

ASSESSING FINANCIAL EDUCATION: EVIDENCE FROM BOOTCAMP

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Online Appendix

**Appendix Table 1. Treatment Variable Imputation Procedure**

<b>Step</b>	<b>Description</b>	<b>Percent</b>
1	Using administrative data, establish the month that an individual started Advanced Individual Training (AIT) at one of the locations in Table 1.	
1.1	Identify individuals who change both units and locations in the same month after Basic Combat Training (BCT) and assign this month as their AIT start month.	64 percent
1.2	For unassigned individuals, identify those with unit assignment data and assign an AIT start month based on their new unit assignment date.	23 percent
1.3	For unassigned individuals, identify those with location change data and assign an AIT start month based on location change date.	<1 percent
1.4	For unassigned individuals, assign an AIT start based on the scheduled duration of BCT (9-10 weeks = 2.5 months, rounded up to 3). For these individuals, the AIT start month is the entry month plus 3 months.	12.79 percent
2	Revise AIT start dates down by one month for individuals who have jobs (PMOS) where BCT and AIT are completed as part of the same program (known as One Source Unit Training). The individuals have already completed AIT as of the month they are assigned above (based on location change, unit change, etc...).	
3	Using the start dates from Steps 1-2 and administrative data from the Army Emergency Relief (AER), assign treatment outcomes (PFMC) to individuals.	
3	Individuals who completed AIT prior to PFMC implementation at their location are assigned to the control group (PFMC=0).	49.7 percent
3	Individuals who started AIT during or after PFMC implementation at their location are assigned to the treatment group (PFMC=1).	50.3 percent

*Notes:* The table describes the treatment variable imputation procedure referenced in the main text. The percentages in the third column reflect the approximate percentages of the administrative data sample (N=82,211) assigned by each step.

**Appendix Table 2. PFMC Effects on Military Labor Market Outcomes**

	(1)	(2)	(3)	(4)
Panel A. Labor Market Outcomes				
Outcome	Adverse Separation	Rapid Promotion to SGT	Offered Reenlistment	Reenlisted   Eligible
Control mean	0.221	0.046	0.673	0.660
PFMC Effect	0.008	0.001	-0.013	-0.015
Std Err	(0.009)	(0.007)	(0.014)	(0.014)
Cluster p-value	0.404	0.881	0.382	0.306
Wild bootstrap p-value	0.490	0.918	0.532	0.340
Observations	65,837	65,837	65,827	43,280
R2	0.051	0.096	0.049	0.049
Panel B. Presence in Labor Market Sample				
Outcome	Probability (Term $\leq$ 4 Years)	Probability (Term $\leq$ 4 Years & Offered Reenlistment)		
Control mean	0.798	0.536		
PFMC Effect	-0.006	-0.017		
Std Err	(0.009)	(0.012)		
Cluster p-value	0.527	0.166		
Wild bootstrap p-value	0.592	0.204		
Observations	82,211	82,211		
R2	0.737	0.255		
<i>Notes:</i> See Table 3 for data and specification details. The labor market sample is restricted to individuals with initial enlistment terms $\leq$ 4 years. Panel B reports estimates of Equation 1 for each outcome to validate the sample restrictions in Panel A. Standard errors are clustered at the AIT location level (N=13). ***, **, and * reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.				

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**Appendix Table 3. OLS Estimates of PFMC Effects on Attrition, Years 1-4**

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Outcome	(1) Probability (Serving at End of Year 1)	(2) Probability (Serving at End of Year 2)	(3) Probability (Serving at End of Year 3)	(4) Probability (Serving at End of Year 4)
Control Mean	0.863	0.730	0.590	0.377
PFMC Effect	-0.011	0.009	0.010	0.001
Std Err	(0.013)	(0.012)	(0.010)	(0.012)
Observations	82,211	82,211	82,211	82,211
R-Squared	0.080	0.074	0.069	0.129

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*Notes:* The table reports OLS estimates of Equation 1 with an outcome indicator for whether or not an individual is still serving at the end of each year (i.e., month 24 for Year 2). All outcomes are measured relative to the month an individual started AIT. All regressions include location fixed effects and month-year fixed effects. Standard errors are clustered at the AIT location (base) level. \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.

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**Appendix Table 4. PFMC Effects on Non-Winsorized Credit Balances**

	(1)	(2)	(3)	(4)
	Aggregate Balance	Credit Card Balance	Automobile Balance	Finance Loan Balance
<b>Panel A. Year 1</b>				
Control mean	5,125	1,028	3,599	498
PFMC Effect	-651**	-145**	-283	-220**
Std Err	(290)	(59.3)	(259)	(97)
Cluster p-value	0.044	0.030	0.297	0.043
Wild bootstrap p-value	0.002	0.030	0.290	0.090
Observations	33,178	33,178	33,178	33,178
R2	0.267	0.266	0.199	0.473
<b>Panel B. Year 2</b>				
Control mean	6,621	1,140	4,797	684
PFMC Effect	-358	206	-445	-1
Std Err	(594)	(136)	(574)	(165)
Cluster p-value	0.558	0.154	0.453	0.378
Wild bootstrap p-value	0.946	0.288	0.790	0.632
Observations	23,269	23,269	23,269	23,269
R2	0.140	0.148	0.091	0.232

*Notes:* The table reports results as in Table 6 for non-winsorized outcomes. Standard errors are clustered at the AIT location level (N=13). \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.

<b>Appendix Table 5. PFMC Effects on Credit Balances   Positive Balances</b>				
	(1)	(2)	(3)	(4)
	Aggregate Balance	Credit Card Balance	Automobile Balance	Finance Loan Balance
<b>Panel A. Year 1</b>				
Control mean	5,125	1,028	3,599	498
PFMC Effect	-651**	-145**	-283	-220**
Std Err	(290)	(59.3)	(259)	(97)
Cluster p-value	0.044	0.030	0.297	0.043
Wild bootstrap p-value	0.048	0.004	0.366	0.038
Observations	33,178	33,178	33,178	33,178
R2	0.267	0.266	0.199	0.473
<b>Panel B. Year 2</b>				
Control mean	6,621	1,140	4,797	684
PFMC Effect	-358	206	-445	-1
Std Err	(594)	(136)	(574)	(165)
Cluster p-value	0.558	0.154	0.453	0.378
Wild bootstrap p-value	0.740	0.246	0.746	0.450
Observations	23,269	23,269	23,269	23,269
R2	0.140	0.148	0.091	0.232
<i>Notes:</i> The table reports results as in Table 6 conditional on having a positive balance using winsorized outcomes. Standard errors are clustered at the AIT location level (N=13). ***, **, and * reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.				

**Appendix Table 6. PFMC Effects on Non-Winsorized Credit Balances | Positive Balances**

	(1)	(2)	(3)	(4)
	Aggregate Balance	Credit Card Balance	Automobile Balance	Finance Loan Balance
<b>Panel A. Year 1</b>				
Control mean	7,626	1,868	13,394	3,492
PFMC Effect	-470	-136	-323	-674**
Std Err	(368)	(111.4)	(614)	(261)
Cluster p-value	0.225	0.244	0.608	0.024
Wild bootstrap p-value	0.290	0.406	0.668	0.026
Observations	21,691	17,152	8,431	5,346
R2	0.283	0.335	0.098	0.681
<b>Panel B. Year 2</b>				
Control mean	9,346	2,054	13,532	3,138
PFMC Effect	-385	393	-849*	-6
Std Err	(763)	(236)	(432)	(611)
Cluster p-value	0.623	0.122	0.073	0.334
Wild bootstrap p-value	0.228	0.170	0.472	0.632
Observations	16,359	12,604	7,672	5,620
R2	0.142	0.191	0.045	0.369

*Notes:* The table reports results as in Table 6 conditional on having a positive balance using non-winsorized outcomes. Standard errors are clustered at the AIT location level (N=13). \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.

**Appendix Table 7. PFMC Effects on Credit Record Matching, Activity, and Score (With Unique Location Trends)**

Outcome	(1) Probability (Matched Record)	(2) Probability (Active Credit)	(3) Credit Score
Panel A. Year 1			
Control mean	0.851	0.904	581
PFMC Effect	-0.005	-0.002	-0.44
Std Err	(0.007)	(0.0116)	(2.89)
Observations	39,486	33,178	29,843
R2	0.366	0.104	0.372
Panel B. Year 2			
Control mean	0.881	0.941	587
PFMC Effect	0.039**	-0.022	-2.08
Std Err	(0.017)	(0.0137)	(3.31)
Observations	39,486	24,235	21,960
R2	0.372	0.593	0.044

*Notes:* The table reports LPM and OLS estimates as in Table 4 but adds unique linear time trends by location. Standard errors are clustered at the AIT location level (N=13). \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.

**Appendix Table 8. PFMC Effects on the Probability of Credit Balances  
(With Unique Location Trends)**

	(1)	(2)	(3)	(4)
	Any Aggregate Balance	Any Credit Card Balance	Any Automobile Balance	Any Finance Loan Balance
<b>Panel A. Year 1</b>				
Control mean	0.672	0.550	0.269	0.143
PFMC Effect	-0.065**	-0.036	-0.030*	-0.051**
Std Err	(0.026)	(0.026)	(0.015)	(0.026)
Observations	33,178	33,178	33,178	33,178
R2	0.068	0.062	0.180	0.093
<b>Panel B. Year 2</b>				
Control mean	0.708	0.555	0.354	0.218
PFMC Effect	-0.057	0.010	-0.014	-0.01
Std Err	(0.042)	(0.053)	(0.023)	(0.026)
Observations	23,269	23,269	23,269	23,269
R2	0.044	0.046	0.087	0.057

*Notes:* The table reports LPM estimates as in Table 5 but adds unique linear time trends by location. Standard errors are clustered at the AIT location level (N=13). \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.



**Appendix Table 9. PFMC Effects on Credit Balances  
(With Unique Location Trends)**

	(1)	(2)	(3)	(4)
	Aggregate Balance	Credit Card Balance	Automobile Balance	Finance Loan Balance
<b>Panel A. Year 1</b>				
Control mean	5,006	974	3,532	405
PFMC Effect	-863***	-131**	-533*	-137*
Std Err	(266)	(50)	(256)	(71)
Observations	33,178	33,178	33,178	33,178
R2	0.224	0.217	0.191	0.212
<b>Panel B. Year 2</b>				
Control mean	6,465	1,087	4,689	590
PFMC Effect	145	355***	-201	8
Std Err	(350)	(66)	(340)	(99)
Observations	23,269	23,269	23,269	23,269
R2	0.108	0.112	0.089	0.083

*Notes:* The table reports OLS estimates as in Table 6 but adds unique linear time trends by location. Standard errors are clustered at the AIT location level (N=13). \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.

**Appendix Table 10. PFMC Effects on Adverse Credit Outcomes  
(With Unique Location Trends)**

	(1)	(2)	(3)	(4)	(5)	(6)
	Any Adverse Legal Action	Number Adverse Legal Actions	Any Trades 60 Days Past Due	Number Trades 60 Days Past Due	Any Trades 120 Days Past Due	Number Trades 120 Days Past Due
<b>Panel A. Year 1</b>						
Control mean	0.051	0.194	0.247	0.378	0.144	0.204
PFMC Effect	-0.012***	-0.082**	-0.027**	-0.068***	-0.011	-0.025
Std Err	(0.004)	(0.031)	(0.010)	(0.020)	(0.011)	(0.019)
Observations	33,178	33,178	33,178	33,178	33,178	33,178
R2	0.233	0.443	0.220	0.295	0.250	0.291
<b>Panel B. Year 2</b>						
Control mean	0.051	0.269	0.356	0.530	0.188	0.261
PFMC Effect	-0.012	0.006	-0.035	-0.129***	-0.017	-0.016
Std Err	(0.018)	(0.157)	(0.025)	(0.032)	(0.016)	(0.036)
Observations	23,269	23,269	23,269	23,269	23,269	23,269
R2	0.136	0.245	0.104	0.146	0.152	0.192

*Notes:* The table reports LPM and OLS estimates as in Table 7 but adds unique linear time trends by location. Standard errors are clustered at the AIT location level (N=13). \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.

**Appendix Table 11. PFMC Effects on the Thrift Savings Plan Outcomes in Years 1-4  
(With Unique Location Trends)**

	(1)	(2)	(3)	(4)
<b>Panel A. Probability of TSP Participation</b>				
	Probability (Participation) in Year 1	Probability (Participation) in Year 2	Probability (Participation) in Year 3	Probability (Participation) in Year 4
Control mean	0.120	0.151	0.162	0.173
PFMC Effect	0.148***	0.137***	0.118***	0.09**
Std Err	(0.044)	(0.040)	(0.038)	(0.031)
Observations	82,211	70,785	59,765	44,946
R2	0.121	0.094	0.085	0.078
<b>Panel B. Average Monthly TSP Contributions</b>				
	Average Contribution in Year 1	Average Contribution in Year 2	Average Contribution in Year 3	Average Contribution in Year 4
Control mean	17.27	28.51	28.90	30.26
PFMC Effect	22.25***	16.62***	12.12**	10.55*
Std Err	(7.08)	(5.11)	(4.70)	(4.90)
Observations	82,211	70,785	59,765	44,946
R2	0.109	0.068	0.067	0.071
<p><i>Notes:</i> The table reports LPM and OLS estimates as in Table 8 but adds unique linear time trends by location. Standard errors are clustered at the AIT location level (N=13). ***, **, and * reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.</p>				

**Appendix Table 12. Baseline Credit Characteristics by Treatment Group**

	Matched Credit Subsample <i>N=33,178</i>		
	(1) No PFMC <i>N=16,740</i> <b>Mean</b> <b>(SD)</b>	(2) PFMC <i>N=16,438</i> <b>Mean</b> <b>(SD)</b>	(3) Regression Adj Diff <b>Coeff</b> <b>(SE)</b>
Probability (Active Credit)	0.720 (0.449)	0.739 (0.439)	-0.044** (0.020)
Probability (Matched Credit Record)	0.527 (0.499)	0.562 (0.496)	-0.025 (0.022)
Credit Score	714 (182)	700 (185)	9.58 (7.07)
Aggregate Balance	2028 (5,898)	2411 (6,425)	-61 (203)
Credit Card Balance	351 (1,300)	431 (1,447)	-70** (28.8)
Auto Loan Balance	1407 (4,530)	1708 (5,043)	62.8 (177)
Finance Loan Balance	203 (1,488)	197 (1,404)	-22 (41)
Adverse Legal Actions	0.17 (1.17)	0.17 (1.16)	-0.002 (0.038)
Accounts 60 Days Past Due	0.21 (0.62)	0.25 (0.69)	-0.007 (0.027)
Accounts 120 Days Past Due	0.13 (0.45)	0.16 (0.51)	0.01 (0.02)
Joint test of significance:			
Partial R-squared			-0.0007
p-value from F-test			0.376

*Notes:* Prior credit score data is restricted to individuals with a pre-treatment credit score (N=18,054). Columns 1 and 2 report the means and standard deviations (in parentheses) for each baseline credit characteristic in the control and treatment group. Column 3 reports the coefficients and standard errors from an OLS regression of the baseline credit individual characteristic on the treatment indicator, time fixed effects, and location fixed effects. \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively. The bottom panel reports the partial R-squared values and p-values from an F-test for the joint significance of all baseline credit characteristics (including the individual demographic characteristics in Table 3, but omitting high school grad indicator and adding a quadratic term in age) from an OLS regression of Equation 2 with standard errors clustered at the location level (N=13).

**Appendix Table 13. PFMC Effects on the Thrift Savings Plan Outcomes in Years 1-4**

	(1)	(2)	(3)	(4)
<b>Panel A. Probability of TSP Participation (Logit Estimates)</b>				
	Probability (Participation) in Year 1	Probability (Participation) in Year 2	Probability (Participation) in Year 3	Probability (Participation) in Year 4
Control mean	0.120	0.151	0.162	0.173
PFMC Effect	0.145***	0.135***	0.119***	0.085***
Std Err	(0.009)	(0.010)	(0.012)	(0.014)
Observations	82,211	70,785	59,765	44,946
Pseudo-R2	0.105	0.078	0.070	0.065
<b>Panel B. Average Monthly TSP Contributions (Tobit Estimates)</b>				
	Average Contribution in Year 1	Average Contribution in Year 2	Average Contribution in Year 3	Average Contribution in Year 4
Control mean	17.27	28.51	28.90	30.26
PFMC Effect	106.95***	95.28***	77.44***	55.93***
Std Err	(6.99)	(8.72)	(9.31)	(10.96)
Observations	82,211	70,785	59,765	44,946
Pseudo-R2	0.032	0.020	0.019	0.019

*Notes:* The table reports logit (Panel A) and tobit (Panel B) estimates of Equation 1. All regressions include the treatment effect indicator (PFMC), quadratic in age, number of dependents, indicators for female, married, minority, summer entry and education levels (high school grad is omitted), AFQT score, enlistment term, average monthly pay in the first year, AIT length, the number of months deployed in the year, location fixed effects, and year-month fixed effects. The regressions in each column are limited to those still serving in each year. The TSP outcomes are measured relative to the month an individual started AIT. \*\*\*, \*\*, and \* reflect significance at the 1 percent, 5 percent and 10 percent levels respectively.