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A Preliminary Financial Analysis of the Focus Hope Loan Fund

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Introduction and Overview

This report provides a brief and preliminary overview of the financial status of the Focus: Hope loan fund. The analysis performed below is preliminary, both in terms of the data sources used and in the sophistication of the statistical and analytical tools utilized. Nonetheless, even with these caveats, several important features of the loan fund become apparent. First, the loan fund is characterized by an extremely high default rate and a corresponding low rate of payback that is not isolated to any one particular subgroup of students. Default is a ubiquitous phenomenon. Second, government grants to students are the principal source of funding for the loan fund. Students' co-payments and repayments are small in comparison. Third, almost all student repayment (and by definition all student copays) are in the form of payments to principle. There is very little interest of late fee income. The effect of this combination of a high default rate and a negligible amount of interest and late fee income can be seen in the results presented in the simulation model. Holding constant the high default rate, interest rates would have to be absurdly high in order for the loan fund to break even. Likewise, holding constant the late fees and interest rate, the default rate would have to be lowered to almost zero before the loan fund comes to balance.

The report is organized as follows. We describe the data sources used for information on student repayment and debt and then present the results from this analysis. We then detail the simulation model and its results. The final section contains some concluding remarks.

Data Sources

The data for the simulation came mainly from the Excel spreadsheets provided by Focus Hope with the addition of student loan payments processed by UAS and the student records Access database from Focus Hope. The spreadsheets have been reformatted and entered into an Access database where the tables are linked by the Social Security Number (SSN). There are quite a few inconsistencies in the SSNs from the different tables, so the values used in this analysis at this time are estimates and likely differ from the true values.

From the student records table we used the gender variable and the date of birth. The date of birth was used to calculate age. The AuditClClose files provided information on tuition earned, copays, student responsibility, and government payments. We also used class information in conjunction with date of birth from student records to calculate age at enrollment.

While the spreadsheet contained information on government payments (defined, in our case, to be any outside payment including sources such as employer grants), it was not formatted in a way that could be easily used so it was calculated based on tuition earned, copays, and student responsibility. The AUDITCNTFLREPAY sheets provided information on who was repaying, who had paid in full, and who was in default.

Finally, we used the collections spreadsheets from both Focus Hope and UAS to calculate how much students had repaid on their loans.

Results from Data Analysis

Table 1 provides an overview of the loan fund. We decided to classify students into one of five different groups depending on whether they took a remedial course (either Fast Track or First Step) and then whether or not they entered into the information technology (IT) or machinist career track. Thus, there are five groups total in the rows of table 1—Remedial (no classes after remedial), Machine Remedial, Machine Not Remedial, IT Remedial and IT Not Remedial. For each of these groups, the columns in table 1 give the average tuition earned, student responsibility, grant amount, loan payments received, and default rate. In this study, someone is considered to be in good standing if they have either completely paid off their loan or if they are current in their loan payments. If they are not in good standing, then for the purposes of this study they are considered to be in default.

The data on debt and repayment in table 1 reveal that all categories of students have a default rate in excess of 90 percent. Furthermore, while average student responsibility ranges from a low of $1,270.94 to a high of $5,059.13, the average amount of loan payments received is much lower—from $215.12 to $478.20. Grants constitute the largest source of revenue for the loan fund.

Table 2 presents a comparison of the characteristics of individuals who completely repay their loans (repayers) versus those who default. In our data there are 535 individuals who have retired their debt compared to 1993 defaulters. Repayers are slightly more likely to be male (74.9 percent compared to 69.45 percent) and are on average older than defaulters (an average age of 23.9 versus 20.3 for defaulters). Furthermore, comparing the class histories of repayers versus defaulters indicates that repayers are more heavily concentrated in the Machine Not Remedial group while defaulters are more concentrated in the IT Not Remedial group.

Table 3 contains summary statistics on the debts accumulated by enrollment group, age, and gender. The average student responsibility and percent of the student responsibility unpaid for each group is given in the cells of the table. While there does not appear to be any significant difference between men and women across ages or enrollment group, the youngest age group (17–19 years old) has the lowest percentage of unpaid debt across enrollment groups. At the moment it is unclear why this younger group has a higher payoff rate. One possibility is that this group may have a larger percentage of loans with co-signers. This is a topic that will be explored in future research.

Table 4 contains data on payments received in the same format as in table 3. Payments are classified as Government (meaning any grant), copays, or repays. Where table 3 allows the identification of groups with high levels of unpaid debt, table 4 allows for the identification of groups with (relatively) high revenue. The highest revenue groups in table 4 are females in the machine program, both remedial and not remedial. These individuals have very high levels of grant support and repay levels that are comparable to other populations. In general, the IT groups have much lower levels of government support than those in the machinist program and as a result, the IT program does not generate nearly as much revenue. The differences in copay and repay amounts between the groups is small in absolute dollar amounts compared to the difference in government funding.

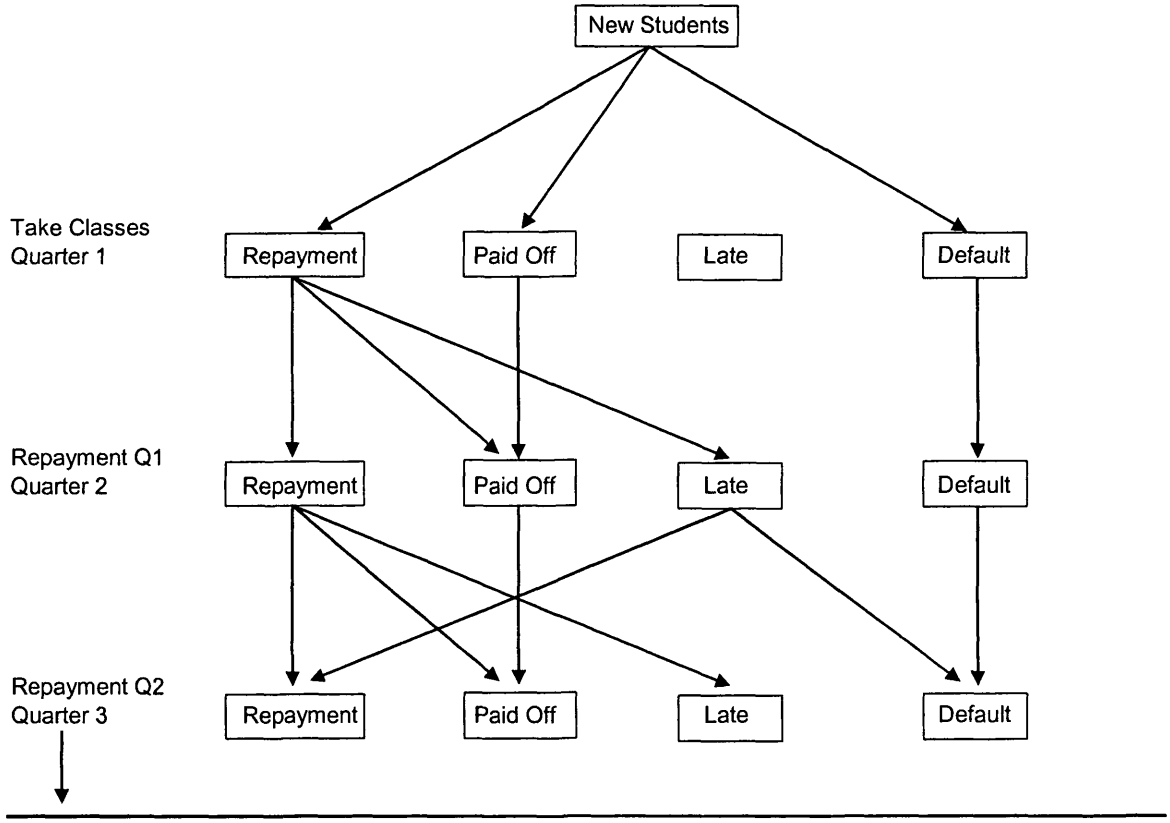
Simulation Workings

The section describes a simulated model of the loan fund built into an Excel spreadsheet. The model imposes a set of simplifying assumptions that are used to calculate quarterly revenues and debts. The loan fund financial status is summarized by the Net Fund Outflow figure provided in tables 5 through 8. The Net Fund Outflow is defined as the flow of quarterly debts (new tuition liabilities minus government grants) subtracted from the flow of quarterly revenues (repays and copays).

The simulation, shown in figure 1, estimates loan fund health based on several parameters. The model is based on cohorts (we use the same cohorts as found in table 1—Remedial, Machine Remedial, Machine Not Remedial, IT Remedial and IT Not Remedial). For simplicity we assume all persons in a particular category in a cohort are identical and that all cohorts have the same characteristics (this is a simplifying assumption that may be relaxed in

future work). In the first quarter a cohort attends school, incurring tuition, taking out loans, making copays, and receiving grants. The next quarter a cohort enters repayment. Once in repayment a student can stay in repayment, pay off the balance of the loan, become late in paying, or if already late can go into default. If a student who was late goes back into repayment a late fee is added to the regular payment. See chart for flows of students.

Figure 1 Flow Chart of Loan Fund Simulation



In the simulation in quarter 1 there is only 1 cohort. In quarter 2 there are 2 cohorts, cohort 1 in the first quarter of repayment and cohort 2 in the taking classes phase. As the quarters progress additional cohorts are added. After the number of quarters reaches the time allotted for cohort 1 to pay of its loans, the model enters a steady state, meaning the inflows and outflows will not change from quarter to quarter as the new cohort is offset by the leaving cohort. For example, if the time allotted to pay off the loan is five years, the model enters steady state after 20 (5 x 4 = 20) quarters.

The default parameters used in the baseline case for the simulation are based on estimates generated from data provided by Focus Hope. Table 5 shows the numbers used to generate the baseline case. The first row gives the number of new quarterly students in each category, the second row gives tuition amounts and the third row gives the percentage of tuition covered by government grants. The fourth row and fifth row give the percentage of students each quarter who either (at onset) never make a payment to Focus Hope or, having made a payment in the past, the probability is that they will fail to make a payment in the next quarter. Keep in mind that this is a quarterly default rate and that defaults will compound over the term of the loan. The sixth row gives the probability that the failure to make one payment will be followed by the failure to make any future payments. The last row gives the percentage of students who pay their debts in full each quarter. Net Fund Outflows in the baseline case are -$747,144 per quarter.

Simulation Results

We simulate the effect on Net Fund Outflows of changing the default rate from 17 percent to 0 percent (table 6), of changing the average copay amounts (table 7) and the interest rate from five percent in the baseline case to 95 percent (Table 8). Table 6 indicates that dropping the quarterly default rate from 17% to 12% reduces the Net Fund Outflow to -632,919, but the fund is still losing money. Holding constant the baseline interest rates and late fee income, even a quarterly default rate of only four percent results in a negative fund outflow. It is only when the quarterly default rate becomes (nearly) zero that the loan fund shows a positive net cash flow.

Table 6 simulates the effect of changing copay amounts charged during the machinist and IT programs from an average of approximately $150 per student to $300 per student. In addition, we add copay charges to those in remedial classes. This dramatic change in copay structure has negligible effect on the net fund outflow per quarter.

Table 7 simulates the effect of a change in interest rates while holding constant the current default rate and copay structure. The results indicate that even if raising the interest rate had no effect on the default rate (a strong assumption); the loan fund would not have a positive Net Fund Outflow unless it charged a 95 percent interest rate.

Conclusion

The analysis presented in this report is preliminary and incomplete. Nonetheless, several important features of the loan fund can be seen clearly from the results presented above.

- The loan fund has a very high default rate and a negligible rate of payback. Default is widespread.
- Government grants to students are the principal source of funding for the loan fund. There is very little interest or late fee income.
- Holding constant the high default rate, interest rates would have to be absurdly high in order for the loan fund to break even.
- Holding constant the late fees and interest rate, the default rate would have to be lowered to almost zero before the loan fund comes to balance.

Table 1 Loan Fund Overview

	Average Tuition Earned ($)	Average Student Responsibility ($)	Average Grant Amount($)	Average Copays($)	Average Amount of Loan Payments($)	Default Rate (%)
Remedial	1,448.13	1,270.94	170.68	-	215.12	91.5%
Machine Remedial	7,109.16	3,759.65	3,226.06	116.08	428.12	92.2%
Machine Not Remedial	5,718.13	2,626.20	3,047.38	138.02	379.91	91.5%
IT Remedial	7,976.26	5,059.13	2,692.44	177.09	478.20	96.1%
IT Not Remedial	6,206.43	4,664.96	1,678.57	192.28	396.15	95.9%

Table 2 Characteristics of Repayers and Defaulters

Group	**Repayers**	**Defaulters**
	N=535	N=1993
Percent Remedial	26.94	25.07
Percent Machine Remedial	21.25	17.99
Percent Machine Not Remedial	38.52	32.97
Percent IT Remedial	7.40	7.49
Percent IT Not Remedial	5.88	16.48
Percent Male	74.76	69.45
Average Age	23.9	20.3

Table 3 Debts by Age and Program Categories

	Male		Female	
Program and Age	**Percent Unpaid**	**Student Responsibility ($)**	**Percent Unpaid**	**Student Responsibility ($)**
Remedial				
17–19	77.8	1,301.94	78.7	1,407.73
20–25	81.4	1,203.48	91.6	1,308.57
26–35	93.2	1,341.27	84.5	1,048.33
36–64	82.9	1,078.12	77.4	1,170.32
Machine Remedial				
17–19	76.5	3,927.86	83.4	4,255.41
20–25	89.9	3,955.65	85.9	2,419.93
26–35	91.7	3,893.31	93.8	3,615.59
36–64	89.5	3,772.84	86.3	3,572.29
Machine Not Remedial				
17–19	78.4	3,110.29	70.9	2,667.75
20–25	84.8	2,872.46	75.2	2,076.26
26–35	85.7	2,696.52	86.5	1,617.85
36–64	87.9	2,255.31	74.3	2,715.83
IT Remedial				
17–19	78.2	5,549.94	89.6	7,191.56
20–25	93.3	4,537.82	95.2	4,054.67
26–35	85.4	5,441.35	90.9	4,299.98
36–64	84.6	4,541.95	91.7	4,468.96
IT Not Remedial				
17–19	78.2	5,549.94	89.6	7,191.56
20–25	93.3	4,537.82	95.2	4,054.67
26–35	85.4	5,441.35	90.9	4,299.98
36–64	84.6	4,541.95	91.7	4,468.96

Table 4 Payments (in dollars)

	Male			Female		
Program and Age	**Government**	**Copays**	**Repays**	**Government**	**Copays**	**Repays**
Remedial						
17–19	224.18	–	288.88	151.87	–	299.23
20–25	108.89	–	223.54	145.71	–	109.30
26–35	161.36	–	90.76	370.83	–	162.23
36–64	184.68	–	184.67	148.39	–	264.82
Machine Remedial						
17–19	2,914.61	109.94	838.90	4,121.10	155.10	576.30
20–25	2,613.38	95.85	313.59	4,930.86	157.74	205.36
26–35	2,856.43	114.51	219.49	3,812.02	118.38	112.28
36–64	3,867.52	136.61	273.74	2,582.08	79.17	420.07
Machine Not Remedial						
17–19	2,908.30	137.54	564.50	4,312.20	216.66	622.78
20-25	2,867.01	139.10	317.81	4,319.35	157.76	396.39
26–35	2,476.94	132.51	272.56	2,741.22	103.73	129.19
36–64	3,108.59	111.44	175.81	4,322.92	170.00	572.24
IT Remedial						
17–19	3,006.70	166.99	1,079.56	1,014.79	162.80	603.09
20-25	1,390.92	115.62	196.77	3,225.24	164.12	36.58
26–35	3,728.17	247.37	582.79	3,383.08	239.68	174.95
36–64	3,190.68	185.16	544.90	3,106.07	195.28	193.59
IT Not Remedial						
17–19	3,006.70	166.99	1,079.56	1,014.79	162.60	603.09
20–25	1,390.92	115.62	196.77	3,225.24	164.12	36.58
26–35	3,728.17	247.37	582.79	3,383.08	239.68	174.95
36–64	3,190.68	185.16	544.90	3106.07	195.28	193.59

Table 5 Simulation Overview

	IT Remedial	IT Only	Machine Remedial	Machine Only	Remedial Only
Quarterly new students	18	53	32	61	46
Tuition	11,056	8,926	11,084	10,027	1,842
Total copays	178	191	110	130	0
Percent government payments	31.7	26.4	46.8	57.1	18.5
Percent who never make a payment	17	17	17	17	17
Percent quarterly who become late	17	17	17	17	17
Percent quarterly of late who default	90	90	90	90	90
Percent quarterly pay in full	0.5	0.5	0.5	0.5	0.5

Net Fund Outflow (747,144)

Table 6 Effect of Changing Default Rate

Percent who never make a payment/Percent quarterly who become late	**Net Fund Outflow ($)**
17	(747,114)
12	(632,919)
8	(504,918)
4	(273,528)
0	77,954

Table 7 Effect of Changing Copays

Copay Amounts	**Net Fund Outflow ($)**
Current copay structure	(747,114)
$300 average from IT and machine and $150 average from remedial only	(723,172)

Table 8 Effect of Changing Interest

Interest Rate on Loan	**Net Fund Outflow ($)**
5%	(747,114)
18%	(665,129)
95%	5,360