

Alabama PACT

6/30/2018 Quarterly Valuation

July 2018

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Alabama PACT Board

Sherman Actuarial Services, LLC (SAS) was retained to report on the funding status and projected cash flows of PACT as of June 30, 2018. Since this is a quarterly valuation, there is less detail provided than in the full valuation as of September 30, 2017. The Summary of Funding section on page 4 describes the current results and compares those results to the September 30, 2017 valuation.

Assumptions and Methods

1. Data and Assets

The valuation was performed using contract data supplied by the Plan Administrator as of June 30, 2018 and financial data reported to you as of June 30, 2018. SAS did not audit the data although they were reviewed for reasonableness and consistency with the audited September 30, 2017 information. The results of the analysis are dependent on the accuracy of the data.

The asset value as of June 30, 2018 was \$89,744,591.

2. Weighted Average Tuition (WAT)

The assumed WAT values are shown in the following table. The assumed credit hours were unchanged from the September 30, 2017 valuation at 13 hours per semester. The June 30th results are based on the weighting of PACT beneficiaries from recent experience, the 2010 tuition rates, and an increase of 3% as of September 1, 2015, an increase of 6% as of September 1, 2016, an increase of 8% as of September 1, 2017 and an increase of 7% as of September 1, 2018.

	September 30, 2017	June 30, 2018
	Valuation	Valuation
Auburn/Alabama	\$8,919	\$9,543
Regional	6,907	7,391
Junior & CC	3,996	4,276
OOS & Private	7,353	7,868

3. Tuition Inflation

For the June 30, 2018 valuation, we assumed a tuition inflation assumption of 0% per year.

4. Investment return

The investment return assumption was unchanged from the September 30, 2017 valuation as shown below.

Fiscal Year	September 30, 2017	June 30, 2018
<u>Ending</u>	<u>Valuation</u>	<u>Valuation</u>
2017	1.00%	1.00%
2018	1.50%	1.50%
2019	2.00%	2.00%
2020+	2.50%	2.50%

5. Payment of Tuition

The June 30, 2018 valuation assumed usage of 128 credit hours at a rate of 13 hours per semester, which is the same as was assumed for the September 30, 2017 valuation.

6. Education Trust Fund Payments

We assumed total future contributions of \$378,714,100 from the Education Trust Fund into the PACT Trust Fund. These payments have a present value of \$327,778,709.

7. Cancellations

The assumed cancellation of PACT contracts based on the grade of the beneficiary was unchanged from that assumed as of September 30, 2017 and are shown below.

Age 0 through 9th grade	0% per year
10th grade	1%
11th grade	1%
12th grade	1%

8. School Choice

Contract beneficiaries are assumed to attend school according to the probabilities shown in the following table:

<u>College Type</u>	<u>September 30, 2017</u>	<u>June 30, 2018</u>
Private/Out-of-State	17%	17%
Community College	15%	15%
University of Alabama and Auburn University	53%	53%
Other Alabama Universities	15%	15%

9. Administration Expenses

For the June 30, 2018 valuation, we assumed the administrative expenses will be \$150,000 for the remainder of FYE18, \$600,000 for future fiscal years through 2027. From 2028 to 2031 it is lowered \$100,000 per year.

10. Discount Rate

For the June 30, 2018 valuation, we assumed a discount rate of 3.5% to determine the present value of payments to be received and benefits to be paid.

11. Other

All other assumptions and methods are identical to those used in the September 30, 2017 actuarial valuation.

Purpose of This Report

This report is prepared for the PACT Board. It is expected that this report will be used to monitor the funding status and projected cash flows of the PACT. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of SAS.

Qualifications

Daniel Sherman is an Associate of the Society of Actuaries, and a Member of the American Academy of Actuaries. He served as the actuary to the Alabama PACT plan for eleven years, and is the current actuary for the Texas, and West Virginia prepaid tuition programs. He meets the Qualification Standards of the Academy to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

SHERMAN ACTUARIAL SERVICES, LLC



Daniel Sherman, ASA, MAAA
CEO and Consulting Actuary

Summary of Funding

The table below is a summary of the results showing the total costs to maintain the program as of June 30, 2018. Note that although the funded status is 114.2%, the cash flow projections show that the fund will need to be monitored in order to maintain sufficient assets.

	September 30, 2017 Annual Valuation	June 30, 2018 Valuation
Assets		
a. Market Value of Assets	90,881,156	89,744,591
b. Present Value of future contract purchaser payments	5,081,634	3,902,474
c. Administrative Expenses	(6,138,922)	(5,719,890)
d. Present Value of Education Trust Fund payments	373,712,526	327,778,709
e. Subtotal (a + b + c + d)	463,536,394	415,705,884
Liabilities		
f. Present Value of tuition and cancellation payments	400,614,126	363,185,068
Funded Status		
g. Reserve (e – f)	62,922,268	52,520,816
h. Funded Ratio	115.5%	114.2%

Projected Cash Flow
June 30, 2018 Valuation
(millions)

Fiscal Year	Benefit Payments	Contract Holder Payments	Education Trust Fund Payments	Admin Expenses	Income	EOY Assets
6/30/2018						\$ 89,700
7/1/18 - 09/30/18	-\$ 11,300	\$ 900	\$ 15,000	-\$ 150	\$ 250	94,400
10/01/18 - 09/30/19	-82,000	1,400	61,500	-600	400	75,100
10/01/19 - 09/30/20	-72,600	700	60,700	-600	300	63,600
10/01/20 - 09/30/21	-64,300	500	31,900	-600	0	31,100
10/01/21 - 09/30/22	-54,400	300	32,200	-600	100	8,700
10/01/22 - 09/30/23	-40,200	200	33,500	-600	0	1,600
10/01/23 - 09/30/24	-27,900	100	33,700	-600	0	6,900
10/01/24 - 09/30/25	-20,300	0	38,400	-600	200	24,600
10/01/25 - 09/30/26	-14,100	0	39,200	-600	700	49,800
10/01/26 - 09/30/27	-9,200	0	32,500	-600	1,500	74,000
10/01/27 - 09/30/28	-6,100	0	0	-500	2,200	69,600
10/01/28 - 09/30/29	-3,900	0	0	-400	2,100	67,400
10/01/29 - 09/30/30	-2,000	0	0	-300	2,100	67,200
10/01/30 - 09/30/31	-800	0	0	-200	2,100	68,300
10/01/31 - 09/30/32	-100	0	0	-100	2,200	70,300
Total	-\$ 409,200	\$ 4,100	\$ 378,600	-\$ 7,050		

The sum of the values may not match the total shown due to rounding.

Assumptions

- Settlement
- Fall 2010 Tuition rates, increased 3% as of September 1, 2015, 6% as of September 1, 2016, 8% as of September 1, 2017, 7% as of September 1, 2018
- Tuition Inflation at 0%
- Normal Cancellation rates
- 128 Credit Hours

Usage and Cancellation Study

As discussed at the May meeting, we examined the actual usage of tuition benefits versus our assumptions. Based on the results shown below, we are not recommending any changes to total credit hours used, the portions attributed to the different school categories nor the cancellation rates.

Contracts that Graduated, Expired or Depleted as of June 30, 2018

Expected Matriculation Year	Sum of Units Used	Number of Contracts	Average Usage
1993	135	1	135.00
1994	63,040	486	129.71
1995	103,845	803	129.32
1996	138,171	1,074	128.65
1997	174,385	1,356	128.60
1998	202,084	1,581	127.82
1999	238,983	1,869	127.87
2000	255,641	2,026	126.18
2001	281,155	2,216	126.88
2002	288,906	2,288	126.27
2003	304,053	2,407	126.32
2004	306,166	2,424	126.31
2005	343,442	2,749	124.93
2006	353,054	2,841	124.27
2007	356,604	2,887	123.52
2008	308,089	2,357	130.71
2009	289,199	2,220	130.27
2010	258,015	1,986	129.92
2011	235,152	1,820	129.20
2012	201,201	1,564	128.65
2013	129,518	1,015	127.60
2014	25,215	198	127.35
2015	302	5	60.40
2016	192	6	32.00
2017	96	3	32.00
	4,856,644	38,182	127.20

Hours used in FYE17

	Actual	Assumption
Auburn / Alabama	53.5%	53.0%
Other In-State 4-year	16.9%	15.0%
Community / Technical	12.3%	15.0%
OOS and Private	17.4%	17.0%

Cancellations

Reconciliation	30-Sep 2017	Difference	30-Sep 2016	Difference	30-Sep 2015	Difference	30-Sep 2014
Total	76,251		76,251		76,251		76,251
Cancelled	(21,295)	350	(20,945)	359	(20,586)	406	(20,180)
Depleted	(19,038)	992	(18,046)	1,064	(16,982)	1,129	(15,853)
Expired	(5,258)	548	(4,710)	452	(4,258)	461	(3,797)
Graduated	(11,902)	1,006	(10,896)	422	(10,474)	3,288	(7,186)
Actives	18,758	(2,896)	21,654	(2,297)	23,951	(5,284)	29,235

Cancellation

Rate	1.6%	1.5%	1.4%
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Assumed Contract Cancellations

The assumed cancellation of PACT contracts was unchanged from that assumed as of September 30, 2016.

The actuarial valuation recognized cancellations in accordance with the following schedule:

Age 0 through 9th grade	0% per year
10th grade	1%
11th grade	1%
12th grade	1%