Fina210/2 Sec AA Quiz #2A (5%) October 12th, 2016

Name: Antonietta Cammisano **ID#** [redacted]

- Period of analysis is 20 years effective the put-in-use rule
- Land Costs: $4,850,000
- Demolition costs $275,000
- Land with Existing building purchased 5 months before demolition starts and financed at 5.85% per annum, compounded weekly. *52 weeks per annum*
- Existing building: $450,000
- Construction Costs:
  - Hard Costs $6,800,000
  - Soft Costs $5,200,000
- Demolition period: 2 month
- Construction period: 9 months (includes demolition time)
- Demolition costs financed at 5.25% per annum, compounded quarterly, 75% of demolition costs is paid when demolition starts, and the balance (25%) is paid when demolition is completed.
- Construction costs financed at 6.05% per annum, compounded monthly, 48% of construction costs is paid when construction starts, and the balance (52%) is paid when construction is completed.
- *Assume Ending balance of building = 28% of building costs at put-in-use*
- Land costs at put-in-use (without Existing building plus financing costs) appreciates based on inflation rate
- Building sold for 35% above building costs at put-in-use
- Inflation rate per annum: 2.05%
- Taxable capital gains: 50%
- Tax rate: 40%

ASSUMPTIONS:

1. ➢ ***Financing costs of Land transferred to Building***
2. ➢ ***Demolition costs + financing costs transferred to Land***
3. ➢ ***Existing Building + financing costs transferred to Land***

4 1/2

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All corrections made

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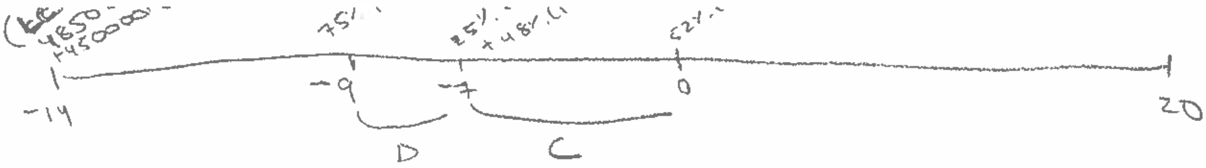

① CC = HC + SC = 12 000 000

② LC + FC = 4850 000 $\left(1 + \frac{5.85}{(100)(52)}\right)^{\frac{14}{12} \times 52}$ = 5192 371 ✓

② EB + FC = 450000 $\left(1 + \frac{5.85}{(100)(52)}\right)^{\frac{14}{12} \times 52}$ = 481 766 ✓

③ -9m
DC + FC = (.75)(275 000) $\left(1 + \frac{5.25}{(100)(4)}\right)^{\frac{9}{12} \times 4}$ = 214 478

-7m
DC + FC = (.25)(275000) $\left(1 + \frac{5.25}{(100)(4)}\right)^{\frac{7}{12} \times 4}$ = 70 874

DC + FC = 214478 + 70874 = 285 352 ✓

④ -7m
CC + FC = .48(12000 000) $\left(1 + \frac{6.05}{(100)(12)}\right)^{\frac{7}{12} \times 12}$ = 5966 381

0
CC + FC = .52(12000 000) = 6 240 000

CC + FC = 5966 381 + 6240 000 = 12206 381

⑤ FC of Land = 5192371 - 4850 000 = 342 371

⑥ Assumptions:

LC + FC = 5192 371

EB + FC = 481 766

DC + FC = 285 352

CC + FC = 12 206 381 + 342 371

① - 342 371 + 285 352 ② + 481 766 - 481 766 = Ø

- 285 352 = Ø

∴ Adjusted LC + FC = ~~5617 118~~ 4,850,000

∴ Adjusted CC + FC = 12 548 752
building cost

TCOP = 5612 118 + 12548 752 = 18 165 870

⑦ Land cost at put in use = ~~5617 118~~ 4850000 + 481 766 + 285352 = ~~5135 352~~ 5617118

⑧ 5135 352 $\left(1 + \frac{2.05}{100}\right)^{20}$ = 7 706 025 (SP of land)

⑨ capital gain = 7706025 - 5617118 = 2088 907

⑩ 2088907(.5) = 1044 453

COMPLETE THE TABLES BELOW

Total Costs of Project @ piu	$ 18165670

Selling price of Land	7706025	$ 5617118 see corrected
Land costs at put-in-use	5617118	$ 5138352 see corrected
Capital gains		$ 2088907
Taxable capital gains		$ 1044453
Taxes payable		$ 417781
CFAT Sale of land (Year 20)		$ 7288244

CFAT = Cash Flows After Taxes

Selling Price of Building	$ 16940815
Capital gains tax	$ 878413
Recapture tax	$ 3614041
CFAT of building (Year 20)	$ 12448361

(11) $(0.4)(1044453) = 417781$

(12) CFAT Land $= 7706025 - 417781 = 7288244$

(13) CFAT bldg.

$12548752(1.35) = 16940815$

(14) capital gain $= 16940815 - 12548752 = 4392063$

(15) $4392063(.5)(.4) = 878413$

(16) $.28(12548752) = 3513651$ = ending balance year 20

(17) $(12548752 - 3513651)(.4) = 3614041$

(18) CFAT Bldg $= 16940815 - 878413 - 3614041$

$= 12448361$

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Name: Matthew Griaffida **ID#**

- Period of analysis is 20 years effective the put-in-use rule
- Land Costs: $4,850,000
- Demolition costs $275,000
- Land with Existing building purchased 9 months before demolition starts and financed at 6.05% per annum, compounded weekly. *52 weeks per annum*
- Existing building: $450,000
- Construction Costs:
  - Hard Costs $6,800,000
  - Soft Costs $5,200,000 > 12 000 000 CC
- Demolition period: 2 month
- Construction period: 7 months (includes demolition time)
- Demolition costs financed at 4.90% per annum, compounded quarterly. 75% of demolition costs is paid when demolition starts, and the balance (25%) is paid when demolition is completed.
- Construction costs financed at 5.85% per annum, compounded monthly. 48% of construction costs is paid when construction starts, and the balance (52%) is paid when construction is completed.
- *Assume Ending balance of building = 28% of building costs at put-in-use*
- Land costs at put-in-use (without Existing building plus financing costs) appreciates based on inflation rate
- Building sold for 35% above building costs at put-in-use
- Inflation rate per annum: 2.15%
- Taxable capital gains: 50%
- Tax rate: 40%

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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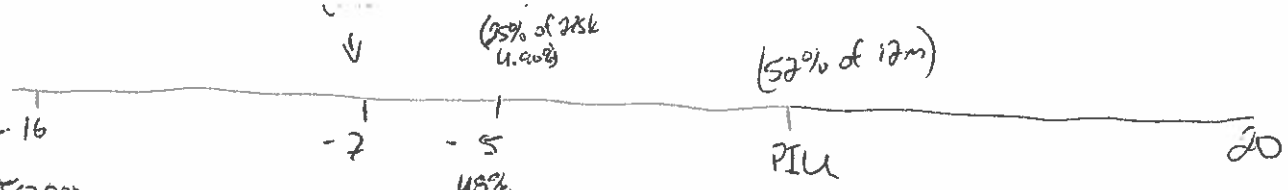

LC: 4850000, 6.05% weekly
EB: 450000

$LC+FC: 4850000\left(1+\frac{6.05\%}{52}\right)^{\frac{16}{12}\times 52} = 4850000\left(1+\frac{6.05\%}{52}\right)^{69.333333} = 5257200\$$

$EB+FC: 450000\left(1+\frac{6.05\%}{52}\right)^{69.333333} = 487781\$$

FC: 5257200 - 4850000 = 407200$

$DC+FC: 25\%\ 275000\left(1+\frac{4.90\%}{4}\right)^{\frac{7}{3}} = 212194\$$

$25\%\ 275000\left(1+\frac{4.90\%}{4}\right)^{\frac{5}{3}} = 70159\$$

$\rightarrow 282353\$$

$CC+FC: 48\%\ 12000000\left(1+\frac{5.85\%}{12}\right)^{5} = 5901776\$$

$52\% \times 12000000 = 6240000\$$

$\rightarrow 12141776\$$

LC+FC: 5257200

EB+FC: 487781

DC+FC: 282353

CC+FC: 12141776

Assumptions

1. FC of land → CC+FC
   407200 + 12141776 = 12548976
2. DC+FC → LC+FC
   282353 + (5257200 - 407200) = 5132353
3. EB+FC → LC+FC
   487781 + 5132353 = 5620134

LC+FC: 5620134

CC+FC: 12548976

COMPLETE THE TABLES BELOW

Total Costs of Project @ piu	$ 18 169 110 $

Selling price of Land	$ 7853874
Land costs at put-in-use	$ 5620134
Capital gains	$ 2233740
Taxable capital gains	$ 1116870
Taxes payable	$ 446748
CFAT Sale of land (Year 20)	$ 7407126

CFAT = Cash Flows After Taxes

Selling Price of Building	$ 16941118
Capital gains tax	$ 878428
Recapture tax	$ 3614105
CFAT of building (Year 20)	$ 12448585

S pol : 5620134 - 487281 = 5132353

$5132353(1+2.5\%)^{20} = 7853874\$$

Capital gains: 7853874 - 5620134 = 2233740 x 50% = 1116870

Taxes : 1116870 x 40% = 446748

CFAT: 7853874 - 446748 = 7407126

S pob : 12548976 x 35% = 4392142

12548976 + 4392142 = 16941118

Capital gains: 16941118 - 12548976 = 4392142 x 50% = 2196071 x 40% = 878428

Recapture tax: OC - end balance 20yr x 40%

(12548976 - (28% x 12548976)) x 40%

(12548976 - 3513713) x 40%

3614105

CFAT: 16941118 - 878428 - 3614105

= 12448585

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Name: Christos Korres **ID#** 40

- Period of analysis is 20 years effective the put-in-use rule
- Land Costs: $4,950,000
- Demolition costs $285,000
- Land with Existing building purchased 6 months before demolition starts and financed at 5.85% per annum, compounded weekly. *52 weeks per annum* $\left(1+\frac{5.85\%}{52}\right)^{12}$
- Existing building: $440,000
- Construction Costs:
  - Hard Costs $5,800,000
  - Soft Costs $5,200,000

  > 11,000,000
- Demolition period: 2 month
- Construction period: 10 months (includes demolition time)
- Demolition costs financed at 5.25% per annum, compounded quarterly, 25% of demolition costs is paid when demolition starts, and the balance (75%) is paid when demolition is completed. $\frac{5.25\%}{4}$
- Construction costs financed at 6.05% per annum, compounded monthly, 52% of construction costs is paid when construction starts, and the balance (48%) is paid when construction is completed. $\frac{6.05\%}{12}$
- *Assume Ending balance of building = 28% of building costs at put-in-use*
- Land costs at put-in-use (without Existing building plus financing costs) appreciates based on inflation rate
- Building sold for 35% above building costs at put-in-use
- Inflation rate per annum: 2.05%
- Taxable capital gains: 50%
- Tax rate: 40%

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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COMPLETE THE TABLES BELOW

Total Costs of Project @ piu	$ 17,357,543

Selling price of Land	$ 7,871,653
Land costs at put-in-use	$ 5,721,410
Capital gains	$ 2,150,252
Taxable capital gains	$ 1,075,126
Taxes payable	$ 430,050
CFAT Sale of land (Year 20)	$ 7,441,603

CFAT = Cash Flows After Taxes

Selling Price of Building	$15,708,792
Capital gains tax	$ 814,530
Recapture tax	$ 3,351,209
CFAT of building (Year 20)	$ 11,543,053

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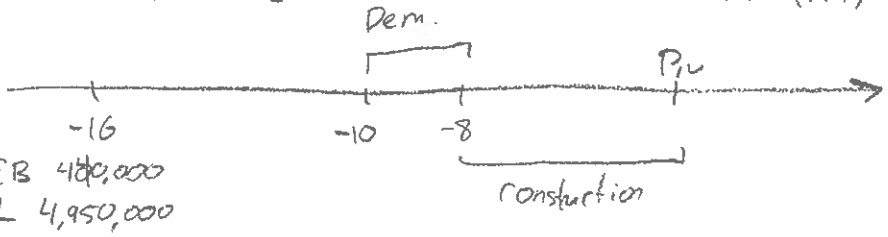
$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$



EB 480,000
L 4,950,000

4101 323

$$LC+fc = 4{,}950{,}000\left(1+\frac{5.85\%}{52}\right)^{\frac{16}{12}\cdot 52} = \boxed{5{,}351{,}323}$$

$$EB+fc = 480{,}000\left(1+\frac{5.85\%}{52}\right)^{\frac{16}{12}\cdot 52} = \boxed{475{,}673}$$

$$DemC+fc = 25\%\,(285000)\left(1+\frac{5.25\%}{4}\right)^{\frac{10}{3}} = 74{,}415$$

$$75\%\,(285000)\left(1+\frac{5.25\%}{4}\right)^{\frac{8}{3}} = 221{,}313$$

$$\boxed{295{,}728}$$

$$C+fc = 52\%\,(11{,}000{,}000)\left(1+\frac{6.05\%}{12}\right)^{8} = 5{,}954{,}819$$

$$48\%\,(11{,}000{,}000)\underbrace{\left(1+\frac{6.05\%}{12}\right)^{0}}_{1} = 5{,}280{,}000$$

$$\boxed{11{,}234{,}819}$$

$$TCOP = LC+fc + EB+fc + DC+fc + CC+fc = \boxed{17{,}357{,}543}$$

Assumptions

fc. of land = 4101323

DC+fc. → L

EB+fc → L

LC+fc. 5,721,401

CC : 11,636,142

5,721,401
− 475,673
5,245,728

CFAT of Land

Selling price of Land: $5,245,728(1+2,05\%)^{20} = 7,871,653$

Capital gains: $7,871,653 - 5,721,401$ (LC+fc) $= 2,150,252$

CFAT Building

$11,636,142(135\%) = 15,708,792$

Capital gains: $15,708,792 - 11,636,142 = 4,072,650$

$\cdot 50\% = 2,036,325$

$\cdot 40\% \quad 814,530$

Ending bal: $28\%(11,636,142) = 3,258,120$

Recapture tax $(11,636,142 - 3,258,120)40\% =$ ~~3,~~

$3,351,209$

$11,543,053$

Fina210/2 Sec AA Quiz #2D (5%) 8-3 October 12th, 2016

Name: Theodora Nikoletopoulos **ID#** 4[illegible]

- Period of analysis is 20 years effective the put-in-use rule 20 YRS.
- Land Costs: $4,650,000
- Demolition costs $285,000
- Land with Existing building purchased 9 months before demolition starts and financed at 6.05% per annum, compounded weekly. *52 weeks per annum*
- Existing building: $440,000
- Construction Costs:
  - Hard Costs $6,000,000
  - Soft Costs $5,200,000

  } 11,200,000 $
- Demolition period: 3 month
- Construction period: 8 months (includes demolition time)
- Demolition costs financed at 4.90% per annum, compounded quarterly. 70% of demolition costs is paid when demolition starts, and the balance (30%) is paid when demolition is completed.
- Construction costs financed at 5.85% per annum, compounded monthly. 45% of construction costs is paid when construction starts, and the balance (55%) is paid when construction is completed. 3,287,178 $
- * *Assume Ending balance of building = 28% of building costs at put-in-use*
- Land costs at put-in-use (without Existing building plus financing costs) appreciates based on inflation rate
- Building sold for 35% above building costs at put-in-use
- Inflation rate per annum: 1.95%
- Taxable capital gains: 50%
- Tax rate: 40%

Adj:
EC + FC = 5,422,688
CC + FC = 11,739,922

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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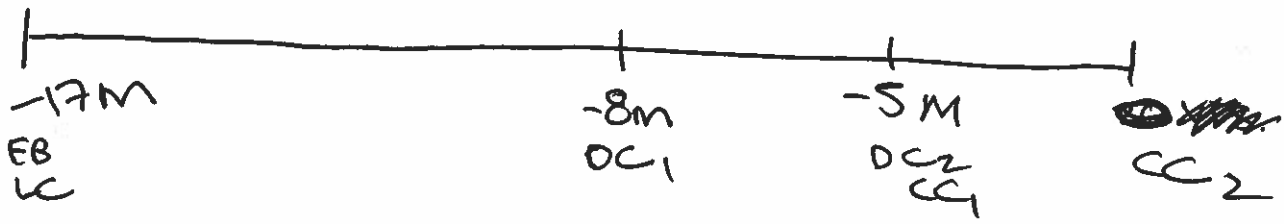

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COMPLETE THE TABLES BELOW

Total Costs of Project @ piu	$ 17, 162, 610 $

Selling price of Land	$ 7, 273, 858 $
Land costs at put-in-use	$ 5, 422, 688 $
Capital gains	$ 1,851, 170 $
Taxable capital gains	$ 925, 585 $
Taxes payable	$ 370, 234 $
CFAT Sale of land (Year 20)	$ 6, 903, 624 $

CFAT = Cash Flows After Taxes

Selling Price of Building	$ 15, 848, 895 $
Capital gains tax	$ 821, 795 $
Recapture tax	$ 3, 381, 098 $
CFAT of building (Year 20)	$ 11, 646, 002 $

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$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

LC = 4,650,000
EB = 440,000
DC = 285,000
CC = 11,200,000

FC = 415869

TCOP = 17,162,610$

-17m LC + FC

$4.65M \left[1 + \frac{6.05\%}{52}\right]^{\frac{17}{12}*52} = 5,065,869\$$

-17m EB + FC

$440K \left[1 + \frac{6.05\%}{52}\right]^{\frac{17}{12}\times 52} = 479,351\$$

-8m DC + FC

285K
*70%
199,500

$\left[1 + \frac{4.9\%}{4}\right]^{\frac{8}{3}} = 206,084\$$

-5m DC + FC 285K
*30%
85,500

$\left[1 + \frac{4.9\%}{4}\right]^{\frac{5}{3}} = 87,253\$$

-5m CC + FC 11.2M
*45%
5040000

$\left[1 + \frac{5.85\%}{12}\right]^{5} = 293,337\$$

$= 5,164,053$

0m CC + FC 11.2M
*55%

$\left[1 + \frac{5.85}{12}\right] = 6,160,000$

11,324,053

Adjustments

LC + FC → 5,065,869$ − 415,869 + 479,351 + 293,337 = 5,422,688

EB + FC → 479,351$ − 479,351 = 0

DC + FC → 293,337$ − 293,337 = 0

CC + FC → 11,324,053$ + 415,869 = 11,739,922$

17,162,610$

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= 4,943,337 $ ✓ = 5,422,688

sale of land

4,943,337 (1 + 1.95%)^{20} = 7,273,858 $ ✓

LESS LC + FC

7,273,858 − 5,422,688 = 1,851,170 ✓

capital gain tax

1851 170 * 50% = 925,585 $

Tax payable

925,585 * 40% = 370,234

∴ CFAT of land → ~~7,273,858 − 370,234~~

= 6,903,624 $

Sale of building

11,739,922 (135% or 1.35) = 15,848,895 $ cap/tax taxes ↓

LESS CC + FC

15,848,895 − 11,739,922 = 4,108,973 * 40% * 50%

= 821,795 $

11,739,922 − 3,287,178

= 8,452,~~784~~ * 40% = 3,381,098 $

CFAT OF Building

15,848,895 − 821,795 − 3,381,098 = 11,646,002