

## Real Estate Finance 201: The Realities

Tuesday,  
October 28

11:15 a.m. –  
12:30 p.m.

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## ULI Workshops

### Real Estate 201 Financing and Investing

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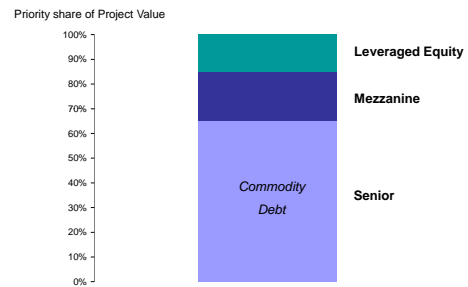
October 28 2008

## Components of the Private Real Estate Capital Markets

- Commodity debt:
  - Low volatility, many lenders, and efficient pricing
  - Income (interest) return drives total return
- Equity:
  - Higher volatility and first loss position
  - Appreciation component drives total return
- Mezzanine Investors:
  - High yield return, high volatility
  - Income/appreciation return drives total return

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## Capital Markets Slice an Investment into Various Tranches



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## Financial Structures Utilized to Own or Invest in Real Estate

- “Free & Clear”
  - 100% equity, without use of borrowed funds (i.e., mortgage provided by a third party lender)
- Leveraged
  - Equity combined with borrowed funds
- Hybrid
  - Combines equity, borrowed funds, and mezzanine financing
    - Mezzanine financing may be structured as equity and/or debt
    - Mezzanine finance has substantially replaced convertible and participating mortgage financing

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## Sources of Equity Financing

- Owner/developer personal resources
- Friends, family, and business associates
- Third-party equity sources
  - High net worth individual investors
  - Centers of influence
    - Lawyers, accountants
  - Wealth managers
    - Bank trust departments, family offices
  - Group investment
    - Syndication, tenancy-in-common, partnerships, LLCs, etc.

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- Direct investments and joint ventures with institutional investors
  - Tax-exempt investors
  - Public real estate operating companies and REITs
  - Opportunity funds, mezzanine investors, hedge funds
- Land owners
  - Contribution of land in exchange for an interest in the completed property
  - Option to purchase land at a fixed or increasing price at a future date
  - Land lease
  - Seller financing

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## The Role of the Real Estate Debt Capital Market

- Intermediation
  - Brings together lenders, who are suppliers of debt capital, with borrowers such as real estate owners and/or developers, who are users of capital
- Market establishes price (interest rate or cost) based upon
  - Risk of project
  - Market's "attitude" toward bearing risk
  - Competition among suppliers of capital

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## Composition of the Mortgage Capital Markets

- Supply of funds
  - Savings from households, business, government
- Intermediaries (sources of funds)
  - Commercial banks, insurance companies, savings and loan associations, credit companies, securitized lenders, mortgage REITs, pension funds, mezzanine investors, Federally related agencies
- Demand for funds
  - Construction and permanent mortgages (single family residential, multifamily and commercial properties)

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## Characteristics of Real Estate Mortgage Market

- Source of real estate mortgage loan determined by term (or length) of loan
  - Lenders seek to match assets and liabilities, thereby creating a "matched book"
  - Short-term loans generally used for planning through construction (until permanent long-term financing funded)
    - Loan sourced from lenders who raise funds in the "Money markets"
  - Long-term loans used for operation/ownership
    - Loan sourced from lenders who access funds in the "Capital Markets"

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## Permanent Mortgage Financing

- Structural characteristics of mortgage financing
  - Non-recourse
  - Secured
  - Specified term (when it must be repaid)
  - Interest-calculated based upon fixed or variable rates
  - Amortization-how principal will be repaid (self-amortizing/balloon)
  - Prepayment
    - When and if available
    - Cost to prepay (penalties)

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## Stages of Real Estate Mortgage Financing

- Stage of development controls both type of loan and sources of loan
  - Phases of real estate development and ownership
    - Planning and predevelopment
    - Land acquisition
    - Land development
    - Construction
    - Operation and management

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## Financing Planning, Pre-Development, Land Acquisition, and Land Development

- Planning and predevelopment financing
  - Generally non-financeable except with full recourse and/or pledge of other assets as collateral
  - Usually funded from developer's (and equity partners) resources
- Land acquisition and land development financing
  - Similar to financing for planning and development phase
  - Alternative ways to control land include:
    - Seller contribution in exchange for equity in project
    - Land option
    - Land lease
    - Seller financing

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## Construction Financing

- Partially to fully recourse
- Carries a variable rate of interest tied to an index such as the Prime Rate or LIBOR
- Has no scheduled interest or principal payments until maturity, when both principal and accrued interest are due
- Pre-payable at any time without penalty
- Funded in a series of "draws" (payments made based upon construction progress)
- Interest charged only on outstanding balance
- Costs include fees and lender costs of making loan
- Lender focus on exit strategy

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## Loan Breakeven Analysis (Stress Test)

	Scenario I Appraisal Stabilized	Scenario II Breakeven Vacancy	Scenario III Breakeven Rental Rates	Scenario IV Breakeven Interest Rate
Potential Rental Income	2,347,740	2,347,740	1,929,474	2,347,740
Other Income	-	-	-	-
Potential Gross Income	2,347,740	2,347,740	1,929,474	2,347,740
(Vacancy and Credit Loss)	(234,774)	(611,213)	(192,947)	(234,774)
Effective Gross Income	2,112,966	1,736,527	1,736,527	2,112,966
(Operating Expenses)	(809,880)	(662,068)	(662,068)	(662,068)
Net Operating Income	1,303,086	1,074,459	1,074,459	1,450,898
Required Debt Service	(1,074,459)	(1,074,459)	(1,074,459)	(1,450,898)
Excess/Shortfall	228,627	-	-	-
Debt Service Coverage Ratio	1.21	1.00	1.00	1.00
Project Size (Sq. Ft.)	215,796	215,796	215,796	215,796
Occupied Space (Sq. Ft.)	194,216	159,615	194,216	194,216
% Occupied	90%	74%	90%	90%
Original Loan Amount	14,934,228	14,934,228	14,934,228	14,934,228
Amortization Period (Months)	360	360	360	360
Interest Rate	6.0%	6.0%	6.0%	8.1%
Vacancy Rate	10%	26%	10%	10%
Rental Rate (\$PSF)	10.88	10.88	8.94	10.88

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## Permanent Mortgage Financing

- Used to fund property operation after construction
- Fixed or variable rate of interest
- Rate is determined at the time loan is committed
- Rate based upon spread over U.S. Treasuries or LIBOR
- Variable rate loans adjust monthly, quarterly, or annually
- Generally non-recourse, secured by mortgaged property
- Interest only or amortizing
- Historically, fully amortizing over loan term of 25 to 30 years
  - Today, loans combine shorter terms (5 to 10 years) with long amortization periods (25 to 30 years)
- Locked out to prepayment for majority of term
- Yield maintenance (make whole) prepayment penalty

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## Sources of Debt Financing

- Commercial Banks (Domestic and Foreign)
- Insurance Companies
- Savings and Loan Associations
- Non-Bank Financial Institutions
- Securitized Lenders
- Mortgage Real Estate Investment Trusts
- Pension Funds
- Government Sponsored Entities
- Opportunity Funds
- Mezzanine Investors

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- Commercial banks (domestic and foreign)
  - Primary source of construction financing and mini-permanent mortgages
  - Industry has experienced significant consolidation in recent years
- Insurance companies
  - Historically operated as principals, lending own funds on a portfolio basis
  - Primary sources of permanent mortgages used to own and operate property
  - Recent regulatory changes in capital and reserve requirements have altered business model

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- Savings and Loan Associations
  - Reduced participation in commercial mortgage business since late 1980s restructuring of industry
  - Remain a source of funds for smaller projects within their specific market area
- Non-bank financial institutions
  - Primarily cash flow oriented lenders as compared to DSC and LTV lenders
  - Offer greater proceeds at higher cost
  - Opportunistic lenders at higher than average spreads and costs

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- Securitized Lenders
  - Commercial conduits went to school in the single family business and at the RTC
  - Strict underwriting guidelines and criteria as all loans are resold in CMBS market
  - Extensive and expensive due diligence
  - Active market, which while slower than last year, show no signs of abating
- Mortgage REITs
  - Primarily acquirers of existing mortgages rather than originators of mortgage loans

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- Pension Funds
  - Modest source of permanent mortgage financing except targeted programs involving union construction (J for Jobs)
  - Recent surveys indicate this segment is not likely to grow in the near term (next 5 years)
- Government Sponsored Entities
  - Extensive commitment to multifamily properties
  - Highly competitive pricing (with lots of paperwork)

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- Opportunity funds
  - Providing mortgage financing is a secondary investment objective
  - Usually only available in select situations
- Mezzanine investors
  - May provide permanent financing in conjunction with other financing activity

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## Debt Capital Markets: Then...and Now

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| <ul style="list-style-type: none"> <li>• Mid-May 2007</li> <li>• Aggressive pricing           <ul style="list-style-type: none"> <li>– Spreads below 100 basis points</li> </ul> </li> <li>• Aggressive underwriting           <ul style="list-style-type: none"> <li>– Debt service coverage ratio below 1.0 to 1</li> <li>– Credit for future income</li> </ul> </li> <li>• Aggressive structuring           <ul style="list-style-type: none"> <li>– 10 year interest-only</li> <li>– No reserves for tenant improvements/leasing commissions</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• October 2008</li> <li>• Pricing           <ul style="list-style-type: none"> <li>– Spreads equal to 250 to 300 basis points</li> </ul> </li> <li>• Underwriting           <ul style="list-style-type: none"> <li>– Debt service coverage ratio of 1.15 – 1.25 to 1</li> <li>– Loan-to-Value 65%</li> <li>– Credit for in-place income</li> </ul> </li> <li>• Structuring           <ul style="list-style-type: none"> <li>– 2 year interest-only, then amortization</li> <li>– Reserves collected and escrowed</li> </ul> </li> </ul> |
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## “IRV”

$$\text{Income} = \text{Rate} \times \text{Value}$$

$$\text{Rate} = \frac{\text{Income}}{\text{Value}}$$

$$\text{Value} = \frac{\text{Income}}{\text{Rate}}$$

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## Weighted Average Cost of Capital (WACC) Method

Loan-to-value ratio	X	Lender required rate of return	=	Lender's WACC
Equity invested	X	Equity investor's required rate of return	=	Equity investor's WACC
LTV + Equity Invested = 100% of cost of property				Lender WACC + Equity WACC = Required Capitalization Rate

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Assume a property is offered for sale. Net operating income is projected to be \$92,700 in year 1. A lender has indicated that it would make a loan equal to 65% LTV at a 8.87% constant. The equity investor requires a 10% return on investment. What capitalization rate should you use to value the property?

65% LTV x 8.87% = 5.77%	\$650,000 x 8.87% = \$57,655
35% Equity x 10.00% = 3.50%	\$350,000 x 10.00% = 35,000
9.27%	\$92,655

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A broker calls you about a property. Net operating income is projected to be \$92,700 in year 1. A lender has indicated that it would make a loan equal to 65% LTV, interest-only at 8.00%. The equity investor requires a 10% return on investment. How much could he bid for the property and still earn a 10% return on investment?

65% x 8.00% = 5.20%	\$692,586 x 8.00% = \$55,407
35% x 10.00% = 3.50%	\$372,931 x 10.00% = 37,293
8.70%	\$92,700
\$92,700 / 8.70% = \$1,065,517	

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A broker calls you about a property. Net operating income is projected to be \$92,700 in year 1. A lender has indicated that it would make a loan equal to 75% LTV, interest-only at 8.00%. The equity investor requires a 10% return on investment. How much could he bid for the property and still earn a 10% return on investment?

75% x 8.00% = 6.00%	\$817,941 x 8.00% = \$65,435
25% x 10.00% = 2.50%	\$272,647 x 10.00% = 27,265
8.50%	\$92,700
\$92,700 / 8.50% = \$1,090,588	

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A broker calls you about a property which is offered for sale for \$1,200,000. Net operating income is projected to be \$95,000 in year 1. A lender has indicated that it would make a loan equal to 65% LTV at 8.65% constant. What return on investment will the equity investor receive?

65% x 8.65% = 5.62%	\$780,000 x 8.65% = \$67,470
35% x ____ = ____%	420,000 x ____ = \$ ____
\$95,000 / \$1,200,000 = 7.92%	\$1,200,000 x 7.92% = \$95,000
Step 1: 7.92% - 5.62% = 2.30%	\$95,000 - 67,470 = \$27,530
Step 2: 2.30% / 35% = 6.57%	\$27,530 / \$420,000 = 6.55%

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A broker calls you about a property. Net operating income is projected to be \$92,700 in year 1. The equity investor requires a 12% return on investment. Assuming the property is offered for sale for \$950,000, what loan constant can the investor pay a lender who is willing to make a 70% LTV loan?

30% x 12.00% = 3.60%	\$285,000 x 12.00% = \$34,200
70% x ____ = ____	\$665,000 x ____ = ____
\$92,700 / 950,000 = 9.76%	\$950,000 x 9.76% = \$92,7200
Step 1: 9.76% - 3.60% = 6.16%	\$92,700 - 34,200 = \$58,500
Step 2: 6.16% / 70% = 8.80%	\$58,500 / 665,000 = 8.80%

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A property is offered for sale for \$1,500,000. First year NOI is projected at \$127,500. A lender has expressed interest in a 70% LTV loan with a 8.45% constant. The buyer is willing to invest \$300,000. Assuming the investor requires an 9.0% return on investment, what current rate of return can he offer a mezzanine investor?

$\$127,500 / \$1,500,000 = 8.50\%$	$\$1,500,000 \times 8.50\% = \$127,500$
$70\% \times 8.45\% = 5.92\%$	$\$1,050,000 \times 8.45\% = \$88,725$
$20\% \times 9.00\% = 1.80\%$	$\$300,000 \times 9.00\% = \$27,000$
$10\% \times \underline{\quad\quad}\% = \underline{\quad\quad}\%$	
Step 1: $8.50\% - (5.92\% + 1.80\%) = 0.78\%$	$\$127,500 - (\$88,725 + \$27,000) = \$11,775$
Step 2: $0.78\% / 10\% = 7.80\%$	$\$11,775 / \$150,000 = 7.85\%$

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Assume a property is offered for sale. Net operating income is projected to be \$105,000 in year 1. A lender has indicated that it would make a loan equal to 75% LTV at a 7.76% constant. The equity investor requires a 10% return on investment. What capitalization rate should you use to value the property? What would you pay for the property?

Percentage Proof:	Dollar Proof:

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A broker calls you about a property. Net operating income is projected to be \$99,500 in year 1. A lender has indicated that it would make a loan equal to 60% LTV, interest-only at 7.50%. The equity investor requires a 8.0% return on investment. How much could he bid for the property and still earn a 8.0% return on investment?

Percentage Proof	Dollar Proof

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A broker calls you about a property. Net operating income is projected to be \$125,000 in year 1. A lender has indicated that it would make a loan equal to 70% LTV, interest-only at 7.75%. The equity investor requires a 6.5% return on investment. How much could he bid for the property and still earn a 6.5% return on investment?

Percentage Proof:	Dollar Proof:

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A broker calls you about a property which is offered for sale for \$1,500,000. Net operating income is projected to be \$145,000 in year 1. A lender has indicated that it would make a loan equal to 70% LTV at 8.25% constant. What return on investment will the equity investor receive?

Percentage Proof:	Dollar Proof:

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A broker calls you about a property. Net operating income is projected to be \$112,500 in year 1. The equity investor requires a 10% return on investment. Assuming the property is offered for sale for \$1,050,000, what loan constant can the investor pay a lender who is willing to make a 75% LTV, 25-year amortizing, loan?

Percentage Proof:	Dollar Proof:

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A property is offered for sale for \$1,350,000. First year NOI is projected at \$118,000. A lender has expressed interest in a 75% LTV loan with a 7.95% constant. The buyer is willing to invest \$250,000. Assuming the investor requires an 7.5% return on investment, what current rate of return can he offer a mezzanine investor?

Percentage Proof:	Dollar Proof:

## Addendum

- Financial Analysis and Feasibility Analysis
  - Sample financial analysis of proposed mixed-use development
  - [www.uli.org/mixeduse](http://www.uli.org/mixeduse)
  - “Mixed-Use Financial Spreadsheets” including
    - Project Summary; Development Program; Development Costs; Infrastructure Costs; Rental Housing; For-Sale Housing; Office-Commercial; Retail; Hotel; and Structured Parking

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## Answers to Weighted Cost of Capital Problems

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Assume a property is offered for sale. Net operating income is projected to be \$105,000 in year 1. A lender has indicated that it would make a loan equal to 75% LTV at a 7.76% constant. The equity investor requires a 10% return on investment. What capitalization rate should you use to value the property? What would you pay for the property?

Percentage Proof:	Dollar Proof
75% x 7.76% = 5.82%	\$1,262,000 x 75% = \$946,500
25% x 10.0% = <u>2.50%</u>	\$1,262,000 x 25% = \$315,500
8.32%	\$946,000 x 7.76% = \$73,448
	\$315,500 x 10.0% = <u>\$31,500</u>
	\$104,948

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A broker calls you about a property. Net operating income is projected to be \$99,500 in year 1. A lender has indicated that it would make a loan equal to 60% LTV, interest-only at 7.50%. The equity investor requires a 8.0% return on investment. How much could he bid for the property and still earn a 8.0% return on investment?

Percentage Proof	Dollar Proof
60% x 7.50% = 4.50%	\$1,292,300 x 60% = \$775,380
40% x 8.0% = <u>3.20%</u>	\$1,292,300 x 40% = \$516,920
7.70%	775,380 x 7.5% = \$58,154
	\$516,920 x 8.0% = <u>\$41,354</u>
	\$99,508

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A broker calls you about a property. Net operating income is projected to be \$125,000 in year 1. A lender has indicated that it would make a loan equal to 70% LTV, interest-only at 7.75%. The equity investor requires a 6.5% return on investment. How much could he bid for the property and still earn a 6.5% return on investment?

Percentage Proof:	Dollar Proof:
70% x 7.75% = 5.43%	\$1,693,767 x 70% = \$1,185,637
30% x 6.50% = <u>1.95%</u>	\$1,693,767 x 30% = \$ 508,130
7.38%	\$1,185,637 x 7.75% = \$91,887
	\$ 508,130 x 6.50% = <u>\$33,028</u>
\$125,000 / 7.38% = \$1,693,767	\$124,915

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A broker calls you about a property which is offered for sale for \$1,500,000. Net operating income is projected to be \$145,000 in year 1. A lender has indicated that it would make a loan equal to 70% LTV at 8.25% constant. What return on investment will the equity investor receive?

Percentage Proof:	Dollar Proof:
$\$145,000 / \$1,500,000 = 9.67\%$	$\$1,500,000 \times 70\% = \$1,050,000$
	$\$1,500,000 \times 30\% = \$ 450,000$
$70\% \times 8.25\% = 5.78\%$	$\$1,050,000 \times 8.25\% = \$86,625$
$30\% \times \underline{\quad\quad}\% = 3.89\%$	$\$ 450,000 \times 12.97\% = \underline{\$58,365}$
$3.89\% / 30\% = 12.97\%$	$\$144,990$

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A broker calls you about a property. Net operating income is projected to be \$112,500 in year 1. The equity investor requires a 10% return on investment. Assuming the property is offered for sale for \$1,050,000, what loan constant can the investor pay a lender who is willing to make a 75% LTV, 25-year amortizing, loan?

Percentage Proof:	Dollar Proof:
$\$112,500 / 1,050,000 = 10.71\%$	$\$1,050,000 \times 70\% = \$735,000$
	$\$1,050,000 \times 30\% = \$315,000$
$30\% \times 10\% = 3.00\%$	$\$735,000 \times 11.01\% = \$80,924$
	$\$315,000 \times 10.00\% = \underline{\$31,500}$
$10.71\% - 3.00\% = 7.71\%$	$\$112,424$
$7.71\% / 70\% = 11.01\%$	

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A property is offered for sale for \$1,350,000. First year NOI is projected at \$118,000. A lender has expressed interest in a 75% LTV loan with a 7.95% constant. The buyer is willing to invest \$250,000. Assuming the investor requires a 7.5% return on investment, what current rate of return can he offer a mezzanine investor?

Percentage Proof:	Dollar Proof:
$\$118,000 / \$1,350,000 = 8.74\%$	$75.00\% \times \$1,350,000 = \$1,012,500$
$\$250,000 / \$1,350,000 = 18.52\%$	$18.52\% \times \$1,350,000 = \$ 250,020$
$75.00\% \times 7.95\% = 5.96\%$	$6.48\% \times \$1,350,000 = \underline{\$87,480}$
$18.52\% \times 7.50\% = 1.39\%$	$\$1,350,000$
$5.96\% + 1.39\% = 7.35\%$	$\$1,012,500 \times 7.95\% = \$ 80,494$
	$\$ 250,020 \times 7.50\% = \$ 18,752$
$8.74\% - 7.35\% = 1.39\%$	$\$87,480 \times 21.45\% = \underline{\$ 18,764}$
$1.39\% / 6.48\% = 21.45\%$	$\$118,010$