

# Grow Your Own, Get Your Own, or Just Grow Business?

What leads to higher regional educational attainment and what does it mean for the labor market?

Stuart Andreason  
Department of City and Regional Planning  
University of Pennsylvania



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Main Points

- Increased educational attainment is key for national economic competitiveness and individual life opportunity, evidence is less clear at the regional level.
- Change in educational attainment is uneven across regions.
- A number of characteristics influence higher stocks of educational attainment; increasing post secondary enrollment is the strongest predictor of increased attainment.
- Little research on the effects of *increase* in educational attainment.



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Educational Attainment and National Competitiveness

- New growth theory places human capital and resultant technology as the primary driver of national growth (1990s)
- Reich (1991), Clarke and Gaile (1997), Carniero and Heckman (2001), and others identify the importance of supporting educational attainment for individual opportunity and international competitiveness.
- Current projections estimate a need for 35% of the national labor market to hold a bachelors degree (an increase of 25% over current levels).

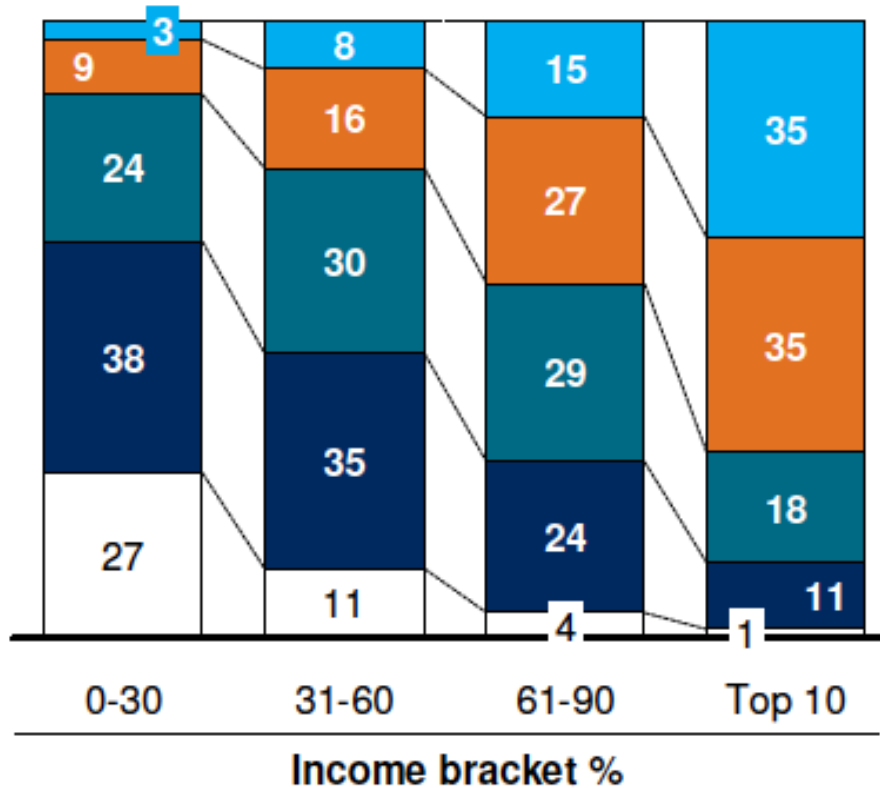


ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

## Far fewer people without at least a college education are represented in the highest income brackets

**Educational attainment of householder by income bracket, 2005**

%



- Postgraduate degree
- Bachelor's degree
- Some college/ Associate's degree
- High school only
- Less than high school

- 70% of top income earners have at least a bachelor's degree
- 12% graduated from college in the bottom third

Copyright © McKinsey & Company

# Regional Change

- Educational attainment is often one of the important correlates of positive economic outcomes (Glaeser and others).
- Wide variation in training requirements region to region (Rothwell 2012)
- Trends from 1990-2010 show that growth in educational attainment above the national average does not necessarily lead to positive outcomes in the labor market.



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Leaders, Laggards, and Losers

- National educational attainment increased from 20.3% in 1990 to 28.2% in 2010 (7.9% increase)
- 78 Leaders
  - 15 Sunbelt, “New Economy” Regions
  - 25 “University Driven” Regions
  - 28 Post-industrial regions
  - 10 “Other”
- 195 laggards
- 10 Losers



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Losers (1990-2010)

## Losing Metro Areas

Longview, TX (-8.13%)  
Lafayette, IN (-8.16%)  
Lawton, OK (-8.51%)  
Albany, GA (-8.59%)  
Pine Bluff, AR (-8.66%)  
Springfield, OH (-9.85%)  
Casper, WY (-10.24%)  
Riverside-San Bernadino (-10.31%)  
College Station, TX (-11.65%)  
Midland, TX (-13.97%)

\*Numbers are relative to U.S. Change of +7.9%



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Leaders and Laggards (1990-2010)

## Leading Metro Areas

San Jose, CA (6.56%)  
Manchester-Nashua, NH (5.71%)  
Fort Collins, CO (5.52%)  
Charleston, SC (5.08%)  
Charlotte, NC (4.67%)  
San Francisco Bay, CA (4.59%)  
Columbia, MO (4.55%)  
Boston, MA (4.45%)  
Johnson City, TN (4.08%)  
Bloomington, IL (3.56%)  
Lawrence, KS (3.55%)  
Dubuque, IA (3.42%)

## Lagging Metro Areas

Iowa City, IA (-6.32%)  
Yuma, AZ (-6.46%)  
Victoria, TX (-6.50%)  
Beaumont, TX (-6.63%)  
Salinas, CA (-6.66%)  
Terre Haute, IN (-6.68%)  
Lebanon, PA (-6.84%)  
Monroe, LA (-7.10%)  
Anniston-Oxford, AL (-7.33%)  
Bangor, ME (-7.53%)  
Merced, CA (-7.57%)  
Abilene, TX (-7.74%)



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012



# What drives this change?



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# A Few Possibilities

- Innovative businesses that need educated workers (Growing Business)
- Consumption-based amenity development (Getting Workers)
- Educating post-secondary earners (Growing Workers)



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Method: OLS Regression

Dependent Variable: 2010 Educational Attainment Rate

Independent Variables Tested:

- Per Capita Income (2000, 2009 5yr average)
- Mean and Median Wages (2000, 2005, 2010)
- Housing Costs
- Race
- Poverty
- Postsecondary Enrollment (Tested 1990, 2000, and 2009 5yr average)
- Occupational Clusters
  - Business and Financial
  - Computer and Mathematics
  - Architecture and Engineering
  - Physical and Social Science
  - Legal
  - Educational
  - Arts, Design, Performance
  - Health Care
  - Food Service and Prep
  - Production



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

## Model Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t	Lower 95%	Upper 95%	Std Beta	VIF
Intercept	35.154493	4.859006	7.23	<.0001*	25.491827	44.817158	0	.
Renter Ratio	-103.2633	18.91997	-5.46	<.0001*	-140.8877	-65.63888	-0.36759	1.3250465
Post Secondary Percent	0.6326307	0.075233	8.41	<.0001*	0.4830216	0.7822398	0.553568	1.265942
ZSComp	1.8075792	0.726408	2.49	0.0148*	0.3630379	3.2521205	0.185855	1.6295549
ZSLegal	2.0136801	0.721107	2.79	0.0065*	0.5796788	3.4476813	0.207046	1.6058615
ZSHealth	-1.235945	0.591707	-2.09	0.0398*	-2.412618	-0.059271	-0.12708	1.0812369

1. The model suggests changing post secondary enrollment is the best lever, increasing enrollment leads to higher degree attainment
2. The more computer technicians and mathematicians and lawyers and clerks a city has, the higher its educational attainment
3. Higher rent burdens predict lower educational attainment
4. More health care workers implies a slightly negative effect on human capital stocks

\*Top 100 Metros



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Some Implications

- Find ways to increase enrollment, BUT
  - Lag time between policy and results is LONG!
- Managing housing costs – especially for renters may help keep or attract educated workers
- Weak support for creatives
- Path Dependent



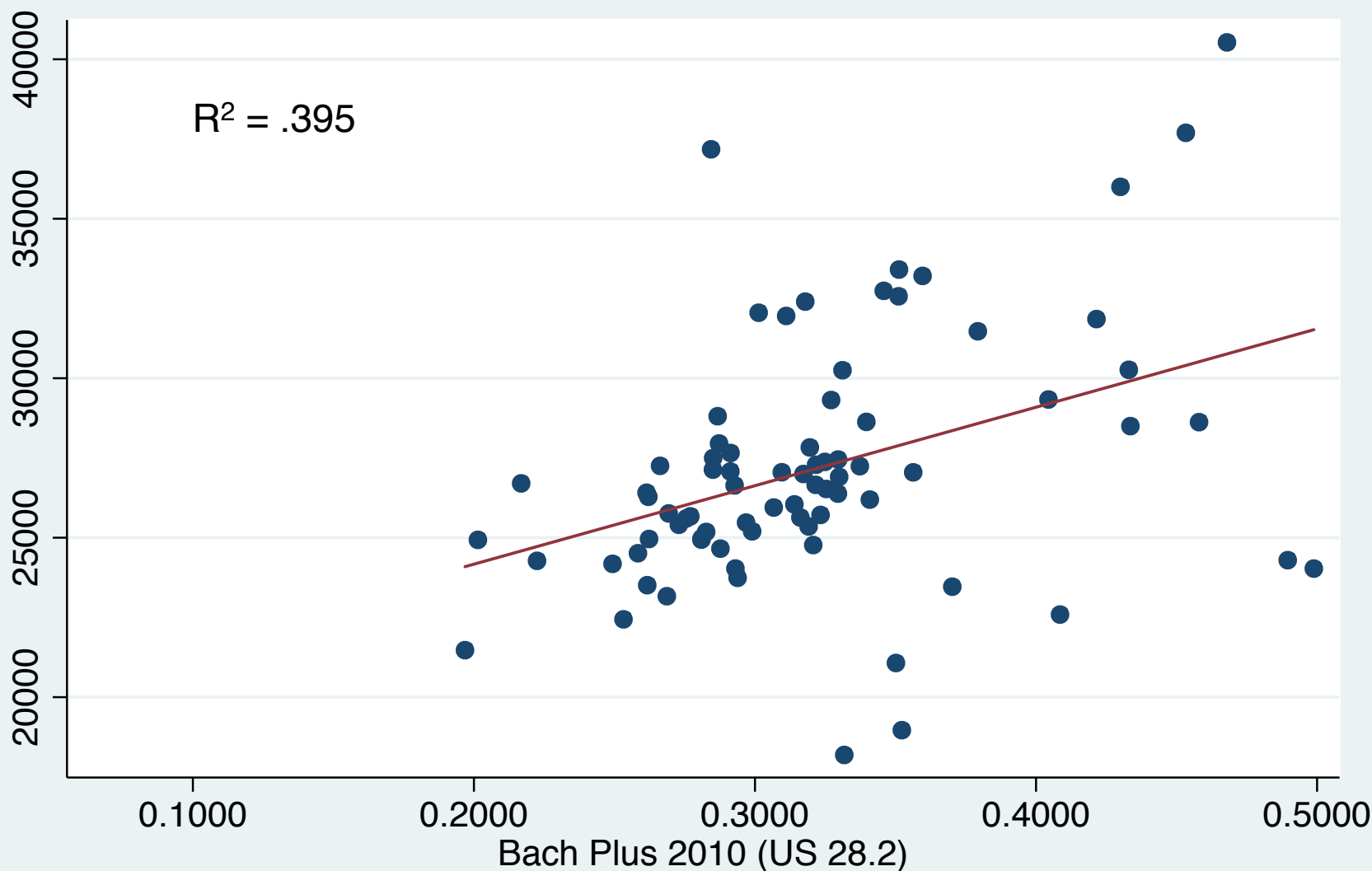
ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

We got smarter, we are doing  
better... Right?



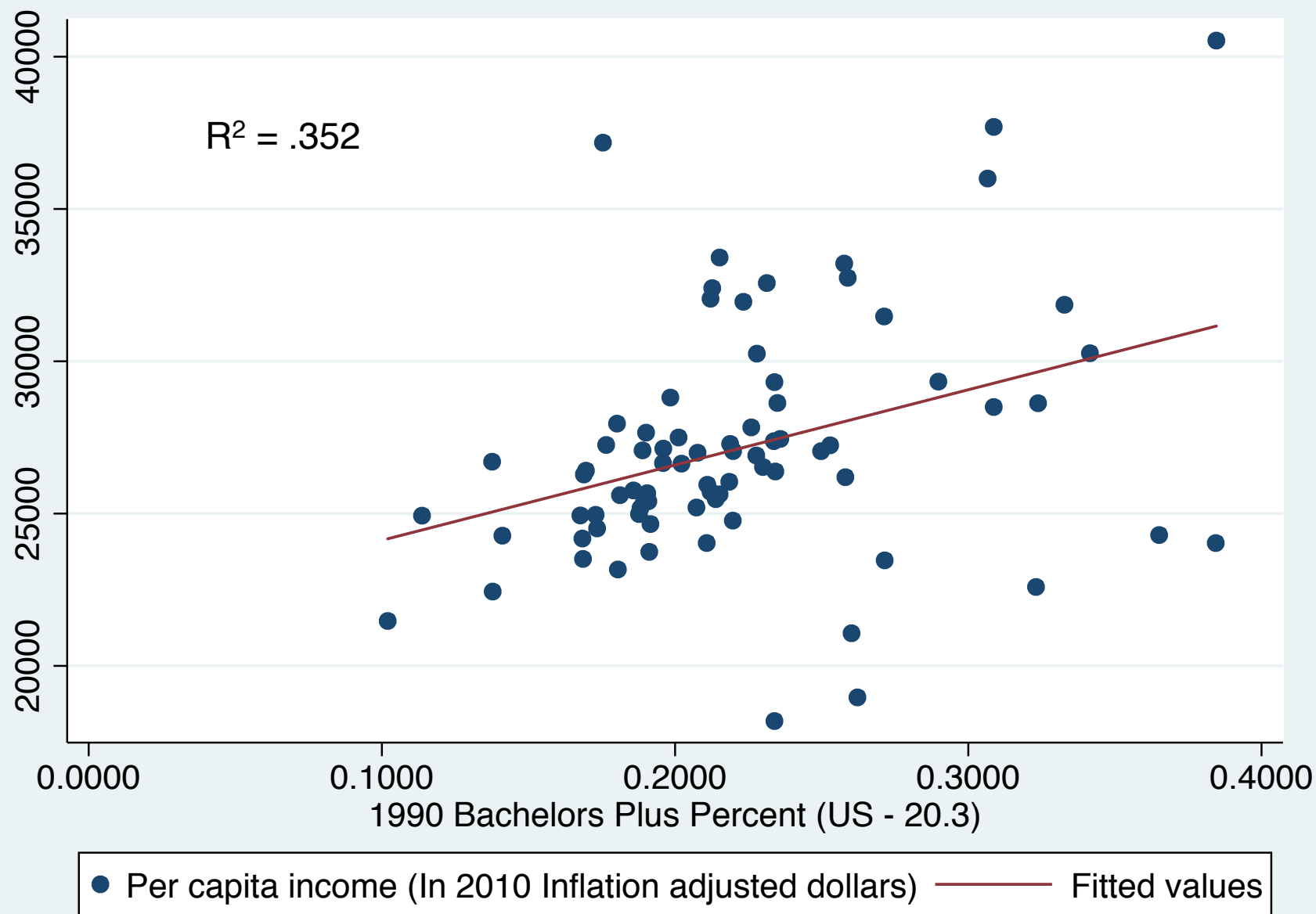
ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# 2010 Ed. Attainment and 2010 PCI



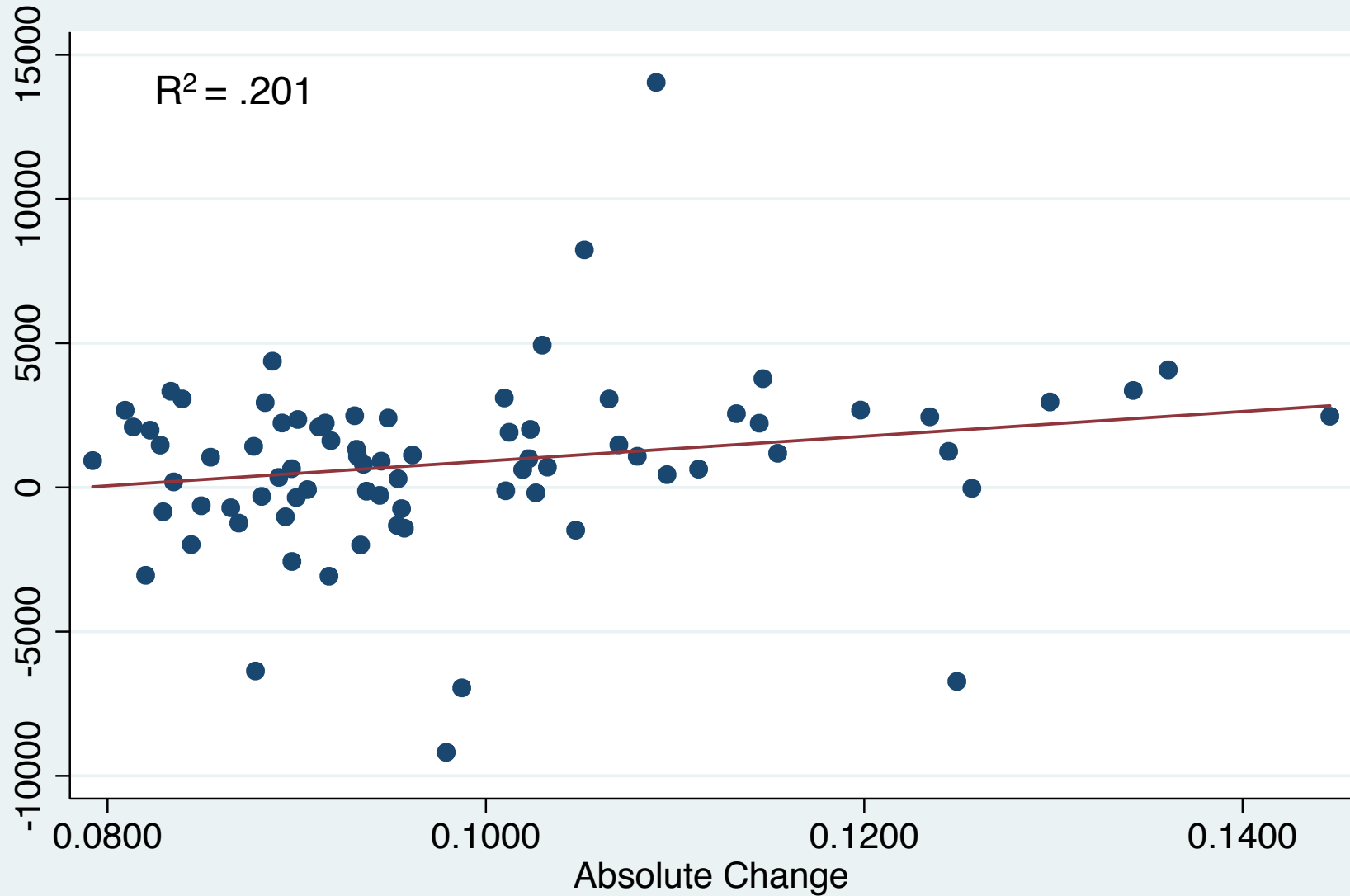
● Per capita income (In 2010 Inflation adjusted dollars) — Fitted values

# 1990 Ed. Attainment and 2010 PCI





# Change in Ed Attainment and PCI, 1990 - 2010



● PCI Change Adjusted Relative to US — Fitted values

# Outcome Measures

- Of the 78 Leaders, did they:
  - Increase their relative per capita income?
  - Increase relative labor force participation?
  - Decrease relative unemployment?
  - Decrease relative poverty?



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Results Are Mixed

Four of Four	Three of Four	Two of Four	One of Four	None
21 metros	13 metros	17 metros	15 metros	12 metros

## Potential Explanations

- Spatial dispersal, residential segregation
- Strong demand that is able to absorb gains
- High civic participation
- Strong anchor institutions
- Links between place based policies and workforce development
- “In it together” policy leadership

Next steps: Logistic regression and case research to test these hypotheses



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012

# Main Points

- Increased educational attainment is key for national economic competitiveness and individual life opportunity, evidence is less clear at the regional level.
- Change in educational attainment is uneven across regions.
- A number of characteristics influence higher stocks of educational attainment; increasing post secondary enrollment is the strongest predictor of increased attainment.
- Little research on the effects of *increase* in educational attainment.



ACSP Conference  
Cincinnati, Ohio  
November 1, 2012