



# Howard Chernick

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## Cities in the U.S. (and around the World): Getting the Financing Right

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# Fiscal Health of Cities

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- 1/5 of U.S. population lives in the 98 largest central cities (2007 pop. > 200,000)
- Economic prosperity of cities is essential for the prosperity of nation
- Maintaining the fiscal health of cities is key to the economic prosperity of cities





# Key Role of the Public Economy

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- Ability to provide high quality public services is crucial; services are expensive, with large fixed costs. Most central cities have high average costs; Many have below average fiscal capacities.
- Typical suburban jurisdiction has substantial fiscal advantages over central cities, particularly on cost side. But wide variation in suburban fiscal conditions.



# Fiscal Disparities

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- Fiscal Disparities in the Metro Area
  - imply inequity in public services/taxes
  - Leads to inefficiencies: larger fiscal disparities, particularly between CC and suburbs, can undermine cities. Contribute to sprawl.



# France, 1700's: What not to do:

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- Cities Financed the Monarchy.\*
  - Cities forced to “purchase”, then repurchase the right to govern themselves.
  - “Pendant 80 ans, sept fois on vend aux villes le droit d’elire leurs majistrats, et, quand elles en ont de nouveau goûté la douceur, on le leur reprend pour le leur revendre.” (De Tocqueville, L’Ancien regime et la revolution, chap. 3)

# Fiscal Health and Growth in Cities

- Initial Empirical Tests of Importance of Fiscal Health
- Regressed growth, 1986-2005 – in population, employment, income; 05crime rate – on 1982 fiscal health index (Ladd-Yinger), for 70 cities.
- Results: pos. effect of fiscal health on pop growth, neg. effect on crime rates. neg. effect of poverty on pop growth; Not robust.
- No effect on employment; no effect or neg. effect on income growth.



# Revenue Diversification

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- Does Less Reliance on the Property tax
  - support higher revenues?
  - increase stability over the business cycle?
  - lead to Fiscal Competition with State or Province?
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# Institutional Diversity in the U.S.

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- City Comparisons misleading because :
  - differing roles of counties and school districts in revenue responsibility.
    - Boston: all revenues from city; no overlying county, no independent School District.
    - Las Vegas: 1/4 of revenues come from city; county, (non-overlapping) school districts important



# Therefore, Create "Constructed" Gov'ts



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- city revenue +
  - population weighted share of school district revenue +
  - Population weighted share of county revenue;



# Diversification in Taxes

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- Tucson, AZ: 13% of municipal rev. from property tax; (high local sales tax)
  - Constructed Gov't: 64% of revenue from property tax
  - Buffalo: 88% of municipal revenues from property tax;
    - constructed gov't; 50% of revenues from property tax (county sales tax)



# Tax Revenue of *Constructed* City Governments by Type of Tax, 2007

Type of Tax	Largest 109 <i>Constructed</i> Governments		All Other Local Governments	
	Amount (in mil.\$)	Percentage of Total Taxes	Amount (in mil.\$)	Percentage of Total Taxes
Property	71,597	55.9%	282,357	77.1%
General sales	16,653	13.0%	38,327	10.5%
Selective sales	9,767	7.6%	15,469	4.2%
Individual income	12,572	9.8%	10,983	3.0%
Corporate income	7,090	5.5%	588	0.2%
Other taxes	10,475	8.2%	18,588	5.1%
Total taxes	128,153	100.0%	366,312	100.0%



# Tax Diversity in U.S. Cities.

## 109 Largest U.S. Cities, 2007

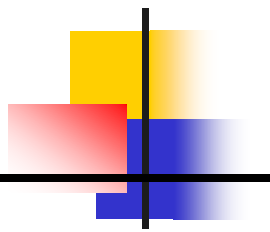
### Share of Tax Revenue from Each Tax

Type of Tax	Share of Tax Revenue from Each Tax				
	Zero revenue	Less than 1/10	1/10 to 1/3	1/3 to 2/3	More than 2/3
Property	0	0	5	44	60
General sales	18	31	48	12	0
Selective sales (excise)	3	76	30	0	0
Individual income	88	4	12	5	0
Corporate income	105	3	1	0	0
Other taxes	0	92	17	0	0

# Revenue Diversification: Effect on Revenue Levels:

## "Constructed" City General Revenue Per Capita

Pooled Regression, 1997 to 2008, 109 cities



Explanatory Variables	Coefficients	t-statistics
Revenue Diversification [100%-(Prop. Tax as % of Own-source Rev)]	21.43***	(1.40)
State Aid to Constructed City (Per Capita)	0.821***	(0.05)
Inter-Jurisdictional Revenue Sharing	-0.27	(0.94)
Local Gen Revenues as % of Local + State Gen Revenues (Statewide)	39.14***	(3.16)
Average Household Income (\$1000)	4.08	(2.70)
Employment/Population Ratio	37.55***	(4.46)
Poverty Rate	10.27	(6.28)
Income Inequality in City (Mean HH Income/Median HH Income)	1726.8***	(173.50)
County Vote for Dem President (% Points Above/Below National Vote)	18.06***	(1.75)
State Property Tax Limit (1 = Yes)	-226.3***	(45.99)
Special District Gen Rev as % of Local Gov't Gen Rev (Statewide)	-9.518**	(3.64)
Constant	-5247.1***	(353.00)

**Note:** Regression includes region and year dummies. N=1,285 Adj. R<sup>2</sup>=0.754, \*p<.05, \*\*p<.01, \*\*\*p<.001



# Results

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- Diversification increases revenues.
- (25% to 75%) implies 10% increase in revenues per capita (not huge effect)
- State aid highly stimulative
- Revenue Sharing doesn't increase spending
- Income inequality increases spending



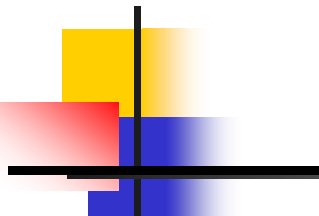
# Diversification: Conflict with the State

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- More tax diversification implies more sharing of tax base with state (province)
- (City invading tax base of state?)
- Harmonized System
- Tax competition between levels of government?

# Vertical Tax Competition: The Impact of State Sales Tax Rates on *Constructed* City Sales Tax Revenue Per Capita

## Pooled Regression, 1997 to 2008



Explanatory Variables	Coefficients	t-statistics
State Sales Tax Rate	-86.23***	(5.68)
State Aid to Constructed City per Capita	-0.0862***	(0.01)
Property Tax (Per Capita)	-0.107***	(0.02)
Local Gen Revenues as % of Local + State Gen Revenues (Statewide)	-6.875***	(1.09)
Inter-Jurisdictional Revenue Sharing	-0.776**	(0.27)
Average Household Income (\$1000)	6.823***	(0.79)
Employment/Population Ratio	8.208***	(1.37)
Poverty Rate	27.19***	(1.87)
Income Inequality in City (Mean HH Income/Median HH Income)	-239.7***	(51.54)
County Vote for Dem President (% Points Above/Below National Vote)	-1.915***	(0.53)
State Property Tax Limit (1 = Yes)	21.39	(15.46)
Special District Gen Rev as % of Local Gov't Gen Rev (Statewide)	-3.741***	(1.06)

**Note:** Regression includes region and year dummies. Includes all cities with > \$10 per capita in city sales tax revenue.  
 N=1,067 Adj. R<sup>2</sup>=0.493, \*p<.05, \*\*p<.01, \*\*\*p<.001





# U.S. results

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- Higher state tax rate leads to lower city tax rate for sales tax.



# Some Specific Examples around the World

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- Stockholm
- Turin
- France
- US: Commuter Tax
- India



# Stockholm

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- Large City, Small country (9 mill. Pop)
- National Social Welfare Norms restrict fiscal competition, race-to-the-bottom behavior.
- High local tax rates, imply need for capacity equalization.
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- Income tax more cyclical than property tax: implies equalization must be more responsive to fluctuations in the rate of economic activity
- Sweden's fiscal capacity grant is effective at reducing fluctuations in public services levels due to regional business cycles

# Equalization Grants and Charges

- **If Base Less than 115% of National Average**
  - *Municipality gets an equalization grant*
- For town with avg base, **grant**  $\approx$  3% of fiscal base
- Stockholm: fiscal base 21 percent above national average:
  - Equalization **charge**  $\approx$  1 percent of fiscal base
- Disincentive for Economic Development;
  - Stockholm and rich neighbors have grown more rapidly in population, but more slowly in tax base, after equalization.

## Cost Compensation for Immigrants

# EQUALIZATION AND GROWTH

## FRANCE

- Very Small overall Effect on Growth in Tax Base
- Positive Effect on Growth in Strasbourg
- No effect on growth in other large cities

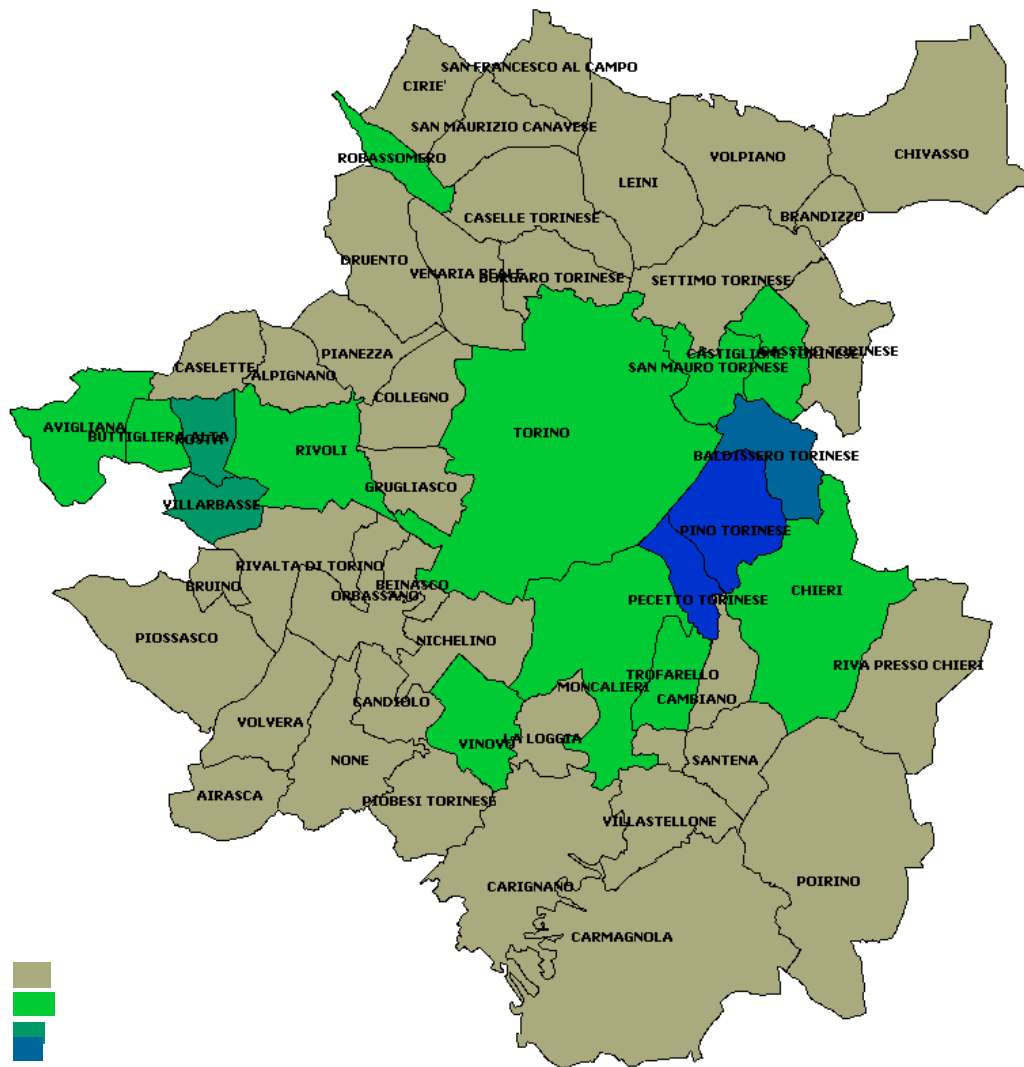


# Commuter Taxes






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- Non-resident income or earnings taxes. small number of Cities in U.S.
  - Debate on Economic Impact.
    - Inman: hurts CC economy – e.g. Philadelphia. Competitive Model. Replace with User Fees (parking taxes); land taxes for business.
    - Chernick: Export tax burden, increase fiscal capacity, compensates for costs imposed by commuters; 2-4% of total costs due to commuters.
    - efficient at low rates.

# Per capita personal income tax base year 2006 (real terms)



Brackets (5)

1.	10561-12970	
2.	12971-15380	
3.	15381-17787	
4.	17788-20196	
5.	20197-22605	





# Commuter Costs

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- Italy: Fiscal Externalities =
  - Milan: 16% of Total Expenditures
  - Turin: 7% of Total Expenditures
    - 800,000 resident population
    - 300,000 non resident users of all types
  - Remedies: tourism tax or other special purpose taxes, charges applied to non resident populations (Nantes, Milan)
  - Possible Regional Equalization Scheme for New Regional Governments in Italy





# Commuter Tax (con't)

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- NYC – rate = 0.45 % of income.
- Abolished in 1999 (NYC's reward for running a fiscal surplus!!)
- 800,000 taxpayers affected.
- Replaced by higher property taxes



# INDIA

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- Rapidly Growing Cities
- Problem of Fiscal Capacity Well Below Expenditure Needs
- City Growth “Hanging by a thread”
- Need Better Tax Systems, sorting out of state vs. city responsibilities

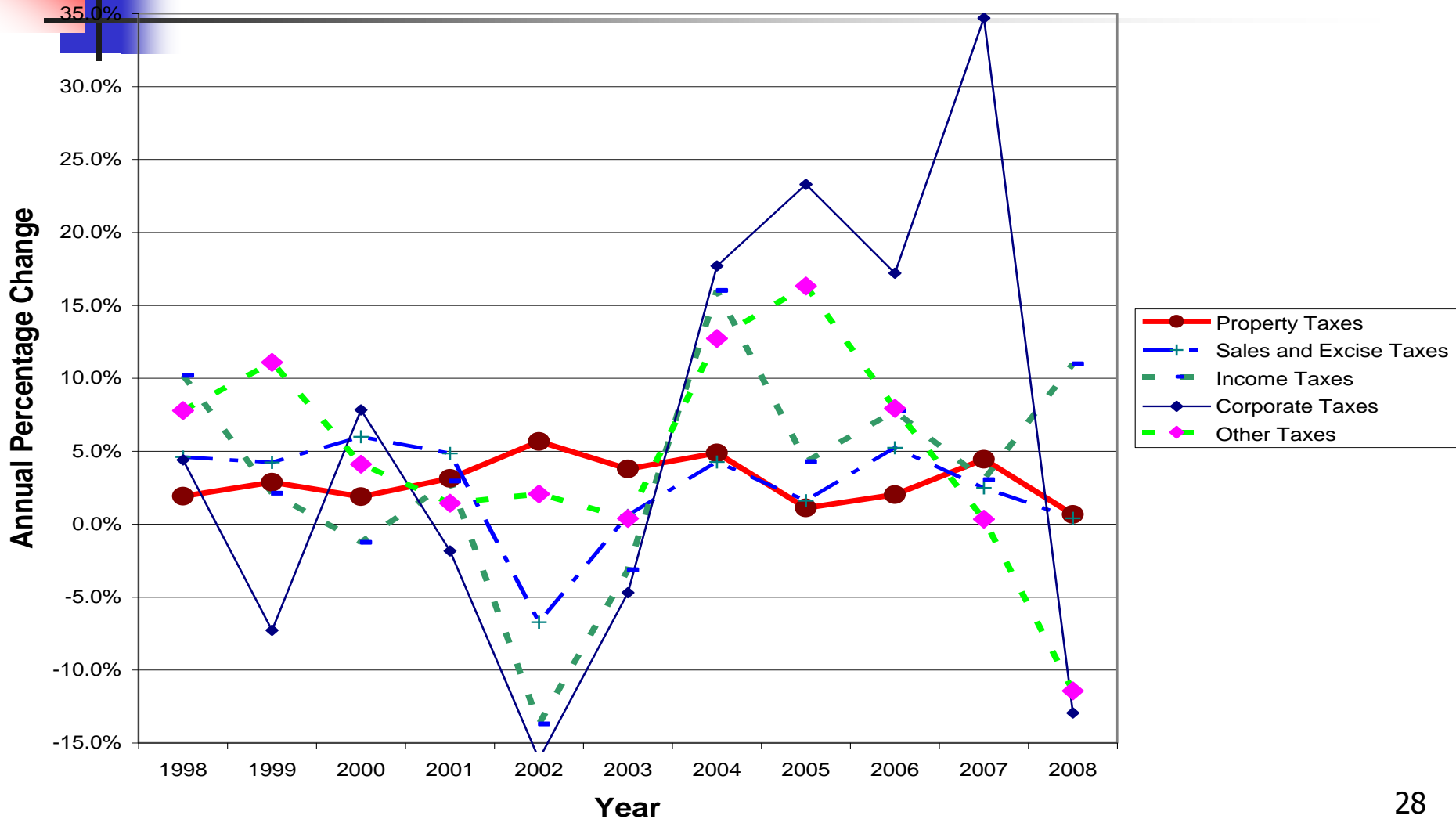


# Rev Stability and Rev Diversity (I)

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- Greater Diversity in Revenue Sources Supports Higher Revenues.
  - (Do Higher revenues require more diversity?)
  - But Property Tax Most Stable Tax.
  - Is there a conflict between diversity and stability?

# Annual Percentage Change in Real Tax Revenue of *Constructed* Cities, by Type of Tax, 1997-2008



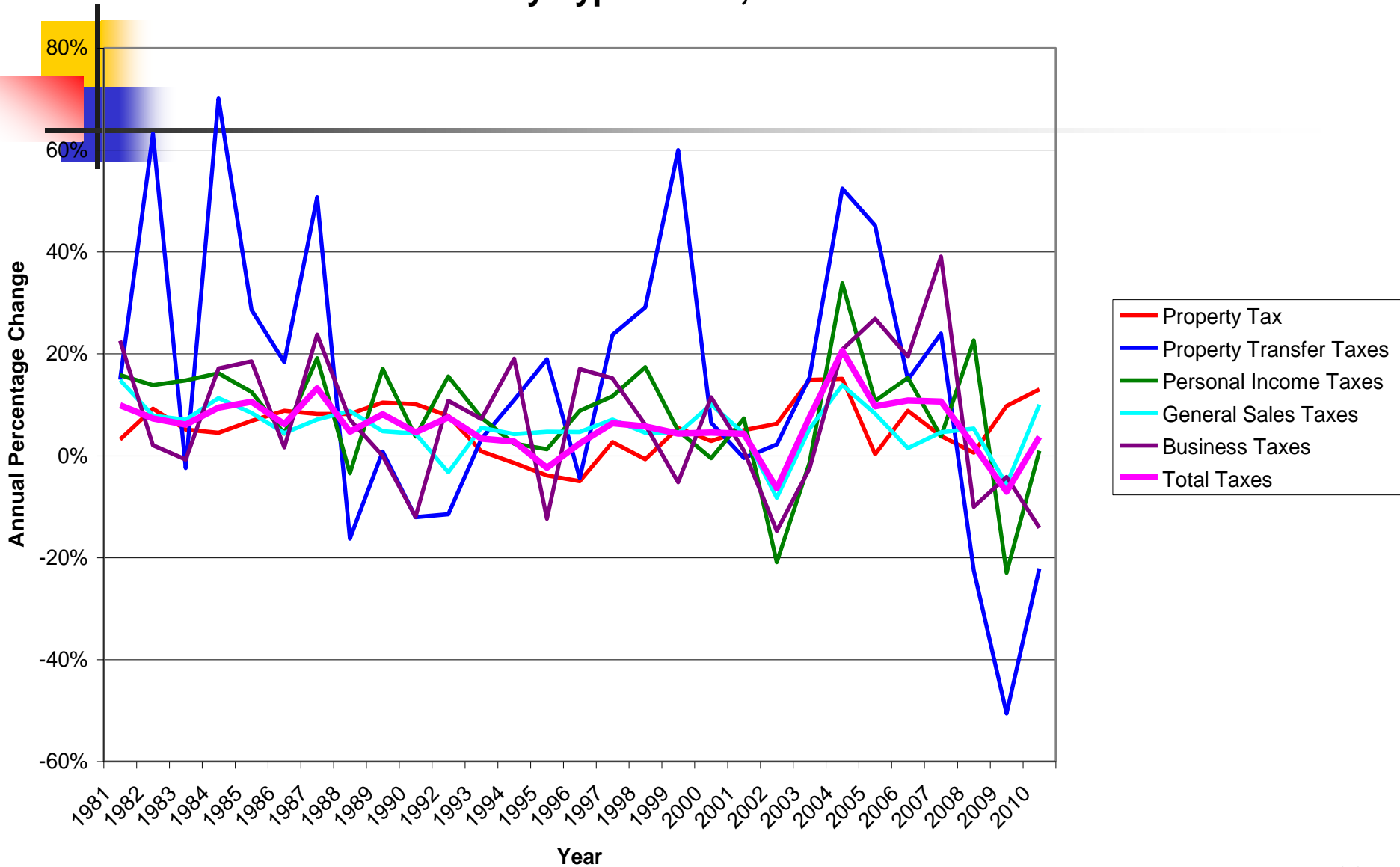


# Stability and the Great recession.

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- In sample period, 1997-2008, stability and diversity appear unrelated.
  - 2002-04: Housing boom “rescued” cities. Through increased property taxes.
- 2008-201?. Great Recession.
  - Housing Bust will lead to great pressure on Property Tax; More diversified cities are likely to be better able to maintain revenues.

# Annual Percentage Change in New York City Tax Revenue by Type of Tax, 1981 to 2010





# NYC Diversified Revenues

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- Differences in fluctuation of different taxes over time;
  - Property tax stable
- Long run growth patterns similar,
  - Except Faster growth in personal income tax
- Great Recession; other taxes plummet;
- Property taxes increase (big rate increase)



# General Revenue of *Constructed* City Governments by Type of Revenue, 2007

Type of Revenue	Largest 109 <i>Constructed</i> Governments		All Other Local Governments	
	Amount (in mil.\$)	Percentage of General Revenue	Amount (in mil.\$)	Percentage of General Revenue
Intergovernmental Rev.	119,495	38.5%	374,401	40.6%
Federal aid	12,638	4.1%	23,776	2.6%
State aid	101,679	32.7%	333,195	36.1%
Local gov't transfers	5,179	1.7%	17,430	1.9%
Own-source revenue	191,263	61.5%	548,309	59.4%
Tax revenue	128,153	41.2%	366,312	39.7%
User fees & charges	42,918	13.8%	113,949	12.3%
Misc. general rev.	23,640	7.6%	64,600	7.0%
Total general revenue	310,758	100.0%	922,710	100.0%