



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF PROPERTY STUDIES AND URBAN DESIGN

Property development finance

BLP 4204

EXAMINATION PAPER

AUGUST 2024

This examination paper consists of 2 printed pages

Duration : 3 hours

Total Marks : 100

Special requirements : N/A

Examiner's Name : Mr T. Madyangove

INSTRUCTIONS

1. Answer question 1 and any other three questions.

2. Each question carries 25 marks.

3. Extensive use of examples is highly recommended.

MARK ALLOCATION

QUESTION	MARKS (Any selected 4)
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25
TOTAL	100

Question 1

FBC Building Society has availed you with the following information on the Zvishane Housing Project as of 31st December 2022

a). Capital Outlay

Description	Value USD
Land Value	3 000 000
Buildings with 300 shopping units measuring 60sq meters	25 000 total construction cost per unit before tax
300 medium density housing units	40 000 total construction cost per unit before tax
500 high density housing units	30 000 total construction cost per unit before tax
Preliminary Costs were estimated at 5% of total construction costs	
Consultancy Fees at 15% of the total Construction Cost	

The company had 20% of its properties vacant for the year ending 31 Dec 2022

b). As a company policy, they decided against selling any of their properties; instead, they opted to lease all of them. As such, they were leased as follows:

- Rentable space was leased at \$250-00 per square meter per month
- Housing units are rented at \$200-00 per month for high density and \$350-00 for medium density per month

c). The company was financed by the following

Equity	25 000 000 shares @ \$1.00 were issued, and all were taken up
Debt	75% Loan Value Ratio @23% per annum payable over 15 years

d). The following were the Expenses

Soft costs

<p>The soft costs were charged at \$25 per sq meter per month</p> <p>Housing developments incurred 25% per month as soft costs</p>
<p>Other deductibles are estimated at not more than 15% of Construction Costs.</p>
<p>Insurance</p> <p>Insurance was 10% of the building value.</p>
<p>Motor Vehicle Expenses per annum</p> <p>Motor vehicle expenses were at 10% of Gross Income.</p>
<p>Capital Costs per annum</p> <p>Capital costs were \$1 000 000.00 across the board for the whole year</p>
<p>Taxation</p> <p>The tax was \$750 000-00 as at 31 Dec 2022, including VAT</p>
<p>Additional Financial Costs</p> <p>Interest in development cost: Given that the project was estimated to take five years to complete, it took one year to approve the concept.</p> <p>Interest on development costs given that the project was estimated to take five years to complete and it was planned to sell/lease over two years</p>

e. Additional information as of 31 Dec 2021

<p>The vacancy rate as at 31 December 2021 was 12%</p>	
<p>As per demand, they decided that for 2021, there were plans to build an additional 100 shopping units and 100 housing units.</p>	
<p>Ten housing units were demolished and converted into a community hall.</p>	
<p>60 shop units and 70 housing units were upgraded to meet the tenants' requirements</p>	
<p>10% of the portfolio was vacant as of 31 Dec 2020</p>	
<p>There was an additional demand for 60 shopping units, with each unit costing.</p>	

	\$ 14 000.00
They received applications for 140 housing units, with each unit costing.	\$ 25 000.00
The company decided to proceed with the intended project in 2022, wholly financed by mortgage @ 22% over 20 years.	
The tax was \$750 000-00 as at 31 Dec 2021	

With the above information, you have been asked to perform a Cashflow statement for FBC Building Society as of 31 December 2022 [40 marks]

Question 2

FBC Building Society intends to develop a housing project in Zvishavane. They have engaged you to help them evaluate the feasibility of this construction project, given the significant drop in revenue due to the COVID-19 pandemic. They provide the following data.

- The market value of land is \$2,000,000 (*LAND* = \$2.5 million).
- Fees that must be paid upfront (*time 0*) are \$500,000.
- Total construction cost is projected to be \$13,500,000 (not including financing cost), and construction is expected to take three years ($T = 3$), with payments for work done owed to the contractor projected to occur in 3 equal instalments of \$4,500,000 each at the ends of years 1, 2, and 3.
- A construction loan covering all the above-noted construction costs can (and will) be used at 10% interest, requiring a \$50,000 cash up-front origination fee. The loan will be due upon completion of construction at the end of Year 3.
- The opportunity cost of capital (OCC) for investments in development projects of this nature is assumed to be 20% per annum ($E[r_C] = 20\%$).
- Construction completion is expected to be followed by two years of absorption (lease-up), including two projected net cash flows of—\$100,000 at the end of Yr.4 (when the building will still be mostly empty) and +\$4,200,000 at the end of Yr.5 (more tenants, less leasing expenses).
- Stabilised operation (beginning Yr.6) projected NOI = \$4,000,000/yr with projected growth of 10% per year after that based on rental market projections. OCC (going-in IRR) for investments in stabilised property is projected to be 20% annually.

Determine the feasibility of this project and advise FBC Properties on the way forward [20 marks]

Question 3

In 2020, FBC Bank intended to invest in all upcoming towns with potential growth, consisting of residential townhouses and a shopping mall. They furnish you with the following data on a project they intend to undertake in Hwange:

- They assumed the project would cover 18000 square meters of rentable shop floor space at \$100 per square meter per month.
- They assumed they would have 30,000 m sq meters of residential space, with each unit measuring 150 metres, at \$50 per square meter per month.
- It is assumed that the vacancy rate will not be more than 10% per year
- The OCC for investment, when stabilised, is 40%
- A mortgage loan will wholly finance the project for 22% over 20 years; it is expected that the Debt Coverage Ratio (DCR) will be 180%
- The OCC for construction costs is 22%
- The preliminary design construction cost budget will be \$5 000 000
- The land has a cost value of \$7 000 000-00
- Projected operating expenses will be 20% of Net Income
- The expected Capital rate at completion is 20%
- The expected time to construct is three year

You have been tasked to determine the feasibility of undertaking such a project and advise FBC on the way forward **[20 marks]**

Question 4

FBC Holdings furnished extracts of their Building Society financial statements as of 31 Dec 2022. The directors were interested in finding out how some of their completed projects were performing and whether to continue on them

Description	Value
Land costs	
Residential	\$2 000 000
Commercial	\$ 1 200 000 each
800 residential units comprising of	
a. 200 with two bedrooms	\$40 000-00 per unit
b. 600 with three bedrooms	\$50 000-00 per unit
Two shopping malls with 300 shopping units measuring 60 sq.m each	\$ 1 200 000 each shopping mall
Financed by	
Equity	25 000 000 shares @ \$1.05 were issued, and 80% were taken up

Debt	75% of Total Capital @23% per annum payable over ten years
Half-yearly, a rights issue was offered	2 500 000 shares were offered @ \$1.00, and 100% were taken
Income	
Two-bedroom residential units	\$700-00 per month
3 bedroom residential units	\$1100-00 per month
Shop floor space	\$ 250-00 per sq/m per month
200 basement parking bays	These were leased at \$1.75 per hour for 8 hours a day, and 80% were taken up during the financial period.
Taxation	\$750 000-00
1500 square meters of warehousing	60% was used for \$30 per sq/m per month

- Operating costs are 15% of gross potential income
- Security costs were estimated @ 1% of the building cost
- Insurance was 10% of the building cost
- IT-related costs were estimated at 0.5% of gross income
- 30% of NOI was declared as a dividend

Based on the above information, calculate the following

- a. Debt-Equity Ratio (4)
- b. Debt Service Coverage Ratio (4)
- c. Debt Service Ratio (4)
- d. Equity Dividend Ratio (4)
- e. Gearing Ratio (4)

[20 marks]

Question 5

- a) FBC Building Society decided to construct a shopping centre in Kwekwe for \$ 1,000,000.00 to add to their growing real estate portfolio. They put 20% equity and obtained an amortised loan for the balance at 22% for ten years. They hired you as an expert to determine;
 - i) Their debt coverage ratio should be 180%. How much must FBC Holdings be making? (5)

- ii) After six years, the balance (amount owed) (2)
- iii) After eight years, how much interest would have been paid (3)

b). FBC Building Society decided to insure their 800 residential unit with a replacement value being the cost value. There was a 80 percent policy limit. Suppose the building was insured for \$ 30,000,000.00. Calculate the coinsurance value. (10 marks)

[20 marks]