

<table>
<thead>
<tr>
<th>Age 31-50</th>
<th>Lower Skilled Men</th>
<th>Higher Skilled Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.88</td>
<td>0.95</td>
</tr>
<tr>
<td>2007</td>
<td>0.87</td>
<td>0.95</td>
</tr>
<tr>
<td>2010</td>
<td>0.81</td>
<td>0.93</td>
</tr>
<tr>
<td>2014</td>
<td>0.83</td>
<td>0.93</td>
</tr>
<tr>
<td>2014-2000</td>
<td>-0.05</td>
<td>-0.02</td>
</tr>
</tbody>
</table>
Fraction of All Lower Skilled Men Who Worked Zero Weeks During Prior 12 Months, By Age (March CPS)

Year


Fraction With Zero Weeks Worked in Prior Year

- All Low Skilled Men 21-25
- All Low Skilled Men 26-30
- All Low Skilled Men, 21-24, Not in School
Fraction of Non-Working Lower Skilled Men Who Worked Zero Weeks During Prior 12 Months, By Age (March CPS)
Outline

- Why is the employment rate depressed for lower skilled workers? Why is the effect so pronounced for the young (particularly men)?

- Discuss role of technology/trade on:
  - Labor demand
  - Labor supply

- Show evidence of structural forces affecting lower skilled labor markets

- Explore the life style of young lower skilled men:
  - Their labor force attachment
  - Their time use
  - Where they live

- Relate to Current Political Climate
Part 3a:
A Labor Market Primer
Labor Demand: Determined by firms
  Marginal product of labor

Fall in labor demand: Reduce employment and wages
Labor Supply: Determined by households
Marginal utility of leisure

Fall in labor supply: Reduces employment and raises wages
Mean and Median Real Wages for 21-30 Year Old Low Skilled Men, CPS (those with strong attachment to labor force)

Mean Real Wage

Median Real Wage

Large Decline in Employment and Small Change in Wages
Part 3b:
Manufacturing, Housing, and the Masking of Structural Forces
~2 Million Jobs Lost
During 1980s and 1990s
~2 Million Jobs Lost During 1980s and 1990s

~4 Million Jobs Lost Between 2000-2007 (Housing Boom Years)
Total Monthly U.S. Manufacturing Employment (in 1,000s):
1980M1-2015M9

~2 Million Jobs Lost During 1980s and 1990s

~4 Million Jobs Lost Between 2000-2007 (Housing Boom Years)

~2 Million Jobs Lost After 2007
Declining manufacturing demand depresses labor demand for lower skilled workers.
Declining manufacturing demand depresses labor demand for lower skilled workers.

Housing boom increased demand for lower skilled workers (construction, mortgage brokers, local retail, etc.)
Summary: Labor Demand Stories

- Housing boom “masked” the structural decline in manufacturing. The manufacturing decline is “permanent” while the housing boom was temporary.

- This is the focus of a series of papers I have with (with Kerwin Charles and Matt Notowidigdo).

- Structural forces have been weakening the labor market for low skilled workers (both men and women) since the early 2000s.

- Would have shown up before the Great Recession had it not been for the housing boom.

- Because of the housing boom, 2007 is not a “steady state” to which the labor market will return.
Part 3c:  
The Housing Boom and Educational Attainment of Lower Skilled Men
Slowdown in Educational Attainment of Men

Figure 1a: Fraction to Have Ever Attended College, Time Series, Men

- CPS data, repeated cross section, age 18-29
Slowdown in Educational Attainment of Women

Figure 1b: Fraction to Have Ever Attended College, Time Series, Women

- CPS data, repeated cross section, age 18-29
Cohort Analysis, Men

Figure 2: Cohort Analysis, Men

- CPS Cohort plots, Age 25-54, condition on quartic in age, and normalized year effects.
Educational Attainment Slowdown, By Housing Boom

Figure 3: Share Any College Attendance for Individuals Born Between 1965 and 1987, by MSA House Price Growth

- Census/ACS data, Age 25-54, by birth cohort – split by size of housing price boom.
Summary: Lasting Effect of Housing Boom

- This is the focus of another set of my research papers (with Kerwin Charles and Matt Notowidigdo).

- Housing boom causally deterred human capital for young households (both men and women).

- Mechanism – labor markets were relatively “hot” for young workers in places where a housing boom occurred.

- Affected community college and trade school enrollment. No effect on four year degrees.

- Affects were persistent! People who forwent college in their 20s (during the mid 2000s) did not go back to school in their 30s (after recession).
Part 3d: 
The Changing Lifestyle of Lower Skilled Men
Marital Status and Children for Low Skilled Men
Pooled ACS 2011-2014, by Employment Status

<table>
<thead>
<tr>
<th></th>
<th>Age 21-30</th>
<th>Age 26-30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employed</td>
<td>Non-Employed</td>
</tr>
<tr>
<td><strong>Lower Skilled Men</strong></td>
<td>0.28</td>
<td>0.12 0.40 0.22</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Employment Rate</td>
<td>Emp + Schooling Rate</td>
</tr>
<tr>
<td>2001</td>
<td>0.82</td>
<td>0.88</td>
</tr>
<tr>
<td>2007</td>
<td>0.81</td>
<td>0.87</td>
</tr>
<tr>
<td>2010</td>
<td>0.74</td>
<td>0.82</td>
</tr>
<tr>
<td>2014</td>
<td>0.77</td>
<td>0.84</td>
</tr>
<tr>
<td>2014-2000</td>
<td>-0.05</td>
<td>-0.04</td>
</tr>
</tbody>
</table>
Sharp fall in the relative price of computer goods during the last 15 years
Time Series Trends in Computer Game Expenditure as a Share of GDP and Employment Rate of 21-30 Year Old Non-College Men

Correlation: -0.87

(US Computer Game Expenditure/GDP)*100 (Left Axis)
Employment Rate, Low Skilled Young Men (Right Axis)
Advent of new technology (which is getting cheaper in relative terms) makes leisure more attractive.

- Raises the reservation wage for working which reduces labor supply.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Work</td>
<td>-3.44 (1.49)</td>
<td>-3.06 (1.18)</td>
<td>-2.91 (2.39)</td>
<td>-2.16 (0.79)</td>
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<tr>
<td>Home Production</td>
<td>-1.75 (0.66)</td>
<td>-1.22 (0.65)</td>
<td>-0.03 (0.85)</td>
<td>-0.16 (0.40)</td>
</tr>
<tr>
<td>Child Care</td>
<td>0.13 (0.30)</td>
<td>-0.56 (0.53)</td>
<td>-0.75 (0.28)</td>
<td>0.42 (0.16)</td>
</tr>
<tr>
<td>Education</td>
<td>1.19 (0.78)</td>
<td>0.88 (0.71)</td>
<td>1.49 (1.36)</td>
<td>0.02 (0.11)</td>
</tr>
<tr>
<td>Leisure</td>
<td>3.60 (1.35)</td>
<td>2.41 (1.03)</td>
<td>1.17 (2.08)</td>
<td>1.24 (0.68)</td>
</tr>
</tbody>
</table>
## Time Use (Hours Per Week) from ATUS, By Sex-Age-Skill Group

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Men, 21-30, Ed &lt; 16</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Computer</td>
<td>3.74</td>
<td>6.43</td>
<td><strong>2.68</strong></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Video Games</td>
<td>2.27</td>
<td>4.43</td>
<td><strong>2.16</strong></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td><strong>Women, 21-30, Ed &lt; 16</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Computer</td>
<td>1.61</td>
<td>2.42</td>
<td><strong>0.81</strong></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Video Games</td>
<td>0.93</td>
<td>0.84</td>
<td><strong>-0.10</strong></td>
<td>0.56</td>
</tr>
<tr>
<td><strong>Men, 21-30, Ed = 16+</strong></td>
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<td></td>
</tr>
<tr>
<td>Total Computer</td>
<td>2.85</td>
<td>4.69</td>
<td><strong>1.84</strong></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Video Games</td>
<td>1.26</td>
<td>2.28</td>
<td><strong>1.03</strong></td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Men, 31-55, Ed &lt; 16</strong></td>
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<tr>
<td>Total Computer</td>
<td>2.09</td>
<td>2.12</td>
<td><strong>0.04</strong></td>
<td>0.83</td>
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<tr>
<td>Video Games</td>
<td>1.04</td>
<td>0.89</td>
<td><strong>-0.15</strong></td>
<td>0.27</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Men, 21-30, Ed &lt; 16, Work</strong></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Work</td>
<td>42.05</td>
<td>41.68</td>
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<td>Education</td>
<td>2.30</td>
<td>1.94</td>
<td>-0.35</td>
<td>0.42</td>
</tr>
<tr>
<td>Leisure</td>
<td>33.76</td>
<td>35.19</td>
<td>1.43</td>
<td>0.24</td>
</tr>
<tr>
<td>Total Computer</td>
<td>3.38</td>
<td>4.68</td>
<td>1.30</td>
<td>0.01</td>
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<tr>
<td>Video Games</td>
<td>2.07</td>
<td>3.17</td>
<td>1.10</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td><strong>Men, 21-30, Ed &lt; 16, No Work</strong></td>
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<tr>
<td>Work</td>
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<td>0.74</td>
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<td>Education</td>
<td>8.69</td>
<td>12.85</td>
<td>4.16</td>
<td>0.22</td>
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<tr>
<td>Leisure</td>
<td>56.46</td>
<td>54.83</td>
<td>-1.33</td>
<td>0.68</td>
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<tr>
<td>Total Computer</td>
<td>5.73</td>
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<tr>
<td>Video Games</td>
<td>3.35</td>
<td>8.59</td>
<td>5.24</td>
<td>&lt;0.01</td>
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</table>
### Change Over Time in Computer and Game Usage By Employment Status

<table>
<thead>
<tr>
<th></th>
<th>Men, 21-30 Ed &lt; 16</th>
<th>Women, 21-30 Ed &lt; 16</th>
<th>Men, 21-30 Ed &gt;= 16</th>
<th>Men, 31-55 Ed &lt; 16</th>
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<tbody>
<tr>
<td></td>
<td>Emp</td>
<td>Non-Emp</td>
<td>Emp</td>
<td>Non-Emp</td>
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<tr>
<td><strong>Games</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011-2014 Dummy</td>
<td>1.10</td>
<td>5.24</td>
<td>-0.02</td>
<td>-0.22</td>
</tr>
<tr>
<td></td>
<td>(0.40)</td>
<td>(1.42)</td>
<td>(0.21)</td>
<td>(0.25)</td>
</tr>
<tr>
<td><strong>Computer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011-2014 Dummy</td>
<td>1.30</td>
<td>6.47</td>
<td>0.90</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>(0.51)</td>
<td>(1.69)</td>
<td>(0.37)</td>
<td>(0.40)</td>
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<tr>
<td>No. Obs</td>
<td>3,038</td>
<td>605</td>
<td>3,251</td>
<td>1,898</td>
</tr>
</tbody>
</table>
## Distributional Effects of Video Game and Computer Time, Young LS Men

<table>
<thead>
<tr>
<th>Group</th>
<th>Share of 21-55 Population</th>
<th>Share of Video Game Time</th>
<th>Share of Computer Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-07: Men, 21-30, Ed &lt; 16</td>
<td>0.103</td>
<td>0.265</td>
<td>0.196</td>
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<tr>
<td>2004-07: Men, 41-55, Ed &lt; 16</td>
<td>0.093</td>
<td>0.149</td>
<td>0.119</td>
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<tr>
<td>2004-07: Men, 21-30, Ed = 16+</td>
<td>0.030</td>
<td>0.041</td>
<td>0.042</td>
</tr>
<tr>
<td>2004-07: Women, 21-30, Ed &lt; 16</td>
<td>0.100</td>
<td>0.101</td>
<td>0.078</td>
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<tr>
<td>2011-14: Men, 21-30, Ed &lt; 16</td>
<td>0.103</td>
<td>0.385</td>
<td>0.239</td>
</tr>
<tr>
<td>2011-14: Men, 41-55, Ed &lt; 16</td>
<td>0.083</td>
<td>0.091</td>
<td>0.071</td>
</tr>
<tr>
<td>2011-14: Men, 21-30, Ed = 16+</td>
<td>0.041</td>
<td>0.079</td>
<td>0.069</td>
</tr>
<tr>
<td>2011-14: Women, 21-30, Ed &lt; 16</td>
<td>0.098</td>
<td>0.069</td>
<td>0.086</td>
</tr>
</tbody>
</table>

new column: share of market work
Distribution of Computer Time
Young Low Skilled Non Employed Men

- Roughly 25% reported being on the computer/playing video games for at least 3 hours on interview day.

- Roughly 20% reported being on the computer/playing video games for at least 4 hours on interview day.

- Roughly 10% reported being on the computer/playing video games for at least 6 hours on interview day.

- Roughly 57% reported zero computer/video game time on the interview day.
Table: Residency Status Lower Skilled Men,  
(American Community Survey)

<table>
<thead>
<tr>
<th></th>
<th>Employed</th>
<th></th>
<th>Non-Employed</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age 21-30</td>
<td>Age 26-30</td>
<td>Age 21-30</td>
<td>Age 26-30</td>
</tr>
<tr>
<td>Reside w/Relative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>0.30</td>
<td>0.21</td>
<td>0.49</td>
<td>0.38</td>
</tr>
<tr>
<td>2007</td>
<td>0.34</td>
<td>0.24</td>
<td>0.61</td>
<td>0.50</td>
</tr>
<tr>
<td>2010</td>
<td>0.37</td>
<td>0.27</td>
<td>0.64</td>
<td>0.53</td>
</tr>
<tr>
<td>2014</td>
<td>0.43</td>
<td>0.32</td>
<td>0.72</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Note: Samples exclude individuals in school. Those in school (21-30) increased residency in relative house from 0.43 to 0.56.
Data from the General Social Survey

• Asks a national representative sample of US households about their “happiness”.

• About 2,500-3,000 respondents per year.

• Question: “Taken together, how would you say things are going these days – would you say that you are very happy, pretty happy, or not too happy?”

• Explore the answer to this question by sex-age-skill groups during the 2000-2015 period.

• For power, pool together responses from 2001-2005 surveys, 2006-2010 surveys, and 2011-2015 surveys. Spans the pre-recession, recession and post-recession periods.
# Reported Happiness From General Social Survey, By Sex-Age-Skill Group

<table>
<thead>
<tr>
<th></th>
<th>Fraction Reporting “Very Happy” or “Pretty Happy”</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men, Ed &lt; 16, 21-30</strong></td>
<td>0.813 (n=193)</td>
<td>0.828 (n=372)</td>
<td>0.881 (n=244)</td>
<td>0.068</td>
<td>0.048</td>
</tr>
<tr>
<td><strong>Women, Ed &lt; 16, 21-30</strong></td>
<td>0.828 (n=192)</td>
<td>0.808 (n=489)</td>
<td>0.853 (n=272)</td>
<td>0.025</td>
<td>0.471</td>
</tr>
<tr>
<td><strong>Men, Ed &gt;= 16, 21-30</strong></td>
<td>0.929 (n=56)</td>
<td>0.926 (n=135)</td>
<td>0.919 (n=99)</td>
<td>-0.009</td>
<td>0.835</td>
</tr>
<tr>
<td><strong>Men, Ed &lt; 16, 31-40</strong></td>
<td>0.885 (n=182)</td>
<td>0.857 (n=384)</td>
<td>0.834 (n=241)</td>
<td>-0.051</td>
<td>0.143</td>
</tr>
<tr>
<td><strong>Men, Ed &lt; 16, 41-55</strong></td>
<td>0.881 (n=244)</td>
<td>0.812 (n=659)</td>
<td>0.799 (n=353)</td>
<td>-0.082</td>
<td>0.008</td>
</tr>
</tbody>
</table>
Part 3e:
Summary
Big Picture Conclusions

- Technology has had large effects on both labor demand and labor supply for lower skilled workers.

- Particularly large effects for lower skilled young men (who historically have a strong attachment to the labor force). Their happiness went up. Role of video games?

- Large effects on lower skilled older men as well. Their happiness went down!

- Is there anything on the horizon to change participation rates?

- Long run consequences? Job prospects in their 30s? Budgetary aspects?

- Social consequences?
Political Effects of Such Trends

- Rise in populism around the developed world!

- Same patterns in the US are found in Britain, Canada, Australia, France, Spain, etc. (some extent in Germany)

- Trump in U.S.

- Brexit in Britain

- An increasing part of the population supports anti-trade and anti-immigration policies. Believe such policies are responsible for their weak labor market conditions. They are not.

- Promoting economic isolationism likely hurts them in the short run.
Regional Variation and Populism

- Trump is doing very well in states that once had thriving manufacturing communities (Michigan, Wisconsin, Ohio, and Pennsylvania).

- Brexit vote share was highest in areas with lower educated workers.
UK County Variation: Percent Higher Education vs. Brexit Share

% residents with higher education

70%
35%
0%

remain
leave
Final Thoughts

- I believe the weak labor market for lower skilled workers will be a defining feature of the developed world for the foreseeable future.

- It will effect government policy in many different ways
  
  - Move developed country to experiment with many well intentioned labor market policies.
  
  - Many of these policies could actually make the situation worse in the long run (discourage work, result in higher deficits, etc.).

- No easy solutions.
Part 4: The Sustainability of Europe
Can Europe Last

- Large differences in regional performance
  - Germany/France doing relatively well
  - Greece, Spain, Portugal (Italy?) doing worse

- Rise of extremism – manifesting itself with more frequency

- Brexit
The U.S. as a Currency Union

- How does the US manage stability across regions?
  - Some regions are “rich” like Germany (Connecticut)
  - Some regions are “poorer” like Greece (Mississippi)

- Solution 1: Economic Mobility

- Solution 2: Cross-region Transfers
## U.S. Inter-Region Transfers: 1990-2009 Average

<table>
<thead>
<tr>
<th>State</th>
<th>Yearly Net Transfer (% GDP)</th>
<th>State</th>
<th>Yearly Net Transfer (% GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>10.3</td>
<td>Hawaii</td>
<td>-6.7</td>
</tr>
<tr>
<td>Minnesota</td>
<td>10.0</td>
<td>Virginia</td>
<td>-7.3</td>
</tr>
<tr>
<td>New Jersey</td>
<td>7.5</td>
<td>Alaska</td>
<td>-7.5</td>
</tr>
<tr>
<td>Illinois</td>
<td>5.6</td>
<td>Maryland/DC</td>
<td>-7.5</td>
</tr>
<tr>
<td>Connecticut</td>
<td>5.3</td>
<td>Maine</td>
<td>-7.6</td>
</tr>
<tr>
<td>New York</td>
<td>4.4</td>
<td>North Dakota</td>
<td>-7.7</td>
</tr>
<tr>
<td>Ohio</td>
<td>3.3</td>
<td>Montana</td>
<td>-9.2</td>
</tr>
<tr>
<td>Michigan</td>
<td>2.7</td>
<td>West Virginia</td>
<td>-12.2</td>
</tr>
<tr>
<td>Nebraska</td>
<td>2.6</td>
<td>Mississippi</td>
<td>-12.7</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>2.1</td>
<td>New Mexico</td>
<td>-13.1</td>
</tr>
</tbody>
</table>

From Economist: 8/1/2011
Effect of Brexit?

- Political foreshadowing (discussed above)

- Short run – likely a recession in Britain
  - Uncertainty is always a drag on economic activity.

- Long run effects depend on how Brexit is structure and hard to forecast response of firms (will the hedge funds leave London)?

- Prediction: Lower skilled workers will likely be worse off in both the short run and the long run!
Part 5: Questions/Discussion