Return on Investment Model for

FR1ENDS of the

CH1LDREN
THE ROI MODEL IN SUMMARY

Return on Investment is measured by the Benefit to Cost Ratio = 
(Total Benefits per FOTC graduate)/(Total Costs per FOTC graduate)
## COSTS OF FRIENDS OF THE CHILDREN

The ROI Model takes into account 3 categories of costs

<table>
<thead>
<tr>
<th>Fixed Costs</th>
<th>Semi-Fixed Costs</th>
<th>Variable Costs</th>
</tr>
</thead>
</table>
| • Facility space: occupancy-collaboration/rental as program expands  
  • Technology network  
  • Administration costs  
  • Total $280K/year | • One team leader for every 5-6 Friends  
  • One Development position for every $500-700K in revenue  
  • Additional $280K/year for every 100 students over the initial 100 | • Friends (one Friend for each 8-14 children)  
  • Children’s activities  
  • Incremental program and administrative support  
  • Total $7,225/year per student |
BENEFITS OF FRIENDS

The ROI Model takes into account 3 categories of benefits

Education
- Metric: % dropping out of high school in grades 9-12
- Benefits of a Favorable (Low) Metric:
  - Higher wages
  - Higher federal and state income taxes
  - Less need for public services

Justice System
- Metric: % incarcerated by age 18
- Benefits of a Favorable (Low) Metric:
  - Lower criminal justice costs
  - Lower victim costs
  - Less lost wages due to incarceration

Teen Pregnancy
- Metric: % parents by age 18
- Benefits of a Favorable (Low) Metric:
  - Lower public health care costs
  - Lower child welfare costs
  - Less lost wages, federal and state income taxes
### DEFINITION OF COMPARISON GROUP

<table>
<thead>
<tr>
<th>Comparison group characteristic</th>
<th>Why this characteristic was selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 year olds in Multnomah County</td>
<td>Most FOTC participants finish the program at age 18 and live in Multnomah County</td>
</tr>
<tr>
<td>Economically disadvantaged</td>
<td>Low income level is a primary criterion for FOTC participation</td>
</tr>
<tr>
<td>70% black, 30% white</td>
<td>FOTC participants are 50% black, 30% white, 20% other minority</td>
</tr>
</tbody>
</table>
CALCULATION OF BENEFITS

\[
\% \text{ of FOTC graduates with favorable metric} - \% \text{ in the comparison group with favorable metric} \times \text{Lifetime $ benefit for each person with favorable metric}
\]

= \text{Lifetime $ benefit per FOTC graduate}

This calculation is done for each of the 3 categories of benefits
BENEFITS SUMMARY - EDUCATION

FOTC: 85% receive HS diplomas or above

Comparison group: 57% receive HS diplomas or above

Lifetime benefit of a HS diploma or above: $1,282K per person

Education: With and Without FOTC
(lifetime benefit: $361,437 per student)
**BENEFITS SUMMARY – JUSTICE SYSTEM**

- **FOTC:** 90% avoid incarceration through age 18
- **Comparison group:** 69% avoid incarceration through age 18
- **Lifetime benefit of avoiding incarceration through age 18:** $1,056K per person

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**Justice System: With and Without FOTC**  
(lifetime benefit: $221,747 per student)

- **Population**
  - Significant involvement
  - Little/not involved

- **Without FOTC**
  - Significant involvement
  - Little/not involved

- **With FOTC**
  - Significant involvement
  - Little/not involved
BENEFITS SUMMARY – TEEN PARENTING

FOTC: 95% avoid teen parenting

Comparison group: 33% avoid teen parenting

Lifetime benefit of avoiding teen parenting: $409K per person

Teen Parent: With and Without FOTC (lifetime benefit: $254,846 per student)
RETURN ON INVESTMENT SUMMARY

Components of FOTC Lifetime Benefit Per Student (total: $838,030)

- Education $361,437 (43%)
- Justice System $221,747 (26%)
- Teen Parent $254,846 (30%)

Benefit/Cost Ratio of FOTC’s Program (6.7 times its cost per student)

Total lifetime benefit from FOTC is more than 6 times the cost
• Benefits resulting from high school graduation are evenly spread over the student’s working lifetime

• Benefits resulting from justice system avoidance mirror the prison age distribution, which drop off considerably after age 40

• Benefits resulting from avoiding teen parenting continue until 15 years after the last child is born

*FO TC benefits are heavily loaded in the first 2 decades after graduation*
WHY THE ANALYSIS IS CONSERVATIVE

The ROI model uses the best data available. When data are not available, it uses reasonable conservative estimates.

<table>
<thead>
<tr>
<th>Comparison Data</th>
<th>Benefits Data</th>
<th>Benefits Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumes that “Other Minorities” have the same characteristics as blacks, when they are actually worse off in many areas</td>
<td>No possibilities of double counting (e.g., neglected increase in crime resulting from teen parenting)</td>
<td>Excludes the multi-generational effects of the cycle of poverty</td>
</tr>
<tr>
<td>FOTC participants are at the lower end of “econo-mically disadvantaged”</td>
<td>Assumed that FOTC HS grads enter college at the same rate as comparison group HS grads</td>
<td>Excludes mental health, substance abuse, other costs and issues</td>
</tr>
<tr>
<td>Neglected births to females &lt;age 15, multiple births, and abortions</td>
<td>Assumed that HS grads do not earn salaries or pay taxes while in college</td>
<td>Replicated methodology of other studies as well as possible</td>
</tr>
</tbody>
</table>
FEATURES OF THE ROI MODEL

• MS Excel based
• Contains 11 worksheets, presented in increasing level of detail
• Contains multiple tables and graphs, instructions, and contact information
• FOTC can update results and perform what-if analysis by entering new cost and benefit data
• Fully documented in 25-page Users Guide
• Based on input from FOTC, HBSAO, and numerous outside sources
SUMMARY AND CONCLUSIONS
WHY FRIENDS DEVELOPED THIS MODEL

• To prove the long-term value of FOTC’s mentoring program

• To create a link to forthcoming data being developed in the longitudinal study

• To define and be used for future program measurements
CONCLUSIONS FROM THE MODEL

• FOTC’s benefits, to mentored children and society, are currently calculated to be 6.7 times costs.
• The break-even age where mentored children’s benefits exceed FOTC’s program costs is 20.
• Demographics of mentored children approach the general population (significant improvement).
• Each of the three core results contributes an approximately equal part of the 6.7 benefit/cost.
• Reductions in births per teen parent break the cycle (compounding effect).
WHY BELIEVE THE CONCLUSIONS

• The calculations are straightforward
• The data and calculations use common methodologies
• The data and calculations are conservative
  • No “double dipping” is just one example
• Most of the data are from studies from government sources, especially Oregon and Multnomah County
SPINNING THE WHEEL OF FORTUNE

As a philanthropist, which wheel would you rather spin?
As a child of age 5, which wheel would you rather spin?

Without FOTC
37% Achieve Most Positive Outcomes

With FOTC
78% Achieve Most Positive Outcomes

Outcomes for 16 lifetime scenarios are calculated from probabilities for 3 basic metrics

Green shaded areas represent best 7 of 16 outcomes (ranging from $2.0 to $3.7 million)
Red shaded areas represent worst 9 of 16 outcomes (ranging from $0 to $2.0 million)
THANK YOU FOR YOUR SUPPORT

Questions?
APPENDIX – CALCULATION METHODOLOGY

Comparison Group Data

Benefits Data
ASSUMPTIONS – COMPARISON GROUP

**Education**
- Being eligible for free or reduced lunch equates to being economically disadvantaged
- % Grade 9-12 dropouts has a linear relationship to % economically disadvantaged

**Teen Parenting**
- 7/1/06 female population equals the 2005-07 average
- There are no females ages 15-19 that gave birth to more than one child in 2005-07
- Neglected any births to females under age 15, multiple births, and abortions
- Teen parenting rate has a linear relationship to % poverty

**Justice System**
- % of the population that is 14-17 year old is the same in each county regardless of race
- 14-17 year olds are incarcerated no more than once per year
- Youth detention rate has a linear relationship to % poverty
• All primary data is from the Oregon Department of Education web site
• For each school district in Multnomah County:
  ➢ Start with total students and total dropouts for grades 9-12 by race (2007-08 school year)
  ➢ Total starting HS in 2003-04 = 2007-08 graduates + grade 9-12 dropouts
  ➢ Total dropout rate = (total 2007-08 dropouts)/(total starting HS in 2003-04)
  ➢ Black relative dropout rate = (black dropouts/black students)/(total dropouts/total students)
  ➢ White relative dropout rate = (white dropouts/white students)/(total dropouts/total students)
  ➢ Black dropout rate = (total dropout rate)(black relative dropout rate)
  ➢ White dropout rate = (total dropout rate)(white relative dropout rate)
• Plot the black dropout rate vs. % of students eligible for free or reduced lunch
• Plot the white dropout rate vs. % of students eligible for free or reduced lunch
• Extrapolate the trend lines to estimate the dropout rates for economically disadvantaged blacks and whites
• Comparison group dropout rate = (70% x economically disadvantaged black dropout rate) + (30% x economically disadvantaged white dropout rate)
COMPARISON DATA - EDUCATION

Primary data (from the Oregon Department of Education web site)

Calculated data, for each school district in Multnomah County, 2007-08 school year

- Total graduates
- Total grade 9-12 dropouts
- Black students
- Black grade 9-12 dropouts
- Total students
- White students
- White grade 9-12 dropouts
- Total starting HS 4 years earlier
- Black relative dropout rate
- White relative dropout rate
- Total grade 9-12 dropout rate
- Black grade 9-12 dropout rate
- White grade 9-12 dropout rate
Use linear extrapolation to estimate the impact of being economically disadvantaged:

- When $x = 100\%$, then $y = 43\%$
- Grade 9-12 dropout rate for economically disadvantaged blacks = 43\%

- When $x = 100\%$, then $y = 43\%$
- Grade 9-12 dropout rate for economically disadvantaged whites = 43\%

The Grade 9-12 dropout rate for the comparison group is the 70/30 weighted average of these 2 numbers, or 43\%
COMPARISON DATA – JUSTICE SYSTEM

• Primary data is from the Oregon Youth Authority and U.S. Census web sites
• For each county in Oregon:
  ➢ Start with total population ages 14-17, % in poverty, % black, % white, and black and white youth detention admissions in 2008
  ➢ Detentions per black youth = (black youth detentions)/(14-17 population)/(% black)
  ➢ Detentions per white youth = (white youth detentions)/(14-17 population)/(% white)
• Plot the detentions per black youth vs. % in poverty
• Plot the detentions per white youth vs. % in poverty
• Extrapolate the trend lines to estimate the youth detention rate for economically disadvantaged blacks and whites
• Comparison group youth detention rate = (70% x economically disadvantaged black youth detention rate) + (30% x economically disadvantaged white youth detention rate)
Primary data (from the Oregon Youth Authority and U.S. Census web sites)

- Total population, ages 14-17
- % black
- % white
- Black youth detentions
- White youth detentions

Calculated data, for each county in Oregon, 2008

- Detentions per black youth
- Detentions per white youth
Use linear extrapolation to estimate the impact of being economically disadvantaged:

- When \( x = 100% \), then \( y = 37% \)
- Youth detention rate for economically disadvantaged blacks = 37%

- When \( x = 100% \), then \( y = 17% \)
- Youth detention rate for economically disadvantaged whites = 17%

The youth detention rate for the comparison group is the 70/30 weighted average of these 2 numbers, or 31%
COMPARISON DATA – TEEN PARENTING

• Primary data is from the OR Department of Human Services and ePodunk web sites
• For each county in Oregon:
  ➢ Start with 2005-07 births, by mother’s race and age, 7/1/06 female population by age, % black, % white, and % in poverty
  ➢ % of black females ages 15-19 giving birth per year = (2005-07 births from females ages 15-19)/(7/1/06 female population)/(% black)/(3 years)
  ➢ % of white females ages 15-19 giving birth per year = (2005-07 births from females ages 15-19)/(7/1/06 female population)/(% white)/(3 years)
  ➢ % of black females that are parents at age 18 = (% of black females ages 15-19 giving birth per year)(4 years)
  ➢ % of white females that are parents at age 18 = (% of white females ages 15-19 giving birth per year)(4 years)
• Plot the % of black females that are parents at age 18 vs. % in poverty
• Plot the % of white females that are parents at age 18 vs. % in poverty
• Extrapolate the trend lines to estimate the teen parenting rates for economically disadvantaged blacks and whites
• Comparison group dropout rate = (70% x economically disadvantaged black teen parenting rate) + (30% x economically disadvantaged white teen parenting rate)
COMPARISON DATA – TEEN PARENTING

Primary data (from the Oregon Department of Human Services and U.S. Census web sites)

- 2005-07 births from black females ages 15-19
- 2005-07 births from white females ages 15-19
- 7/1/06 female population ages 15-19
- % black in 2008 total population
- % white in 2008 total population

Calculated data, for each county in Oregon

- % of black females ages 15-19 giving birth each year
- % of white females ages 15-19 giving birth each year
- % of black females that are parents at age 18
- % of white females that are parents at age 18
Use linear extrapolation to estimate the impact of being economically disadvantaged:

- When $x = 100\%$, then $y = 86\%$
- Teen parenting rate for economically disadvantaged blacks = 86%

- When $x = 100\%$, then $y = 24\%$
- Teen parenting rate for economically disadvantaged whites = 24%

The teen parenting rate for the comparison group is the 70/30 weighted average of these 2 numbers, or 67%
ASSUMPTIONS - BENEFITS

General Assumption
Discount rate for NPV calculation purposes is equal to inflation

Education
• Outcomes for FOTC HS graduates are the same as outcomes for comparison group HS graduates
• Workers have 70% take-home pay, 21% Federal income tax, 9% Oregon income tax
• Benefits apply for 47 years (ages 19-65) for HS graduates, 45 years for those with some college, 43 years for college grads

Teen Parenting
• Incarceration impacts not incl. in parenting category
• Lost wages and taxes are incremental to reduced wages and taxes in education category
• Each teen parent will have 2.5 children
• Health care and welfare benefits apply for 15 years per child
• Wages and tax benefits apply for 13+2n years, where n = # of children

Justice System
• 50% of incarcerated juvenile offenders become chronic offenders
• Chronic offenders commit 1-4 crimes per year as juveniles, 10.6 crimes/year for 6 years as adults (from Ramsey study)
• Crime-related costs for chronic offenders are spread across a lifetime in proportion to prison/jail age distribution
Primary data (from the U.S. Dept. of Labor, U.S. Dept. of Commerce, and OR Quality Education Commission)

Calculated data (2010$ per person)

Average annual pay by level of education (2009 data)

Distribution of U.S. 25-29 year olds by level of education (2008 data)

Difference in state taxes vs. services used, by level of education (2003 data)

After-tax wages, by level of education

Federal taxes paid, by level of education

Net annual state taxes

Annual after-tax wages

Annual federal taxes

Lifetime net state taxes

Weighted average data for HS grads and above

Incremental amounts resulting from a HS diploma or above

Lifetime after-tax wages $628K

Lifetime federal taxes $188K

Lifetime net state taxes $465K

Total lifetime benefit from a HS diploma or above = $1,282K/person
Criminal justice costs for juvenile crimes

Criminal justice costs for adult crimes

Victim costs for juvenile crimes

Victim costs for adult crimes

Lost wages due to adult incarceration

% of incarcerated juvenile offenders that become chronic offenders (assume 50%)

Criminal justice costs for juvenile crimes $68K

Criminal justice costs for adult crimes $188K

Victim costs for juvenile crimes $202K

Victim costs for adult crimes $563K

Lost wages due to adult incarceration $36K

Total lifetime benefit from avoiding youth incarceration = $1,056K/person
BENEFITS DATA – TEEN PARENTING

Primary data (from “By the Numbers” report for the National Campaign to Prevent Teen Pregnancy, 2004 data)

Calculated data (2010$ per teen parent)

Annual public costs associated with U.S. children born to teen parents

Lost tax revenue
Health care
Child welfare
Total annual cost per child born to a teen mother in Oregon

Annual costs associated with Oregon children born to teen parents

Lost tax revenue
Health care
Child welfare
Lost after-tax wages

Lifetime costs per Oregon teen parent

Lost tax revenue $92K
Health care $34K
Child welfare $68K
After-tax wages $215K

Total lifetime benefit from avoiding teen parenting = $409K/person