The New York City Real Property Tax Industrial and Commercial Incentive Program (ICIP): Description and Analysis

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WHY THIS ANALYSIS

- The Industrial and Commercial Incentive Program (ICIP) is a NYC Real Property Tax (RPT) expenditure program
- Created in 1984 and extended every three years since
- City's interest in evaluating business incentives programs, including ICIP, before their sunset
- NYCEDC with assistance from NYC OMB and NYC DOF undertook an evaluation of ICIP in 2007
- ICIP extended for one year until June 2008
- ICIP reform passed NYS Assembly and Senate in June 2008 but waiting for New York City Council adoption

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ICIP'S PURPOSE

- **ICIP is intended to:**
  - Stimulate capital investment in NYC commercial real estate
  - Create and retain jobs by ensuring an adequate supply of industrial and commercial space
  - Disperse demand from the highest-value areas to secondary and tertiary markets in the City
- **How ICIP reaches its goals: as-of-right RPT exemption on the value of capital investment in commercial, industrial or mixed-use real estate**
  - ICIP exempts exclusively the increase in value of buildings:
    - Tax base is redistributed within commercial properties from new/renovated buildings to old structures and land (tax rate determined residually)
  - Eligibility: new construction and renovation of existing buildings
  - Eligibility and exemption schedule varies depending on the property's location and use

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ICIP'S SHARE OF RPT TAX EXPENDITURES AND COVERAGE OF INVESTMENT IN COMMERCIAL AND INDUSTRIAL REAL ESTATE

- **Total economic development programs for commercial real estate: 30% ($974.9M) of City, State and Public Agencies' RPT expenditures in FY06/07[1]**
- **ICIP represents**
  - 20% of all City RPT expenditures[1]
  - 42% of all City, State and Public Agencies' commercial real estate RPT expenditures[1]
  - 94.5% of all City commercial real estate RPT expenditures[1]
- **ICIP exemptions in FY06/07 represent:**
  - 7.37% of the assessed value of buildings (gross of exemptions) in commercial properties[2]
  - 77% of the assessed value of FY06/07 new constructions and renovations of commercial structures Citywide (52.78% in Manhattan south of 59th Street were only renovations are eligible)[2]

[1] From DoF Annual Report on Tax Expenditures FY07)
[2] Authors' calculations based on DoF FY07 RPAD and ICIP exemption files.

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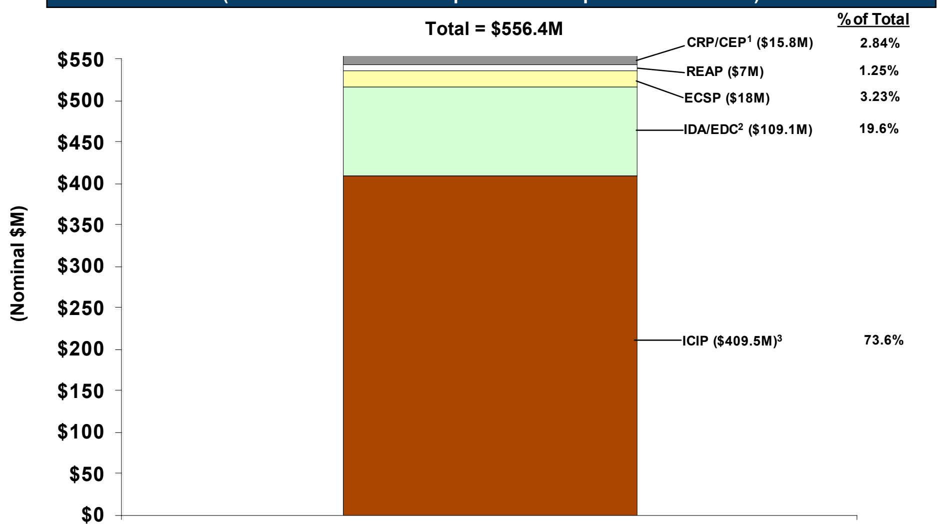
ICIP'S SHARE OF CITY BUSINESS INCENTIVES

FY06/07 BREAKDOWN BY PROGRAM

(from NYC DoF Annual Report on Tax Expenditures FY06/07)



(1) RPT abatements from the Commercial Revitalization Program (CRP) and the Commercial Expansion Program (CEP). Commercial Rent Tax abatement from CRP.

(2) RPT expenditures net of PILOT payments. (3) ICIP expenditures include both exemptions and industrial abatements but excludes utilities.

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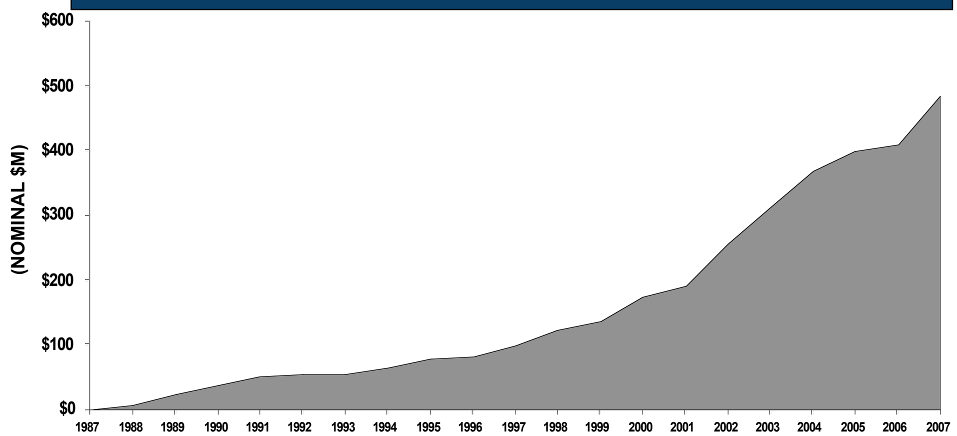
ICIP NOMINAL TAX EXPENDITURES BY YEAR[1]

Total over exemption types currently available[2]



(1) Tax expenditures associated with ICIP exemptions. Excludes ICIP abatements.

(2) Until FY95 the area below 59th Street in Manhattan (the "deferral area") was eligible for a tax deferral program: both new constructions and renovations were eligible for a 7-year exemption with repayment after XX years. Totals include exemptions received by utilities.

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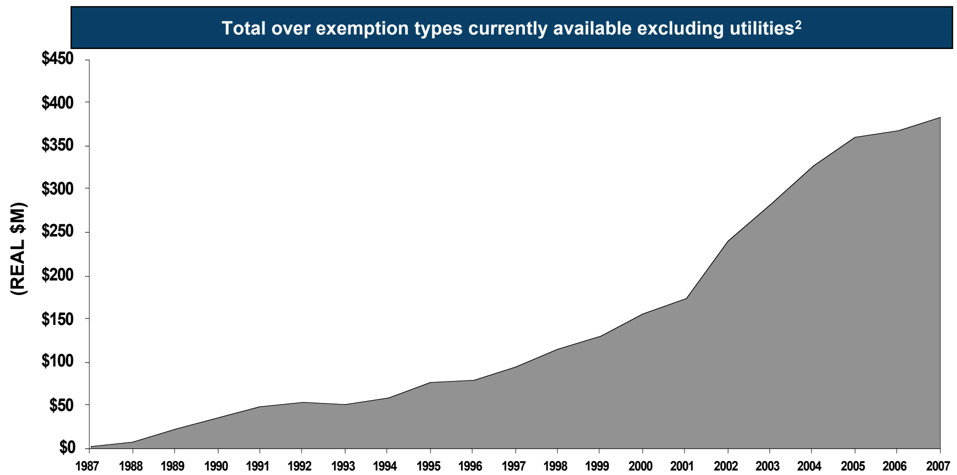
ICIP REAL TAX EXPENDITURES BY YEAR[1]



(1) Tax expenditures associated with ICIP exemptions. Excludes ICIP abatements. CPI index for NYC metropolitan area.

(2) Until FY95 the area below 59th Street in Manhattan (the ``deferral area'') was eligible for a tax deferral program: both new constructions and renovations were eligible for a 7-year exemption with repayment after 10 years.

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THIS PRESENTATION

- **If ICIP has an effect on real estate investment decisions, it increases the supply of commercial/industrial real estate:**
  - Because the increase in supply reduces rents, businesses are attracted or retained in the City
  - In a general equilibrium analysis, the tax impact of ICIP is given by the interactions of the labor and real estate markets.
- **Our analysis takes a partial equilibrium approach to estimate how many projects would not have taken place but for ICIP ("inducement effect")**
- **This presentation has two sections:**
  1. Program description
  2. Estimation of ICIP's inducement effect

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ICIP DESCRIPTION

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ICIP EXEMPTIONS

- Investment threshold: construction costs must exceed a threshold calculated on the property's pre-investment assessed value (10% or 20% depending on location and type of the project)
- Exemption: change in the building's value due to the investment
- Exemption schedule: The value of the investment is fully exempt from RPT for a period of 4 to 16 years. After the full-exemption period, the exemption phases out over a period of 4 to 9 years
- Inflation protection: for industrial projects and commercial projects in some areas of the City, exemptions move in line with market-related changes in the building assessed values (years 2 to 13)
- Additional industrial abatement: industrial projects with a cost exceeding 25% of pre-investment assessed value receive an additional RPT abatement (50% of pre-investment RPT, phased out by 20% every two years after the 4th)
- ICIP does not exempt taxes on land

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HYPOTHETICAL EXAMPLE OF ICIP EXEMPTION FOR THE RENOVATION OF A COMMERCIAL BUILDING IN MANHATTAN SOUTH OF 59th STREET ("RENOVATION AREA")

Hypothetical building

Initial AV: $1,000,000

Cost of Renovation: $500,000

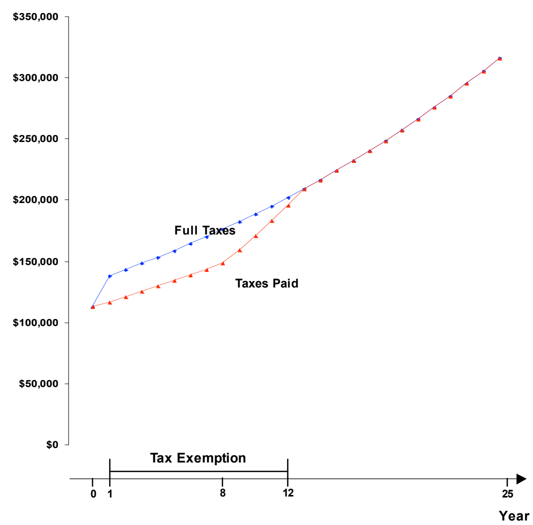
AV w/out ICIP: $1,225,000

AV w/ ICIP: $1,000,000

Total Nominal Savings Due to ICIP: $253,032

NPV of Savings (6.25% discount)[1]: $179,770

Full hypothetical taxes and actual taxes paid



[1] Discount rate equal to the City's cost of debt (NYC OMB's assumption). Tax rate constant at 11.036%.

HYPOTHETICAL EXAMPLE OF ICIP EXEMPTION AND ADDITIONAL ABATEMENT FOR THE RENOVATION OF AN INDUSTRIAL BUILDING

Hypothetical building

Initial AV: $1,000,000

Cost of Renovation: $500,000

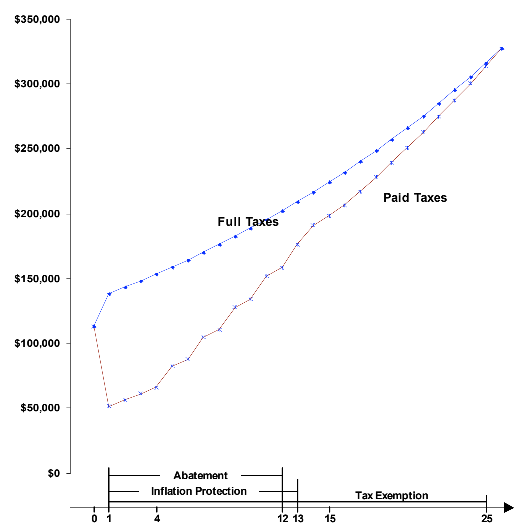
AV w/out ICIP: $1,225,000

AV w/ ICIP: $1,000,000

Total Nominal Savings Due to ICIP: $1,051,836

NPV of Savings (6.25% discount)[1]: $678,065

Full hypothetical taxes and actual taxes paid



[1] Discount rate equal to the City's cost of debt (NYC OMB's assumption). Tax rate constant at 11.036%.

ICIP PROGRAM DETAILS

	Program Type	Full Exemption Period	Phase-Out Period	Required Minimum Expenditure	Inflation Protection	Boundaries	Additional Benefits/ Notes
Industrial	**<u>Industrial</u> Exemption and additional abatement**	Yrs. 1-16	10%/yr. for yrs. 17-25	10% of initial assessed value (AV) for exemption 25% of initial AV for additional abatement	Yrs. 2-13	All NYC	▪50% additional abatement available on pre-existing real estate taxes for yrs 1-4 with 8 yr phase-out thereafter ▪Utility infrastructure and power plants also eligible
Commercial	**<u>Special</u> Exemption Areas**	Yrs. 1-16	10%/yr. for yrs. 17-25	10% of initial AV	Yrs. 2-13	▪ Areas designated by the Boundary Commission ▪ Empire Zones	
Commercial	**<u>Regular</u> Exemption Area**	Yrs. 1-11	20%/yr. for yrs. 12-15	10% of initial AV	None	Manhattan N. of 96th St., the Bronx, Bklyn, Queens, and Staten Island	
Commercial	**<u>Renovation</u> Area**	Yrs. 1-8	20%/yr. for yrs. 9-12	20% of initial AV	None	Manhattan S. of 59th St.	Available for renovations only
Commercial	**Construction of "<u>Smart</u>" Buildings**	Yrs. 1-4	20%/yr. for yrs. 5-8	None	None	Generally, Manhattan south of Murray, Frankfort and Dover	Available for construction of "smart" buildings only

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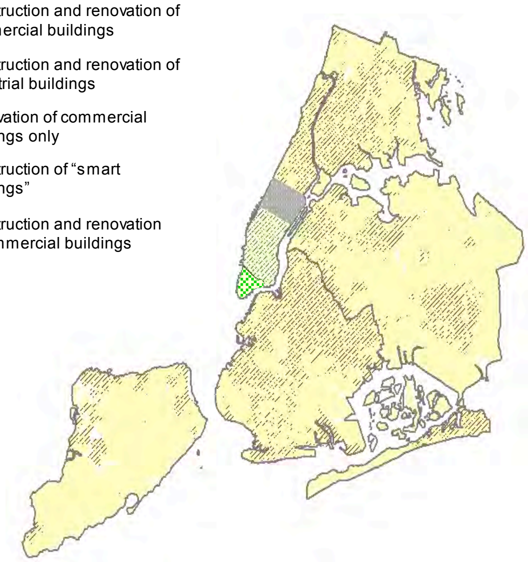
MAP OF ICIP PROGRAM AREAS

	Program Type	Boundaries	Eligibility
	Commercial: Regular	Above 96th St. and Outside Manhattan	Construction and renovation of commercial buildings
	Industrial	All NYC	Construction and renovation of industrial buildings
	Commercial: Renovation Area	Below 59th St.	Renovation of commercial buildings only
	Commercial: Smart & Renovation	Lower Manhattan	Construction of "smart buildings"
	Commercial: Special Area	Determined by Boundary Commission	Construction and renovation of commercial buildings
	No benefits	59th to 96th Sts.	



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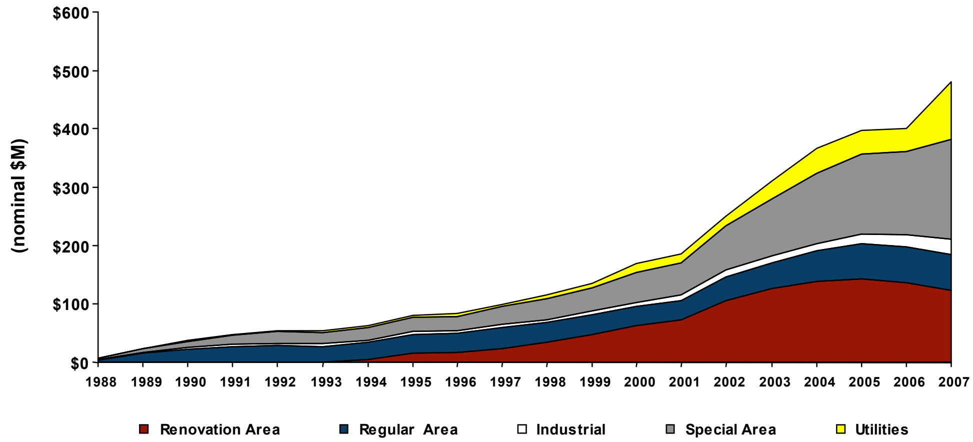
ICIP NOMINAL TAX EXPENDITURES BY YEAR AND EXEMPTION TYPE

Total over exemption types currently available[1]



(1): Excludes deferral program and ICIP abatements.

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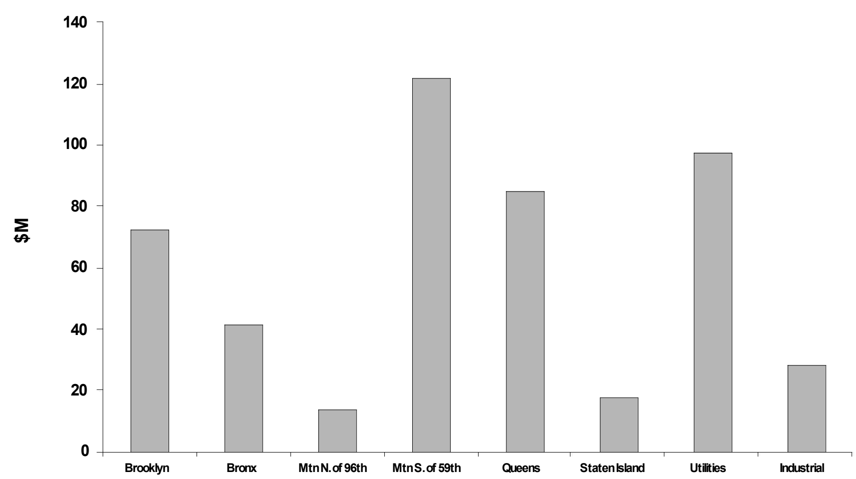
FY06/07 TAX EXPENDITURES BY TYPE OF PROJECT/GEOGRAPHY

Commercial projects by geography, industrial projects and utilities



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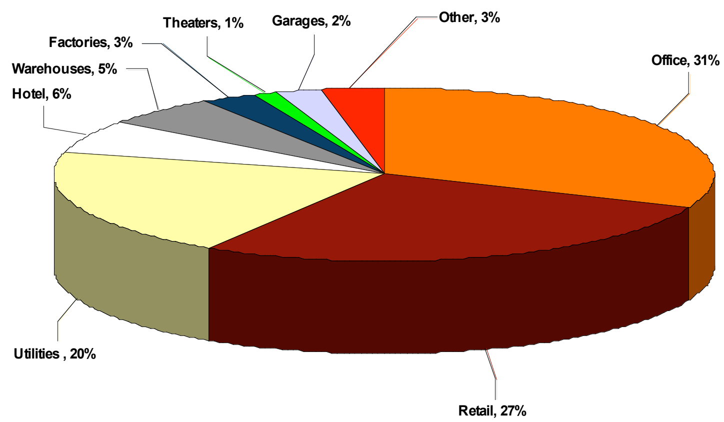
BREAKDOWN OF FY06/07 EXPENDITURES BY BUILDING CLASS



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YEARLY INVESTMENTS: SQUARE FOOTAGE

- **Square footage:**
  - Our data do not separate new construction from renovations
  - Even where new construction is not eligible, investments that classify formally as renovations can in fact be new structures
  - We do not have access to data on the amount of renovated square footage or on the type of renovation work
- **From the ratio of the investment construction cost to the structure's value:**
  - If the ratio is greater than 90%, the investment is a new construction
  - If the ratio is smaller than 90% the investment is a renovation
  - Renovated square footage is a "new equivalent" measure given by total square footage times the ratio of construction cost to structure's value

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VOLUMES AND CYCLICALITY: YEARLY SQUARE FOOTAGE ENTERING ICIP BY EXEMPTION TYPE (MILLIONS)

FISCAL YEAR	TOTAL	MANHATTAN SOUTH OF 59TH ST	REGULAR EXEMPTIONS	SPECIAL EXEMPTIONS	INDUSTRIAL EXEMPTIONS
1988	7.3120	0	2.3399	1.822	.9192
1989	11.69	0	2.8861	1.9356	.6483
1990	6.6054	0	1.492	1.6987	.9041
1991	7.9551	0	.9565	2.8193	1.7851
1992	5.7414	0	1.0846	1.6999	.503
1993	4.5399	.7090	.4370	1.3626	.6796
1994	16.420	6.9683	2.7214	2.8654	2.4173
1995	7.9659	2.582	.9712	2.1131	2.2815
1996	14.124	2.6967	3.2286	2.2672	5.9319
1997	11.82	3.5565	2.7960	2.4130	3.0569
1998	18.952	8.4542	1.0983	3.7573	4.1951
1999	18.637	7.8254	4.5731	2.9653	2.919
2000	17.693	9.5480	2.0549	3.9982	2.0207
2001	12.825	7.5156	1.5436	2.5035	1.2280
2002	25.802	13.906	2.9800	7.5255	1.3902
2003	13.065	4.3567	2.0939	5.5703	1.04
2004	15.027	7.2592	3.3096	3.6353	.822
2005	18.301	8.5680	3.0514	5.6554	.9089
2006	11.601	4.6444	3.6198	2.8925	.4442

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VOLUMES AND CYCLICALITY: YEARLY OFFICE AND STORE SQFT ENTERING ICIP BY EXEMPTION TYPE (MILLIONS)

FISCAL YEAR	OFFICE BUILDINGS		STORE BUILDINGS	
	MANHATTAN SOUTH OF 59TH ST	REGULAR AND SPECIAL EXEMPTIONS	MANHATTAN SOUTH OF 59TH ST	REGULAR AND SPECIAL EXEMPTIONS
1988	0	.639	0	.90215
1989	0	1.8933	0	1.178841
1990	0	.5866	0	.87643
1991	0	.1902	0	1.944532
1992	0	.2241	0	1.248311
1993	0	.3095	.017862	.73982
1994	4.7286	.8325	.013842	3.7282
1995	.7564	.4914	.377985	1.625596
1996	1.4417	.4581	.335803	3.113185
1997	1.8153	1.4924	.042513	2.24966
1998	3.5278	1.2887	.085955	1.53022
1999	6.4789	1.0493	.107916	4.32317
2000	8.5008	1.5642	.056194	2.510314
2001	5.8808	1.1274	.001782	1.350803
2002	11.743	2.3495	.204934	2.386325
2003	2.7785	1.5557	.139464	2.621739
2004	6.5519	1.3838	.073159	3.777921
2005	5.5743	2.3576	.537562	2.23557
2006	3.5682	.4065	.042459	2.463391

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INDUCEMENT ANALYSIS

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POSSIBLE PROGRAM EVALUATION APPROACHES

- **Border effect at exclusion zone: if ICIP causes investments that would not otherwise be undertaken one would expect to see the differential above and below 59th street**
  - Problems:
    - Difficult to apply Manhattan-specific parameters to the other City sub-markets
    - Only renovations are eligible in Manhattan
    - Insufficient sample of renovations immediately above 59th street
- **Time variation: increase in the length of benefits, extensions of the Special zones, introduction of inflation protection**
  - Problems:
    - Developers have high discount rates: lengthening the exemptions far in the future does not affect investment decisions
    - We cannot observe whether an investment decision had already been made before the change in benefits ("time-to-build")
- **Difference-in-difference: difficult to identify a comparison group because ICIP covers the vast majority of investments**

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OUR APPROACH

- **An investment is undertaken if the expected rate of return is higher than a profitability threshold**
- **The perfect dataset would have information on:**
  - Expected rates of return at the time of the investment decision
  - Change in expected rates of return had ICIP not been available
- **Our methodology:**
  1. Estimation of the rate of return of investments receiving ICIP
     a. Estimation of construction cost
     b. Estimation of income stream from the investment
  2. Estimation of the distribution of rates of return
  3. Estimation of the ex-ante profitability threshold
  4. Estimation of hypothetical rates of return without ICIP exemptions
  5. "Induced" projects: projects that are above the threshold with ICIP and below the threshold without

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MAIN ASSUMPTIONS AND STRENGTHS OR OUR APPROACH

- **Main assumptions:**
  - Investments are irreversible and their characteristics exogenously given: investment is a yes/no decision (real option literature)
  - Investors are risk neutral and can estimate ICIP exemptions correctly
  - Assessors determine the value of the exemptions to correctly reflect the increase in the property's value due to the investment
- **Strengths:**
  - Non-parametric identification of ICIP inducement effect
  - The location of the distribution of observed rates of return does not matter: only its shape is important
  - No need to specify investors discount rates

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DATA DESCRIPTION

- **Administrative data from DoF:**
  - history of exemptions, market and assessed values for all ICIP exemptions between FY88/89 to FY06/07
  - building and tax class
- **We only observe market and assessed values when the property is receiving an exemption**
- **We do not observe abatements for industrial properties**
- **Additional DoF data (FY06/07 values): square footage, stories, square feet by use from zoning regulations (e.g. retail, office, etc.), address**
- **Total of 7,269 properties (corresponding to 6,447 buildings)**
- **Data patterns:**
  - Early termination of exemptions
  - Multiple exemption starting in the same or different years
  - Incomplete histories (property receives another type of exemption or missing values)

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SAMPLE CHARACTERISTICS

- **We carry out our analysis at the building level**
- **The sample has 3,174 buildings out of 6,447 because we dropped:**
  - Exemptions for which we did not have a start date (projects pre-FY88), with missing values or early terminations
  - Exemptions started in FY04/05-FY06/07 because we would have too few observations to estimate construction costs and income
  - Properties with more than one exemption starting in different years
  - Properties without square footage information
  - Properties receiving the now expired deferral exemption, smart buildings, utilities and non-commercial properties (residential properties with a commercial component)
- **Average fraction of new square footage in the sample: 76.6% (93.1% since 2000)**
- **Average fraction of tax expenditures in the sample: 64% (74% since 2000)**

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DOF ASSESSMENT OF COMMERCIAL PROPERTIES

- **Every year DOF estimates the market value of all properties in the City**
- **Market value determined using income approach:**
  - Property owners required to file annual income and expense reports
  - DOF formula for determining market value of property:

$$MKTVAL_{i,t} = \frac{NetIncome_{i,t}}{CR_{i,t} + \frac{TR_t}{.45}}$$

where for property *i* at time *t*, CR is the capitalization rate, net income is gross of taxes and TR is the tax rate at time *t*

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DOF ASSESSMENT OF COMMERCIAL PROPERTIES

- **Taxes as calculated on <u>assessed values:</u>**
  - <u>Actual assessed value</u>: 45% of market value
    - Reflects directly physical improvements and changes in market conditions
  - <u>Transitional assessed value</u>:
    - Physical improvements: added without phase-in
    - Changes in market conditions: phased-in over 5 years
  - <u>Taxable assessed value</u>: lower of actual or transitional assessed value
- **In the first year of the exemption or until construction is completed: investments increase the market and assessed values by the lower of the construction cost or the estimated capitalized income from the investment**

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ESTIMATION OF RATES OF RETURN

- **Construction cost estimate derived from DOF assessment rules:**
  - First observed exemption
  - If exemption increases by more than 100% from the first to the second year, construction cost is exemption in second year (iterated to year 3, if necessary)
- **Net income estimate derived from income-based assessment procedures: inversion of DOF formula for determining market values (capitalization rates for submarket/building class from DOF assessment guidelines)**
- **Taxe incidence assumption: 50% (sensitivity tests at 25% and 75%)**
- **Resulting pro-formas evaluated over 30 year period (projected out-of-sample at historic growth rates by market and asset type, constant RPT tax rate)**
- **Estimation of the investments' Internal Rate of Return (IRR)**

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The Investment Profitability Threshold (IPT)

- **Annual commercial real estate default rates (which are taken to represent a zero return to equity) were examined**
- **City's economic cycles: '89-'94 (negative), '95-'01 (positive), '02-'04 (negative)[1]**
- **In each period, IPT is estimated at an IRR 3 to 5 percentage points higher than the zero return to equity point**
- **Example:**
  - X% of projects default
  - The X^{th} percentile in the IRR distribution corresponds to Y% rate of return
  - X+3/5% corresponds to the N^{th} percentile of IRR distribution
  - N^{th} percentile is IPT
- **IPT established for each period at the point at which 15% of projects do not meet minimum required equity return**
  - Sensitivity tests performed with IPT equal to 10% and 20% varying with the City's economic cycles
  - IPT range was substantiated by conversations with developers and academic experts

[1] From the Federal Reserve Board of NY Index of Coincident Economic Indicators.

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RATES OF RETURN WITHOUT ICIP AND INDUCEMENT

- **Net incomes recalculated without exemptions with tax incidence at 50% (sensitivity tests at 25% and 75%)**
- **30-year IRRs recalculated: IRRs w/out ICIP lower than IRRs w/ ICIP**
- **Induced projects are:**
  - Above IPT with ICIP *and*
  - Below IPT without ICIP

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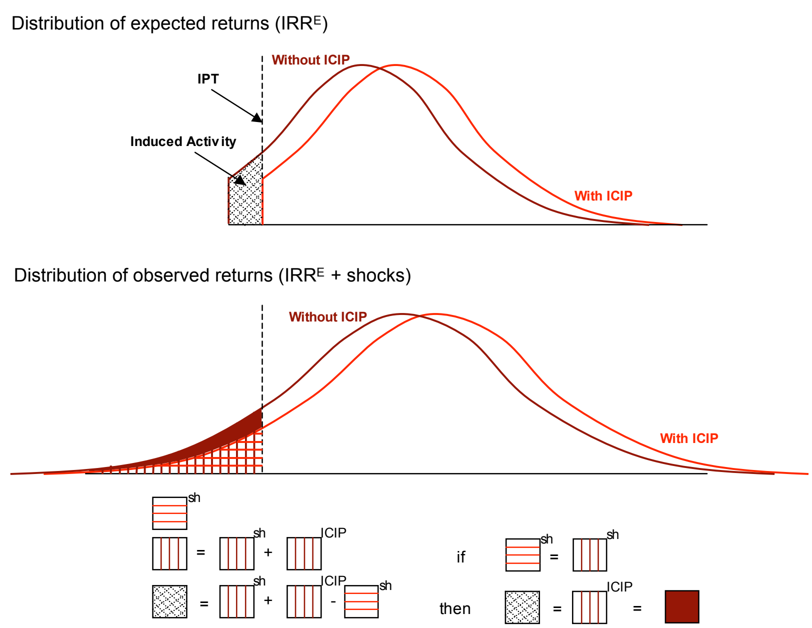
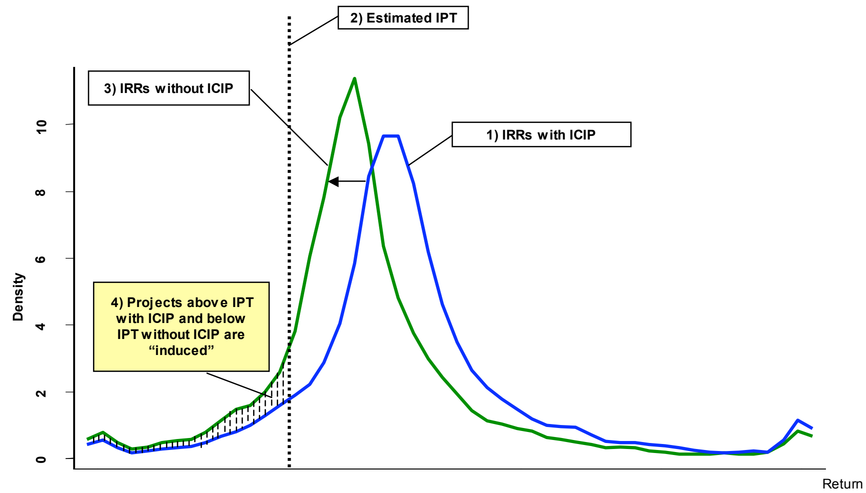
IDENTIFICATION OF THE INDUCEMENT EFFECT



INDUCEMENT EFFECT ILLUSTRATED



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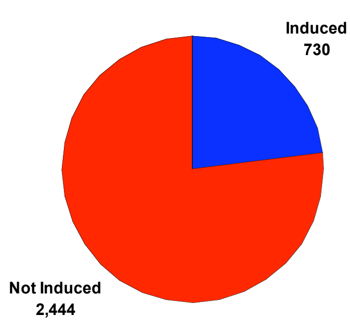
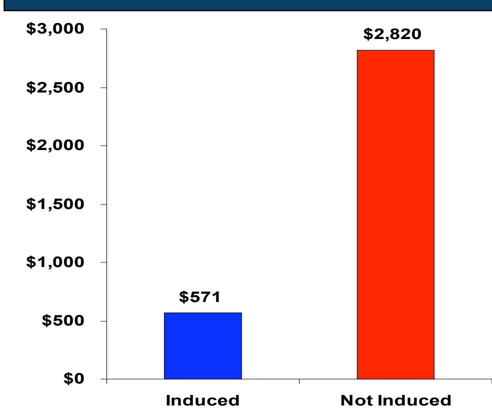
NUMBER OF INDUCED PROJECTS AND BREAKDOWN OF EXPENDITURES

23% of Projects Induced by ICIP



20% of Tax Expenditures Received by Induced Projects
($M, 2006 NPV, 6.25% discount)



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OTHER RESULTS

- **Fraction of induced square footage: 17.48% (10.318 million sqft)**
  - Manhattan South of 59th Street: 9.19% (1.87 million sqft)
  - Regular exemptions: 19.65% (2.06 million sqft)
  - Special exemptions: 21.98% (4.97 million sqft)
  - Industrial exemptions: 25.74% (1.41 million sqft)
- **Expenditure per induced square foot (30-year NPV): $328.65**
- **Sensitivity tests:**
  - Tax incidence 50% / IPT 10%: 10.1% (5.968 million sqft)
  - Tax incidence 50% / IPT 20%: 17.96% (10.602 million sqft)
  - Tax incidence 25% / IPT 10%: 4.1% (2.422 million sqft)
  - Tax incidence 25% / IPT 15%: 5.29% (3.123 million sqft)
  - Tax incidence 25% / IPT 20%: 7.7% (4.547 million sqft)
  - Tax incidence 75% / IPT 10%: 19.97% (11.793 million sqft)
  - Tax incidence 75% / IPT 15%: 26.73% (15.780 million sqft)
  - Tax incidence 75% / IPT 20%: 28.03% (16.548 million sqft)

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CONCLUSIONS

- **ICIP does induce new construction activity. However:**
  - Tax expenditures are concentrated in the areas with lower inducement probability
  - The difference in inducement probability between 15-year (regular) exemptions and 25-year (special) exemptions with inflation protection is 2.3% while the differential cost for the city is much higher
- **The methodology for the identification of the marginal effect of ICIP**
  - Is flexible: it allows for generalizations and simulations
  - Relies on only two main parameters: the tax incidence and the investment profitability threshold
  - Can be extended to the evaluation of RPT exemption programs where the data allows for the estimation of the distribution of the rates of return

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