

The FAB Calculators[©]

Financial Asset Building Personal Planning Calculators

Access the FAB Calculators[©] at our website
http://www.ohcs.oregon.gov/PPR_FABCalculators.shtml

Developed by Richard Bjelland

Purpose of the FAB Calculators[©]

- Financial planning tools that can be used to examine different future asset building, debt reduction or house purchase scenarios or plans
- Explore many asset building scenarios with the Asset and Debt Calculators and see the impacts on one's financial future
- Displays the individual's personal asset dollars at the end of life stages based on possible investment return assumptions
- Displays the individual's debts and their financial impacts
- Explore housing options and affordability

The FAB Asset Building Calculator[©]

Personal Asset Building Calculator

**Developed by Richard Bjelland
OHCS State Housing Analyst**

Asset Calculator[©] Uses Five Life Stages

- Child - a period where the individual is not able to personally contribute to their account but is an important time for other contributors to help establish a successful financial future for that individual.
- Youth - a time when the individual may have the opportunity to earn some money and begin to save a portion for later withdrawal needs such as college, car, housing, or even retirement.

Life Stages (continued)

- Young adult - age when an individual will either continue their education or begin working.
- Adult age 26 to 50 - stage of an individual's life most associated with increasing financial responsibilities - raising a family, establishing a home, paying for education, etc.
- Adult age 51 and over - a period where family responsibilities begin to lessen and plans for retirement should take a more prominent role.

Calculator Uses Constant Dollars

- Assumes a dollar today is worth the same at any future time
- Using constant dollars eliminates the effects of price changes allowing comparisons between years without having to factor in the effect of inflation
- Future estimated balances and resulting withdrawals or annuity payments displayed are represented by their present value in current dollars
- Accomplished by removing inflationary factors from future inputs to the calculator such as planned contributions, withdrawals, and investment return rates

Asset Calculator[©] Structure

- Several input columns are used to reflect the various types of contributions and withdrawals that could take place in an individual's asset building plan
- Separate input cells are available for the individual, custodial parents, non-custodial parent, other family, and non-family contribution sources
- Automatically calculates annuities payments if annuities are part of retirement plan

Asset Balances

- Displays the asset account balances in constant dollars at various ages
- Uses 'true' investment return assumptions to estimate asset balances at present value
- 'True return' is the annual investment return based on expected after-tax return and after deduction of anticipated inflation rate
- For example, if annual investment return is 12%, tax rate is 25% and inflation 2.5%, then True return is $12\% - (12\% \times .25 = 3\%) - 2.5\% = 6.5\%$
- If tax deferred account, then True return = 9.5%
- Three fixed and one user-defined return rates are used to calculate asset balances

Financial Planning Scenarios

- Easily run multiple scenarios reflecting different asset accounts' investment returns
- Accommodates taxable and tax deferred accounts such as IRAs
- Produces graph of asset balances at various return rates for each scenario
- Flexible uses, i.e. - College fund calculator

Retirement Planning Features

- Allows for combination of monthly withdrawals, total withdrawal or purchase of an annuity
- Calculates asset account balances and/or age when account is out of funds based on planned monthly withdrawal amounts
- Calculates monthly annuity payments based on account balances and term of annuity for two typical annuity earning rates

Easy to Use – Few Inputs

- Name that identifies each scenario
- For each life stage – three entries per input column
 - Beginning age
 - Monthly amount
 - Ending age
- ‘True’ investment return assumed to be earned on scenario’s assets
- For annuity – purchase age and term

Example of Using Calculator for Retirement Planning

FAB Calculator[©]

Instructions	Scenario	Sam Middleton's IRA				
Life Stages of the Individual	Individual Funds	Family or Special Situations			Society	
		Custodial Parent(s) Funds	Non-Custodial Parent Funds	Other Family Funds	Charity / Social Programs	Financial Incentive Match %
CHILD age 0 to 13						
Beginning age						
Monthly amount						
Ending age						
YOUTH age 14 to 18						
Beginning age						
Monthly amount						
Ending age						
YOUNG ADULT age 19 to 25						
Beginning age						
Monthly amount						
Ending age						
ADULT age 26 to 50						
Beginning age	40					
Monthly amount	\$ 150					
Ending age	50					
ADULT age 51 and over						
Beginning age	51					
Monthly amount	\$ 350					
Ending age	65					

Sam Middleton's Retirement Plan with Monthly Withdrawals

Individual begins monthly withdrawal		Individual withdraws all or purchases annuity with asset balance	
Beginning age	66	Age when total withdrawal or annuity purchase planned	
Monthly withdrawal	\$ 6,600	Number of years for annuity term	
Ending age	90		

To clear above entries, click **Clear**

To print analysis, click button

OOF - Out of funds	Cumulative Totals					
Personal Financial Asset Account Balance	Net of Contribution Withdrawal	Incentive Match	Account balance at assumed annual after-tax investment return above the inflation rate			
			2%	3%	4%	15.0%
At the end of age 13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 18	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 50	\$ 19,800	\$ -	\$ 21,904	\$ 23,054	\$ 24,275	\$ 43,829
At the end of age 65	\$ 82,800	\$ -	\$ 102,112	\$ 114,033	\$ 127,818	\$ 556,475
At the end of age 70	\$ 82,800	\$ -	OOF-67	OOF-67	OOF-67	\$ 585,272
At the end of age 75	\$ 82,800	\$ -	\$ -	\$ -	\$ -	\$ 643,195
At the end of age 80	\$ 82,800	\$ -	\$ -	\$ -	\$ -	\$ 759,699
At the end of age 85	\$ 82,800	\$ -	\$ -	\$ -	\$ -	\$ 994,029
At the end of age 90	\$ 82,800	\$ -	\$ -	\$ -	\$ -	\$ 1,465,352
Asset balance available for withdrawal or annuity						
Monthly annuity based on annuity earning 4.0%						
Monthly annuity based on annuity earning 5.0%						
Annual Asset Match Maximum				Variable Assumed After-tax Return		15.0%

Example of Graph Generated by FAB Calculator[®]

Sam Middleton's IRA Personal Asset Dollars at Various Ages

with Account Balance Estimates Based on Investment Return Rate Assumptions



	13	18	25	35	45	55	65
Net contributions	0	0	0	0	10,800	40,800	82,800
2% Balance	0	0	0	0	11,355	46,040	102,112
3% Balance	0	0	0	0	11,643	49,024	114,033
4% Balance	0	0	0	0	11,939	52,283	127,818
15% Balance	0	0	0	0	15,757	116,473	556,475

■ Net contributions
 ■ 2% Balance
 ■ 3% Balance
 ■ 4% Balance
 ■ 15% Balance

Sam Middleton's Retirement Plan with Annuity Purchase

Individual begins monthly withdrawal		Individual withdraws all or purchases annuity with asset balance	
Beginning age	66	Age when total withdrawal or annuity purchase planned	76
Monthly withdrawal	\$ 6,600	Number of years for annuity term	14
Ending age	75		

To clear above entries, click Clear

To print analysis, click button

OOF - Out of funds	Cumulative Totals					
Personal Financial Asset Account Balance	Net of Contribution Withdrawal	Incentive Match	Account balance at assumed annual after-tax investment return above the inflation rate			
			2%	3%	4%	15.0%
At the end of age 13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 18	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 50	\$ 19,800	\$ -	\$ 21,904	\$ 23,054	\$ 24,275	\$ 43,829
At the end of age 65	\$ 82,800	\$ -	\$ 102,112	\$ 114,033	\$ 127,818	\$ 556,475
At the end of age 70	\$ 82,800	\$ -	OOF-67	OOF-67	OOF-67	\$ 585,272
At the end of age 75	\$ 82,800	\$ -	\$ -	\$ -	\$ -	\$ 643,195
At the end of age 80	\$ 82,800	\$ -	\$ -	\$ -	\$ -	Annuity
At the end of age 85	\$ 82,800	\$ -	\$ -	\$ -	\$ -	Annuity
At the end of age 90	\$ 82,800	\$ -	\$ -	\$ -	\$ -	OOF-90
Asset balance available for withdrawal or annuity			OOF	OOF	OOF	\$ 643,195
Monthly annuity based on annuity earning 4.0%						\$ 5,006
Monthly annuity based on annuity earning 5.0%						\$ 5,331
Annual Asset Match Maximum			Variable Assumed After-tax Return			15.0%

Retirement Scenario Summary Using Asset Calculator[©]

Illustration of Impact of Investment Return on Retirement

Sam or Sally Middleton's IRA Plan

Start investing at age 40 – put money into IRA

Invest \$150 per month through age 50

Invest \$350 per month from age 51 through age 65

Begin withdrawals at age 66

Total amount contributed = \$82,800

Retirement Scenarios Based on Annual Investment Returns

Investment return	3%	4%	6%	10%	15%	20%	25%
Monthly withdrawal	600	750	1,100	2,550	6,600	19,000	50,000
Estate at 90	OOF 87	OOF 87	OOF 88	OOF 89	1.46 MM	6.3 MM	65.5 MM

Asset Calculator[®] Used to Examine College Savings Plan

Joe College's Coverdell Education Savings Account

Start investing at age 1 - put money into CESA

Invest \$150 per month through age 8

Begin tax-free withdrawals at age 19 for education expenses

Amount contributed = \$14,400

College Scenarios Based on Annual Investment Returns

Investment return	3%	4%	6%	12%	15%	18%	20%
Annual withdrawal	5,700	6,600	9,000	22,200	30,000	40,800	45,000
Out of funds age	OOF 23	OOF 23	OOF 23	OOF 23	OOF 23	OOF 25	OOF 28

IDA Design Features

- Originally designed for Individual Development Account participants
- Calculator structure includes a column that incorporates matching funds from an asset building program
- Variables inputted for IDA are the percent match at different life stages and the annual asset match maximum

Example of FAB Calculator’s Planned Contribution IDA Input Section

Life Stages of the Individual	Individual Funds	Family or Special Situations			Society	
		Custodial Parent(s) Funds	Non-Custodial Parent Funds	Other Family Funds	Charity / Social Programs	Financial Incentive Match %
CHILD age 0 to 13						
Beginning age						300%
Monthly amount						
Ending age						
YOUTH age 14 to 18						
Beginning age						300%
Monthly amount						
Ending age						
YOUNG ADULT age 19 to 25						
Beginning age						300%
Monthly amount						
Ending age						
ADULT age 26 to 50						
Beginning age	33					300%
Monthly amount	\$ 31					
Ending age	36					
ADULT age 51 and over						
Beginning age						
Monthly amount						
Ending age						

Example of FAB Calculator's Asset Balance and IDA Withdrawal Plan

Individual begins monthly withdrawal		Individual withdraws all or purchases annuity with asset balance				
Beginning age		Age when total withdrawal or annuity purchase planned			37	
Monthly withdrawal		Number of years for annuity term				
Ending age						
OOF - Out of funds		Cumulative Totals				
Personal Financial Asset Account Balance	Net of Contribution Withdrawals	Incentive Match	Account balance at assumed annual after-tax investment return above the inflation rate			
			2%	3%	4%	10.0%
At the end of age 13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 18	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
At the end of age 50	\$ 1,488	\$ 4,464	OOF-37	OOF-37	OOF-37	OOF-37
At the end of age 65	\$ 1,488	\$ 4,464	\$ -	\$ -	\$ -	\$ -
At the end of age 70	\$ 1,488	\$ 4,464	\$ -	\$ -	\$ -	\$ -
At the end of age 75	\$ 1,488	\$ 4,464	\$ -	\$ -	\$ -	\$ -
At the end of age 80	\$ 1,488	\$ 4,464	\$ -	\$ -	\$ -	\$ -
At the end of age 85	\$ 1,488	\$ 4,464	\$ -	\$ -	\$ -	\$ -
At the end of age 90	\$ 1,488	\$ 4,464	\$ -	\$ -	\$ -	\$ -
Asset balance available for withdrawal or annuity			\$ 6,133	\$ 6,225	\$ 6,319	\$ 6,906

The FAB Debt Calculator[©]

Personal Debt Analysis Calculator

**Developed by Richard Bjelland
OHCS State Housing Analyst**

FAB's Debt Calculator[©]

- Can display all debt obligations by category
 - credit cards, personal or real estate loans
- Calculates the length of time needed to pay off debt amount based on account balance, APR interest rate and monthly payment
- Calculates total payments needed to pay off account balance given monthly payment
- Calculates expected interest to be paid
- Calculates monthly and total amount owed
- Includes mortgage calculator

FAB Debt Calculator[®]

Scenario for	Example	Date	5/01/2006	Instructions	Asset calculator	Print	
Credit Cards Held							
Credit Card type / issuer	VISA	Discover	Master Card	Sears	Home Depot	Chevron	
APR - Annual interest rate	16.99%	16.50%	18.99%	24.90%	21.00%	21.00%	
Account balance	\$ 1,300.00	\$ 978.65	\$ 897.00	\$ 1,695.75	\$ 1,245.00	\$ 476.50	
Monthly payment - planned	\$ 30.00		\$ 25.00	\$ 40.00	\$ 45.00	\$ 15.00	
Minimum payment %	2.00%	2.50%	2.00%				
Minimum payment required	\$ 15.00	\$ 10.00	\$ 10.00		\$ 10.00	\$ 5.00	
Time to pay account balance	5 yrs 8 mos	11 yrs 6 mos	4 yrs 6 mos	8 yrs 8 mos	3 yrs 3 mos	3 yrs 11 mos	0 yrs 0 mos
Total payments to payoff	\$ 2,028.47	\$ 1,870.56	\$ 1,335.55	\$ 4,124.14	\$ 1,717.01	\$ 701.65	\$ -
Expected interest to payoff	\$ 728.47	\$ 891.91	\$ 438.55	\$ 2,428.39	\$ 472.01	\$ 225.15	\$ -
Personal Property / Other Long Term Loans				Short Term Loans - Pay day, etc.			
Loan type / issuer	GMAC				Loan type / issuer	Payday Loans Now	
APR - Annual interest rate	11.75%				Cash received	\$ 500.00	
Account balance	\$ 6,897.00				Amount paid	\$ 593.10	
Monthly payment - fixed	\$ 276.00				Days borrowed	14	
Time to pay account balance	2 yrs 5 mos	0 yrs 0 mos	0 yrs 0 mos	0 yrs 0 mos	Fees paid	\$ 93.10	\$ -
Total payments to payoff	\$ 7,946.67	\$ -	\$ -	\$ -	Effective APR	485.5%	
Expected interest to payoff	\$ 1,049.67	\$ -	\$ -	\$ -	Credit Card current interest	\$ 111.39	
Real Estate Loans		1st mortgage	2nd mortgage	3rd mortgage	Equity loan	Mortgage Calculator	
Mortgage lender	Bank of America	FarWest Mortgage			Bank of America	Mortgage amount	\$ 225,000
APR - Annual interest rate	6.75%	7.85%			8.25%	APR - Annual interest rate	6.25%
Account balance	\$ 147,780.00	\$ 33,275.00			\$ 30,000.00	Term of mortgage in years	15
Monthly payment - fixed	\$ 1,124.50	\$ 375.00			\$ 350.00	Required monthly payment	\$ 1,929.20
Time to pay account balance	20 yrs 0 mos	11 yrs 2 mos	0 yrs 0 mos		10 yrs 10 mos	Expected total interest paid	\$ 122,256.26
Total payments to payoff	\$ 269,454.47	\$ 49,955.09	\$ -		\$ 45,455.43	Total Credit Card Debt	\$ 6,592.90
Expected interest to payoff	\$ 121,674.47	\$ 16,680.09	\$ -		\$ 15,455.43	Personal / Real Estate Loans	\$ 217,952
Total monthly interest	\$ 1,434.10	Total monthly payments		\$ 2,304.97	Click button to clear all cells <input type="button" value="Clear"/>		