


Does Forest Certification Influence Consumer Choice?



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- Data from an undergraduate, capstone project.
 - Collected in the winter of 2007.
 - This is a preliminary examination of the issue of forest marketing.

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Outline of Presentation

- Introduction to forest marketing schemes.
- Set-up of the survey and analysis.
- Description of sample population.
- Results.
- Conclusion and final thoughts.

Forest Certification



- This research looks at two certification schemes: the Canadian Standards Association and the Forest Stewardship Council.

■ Photo Source: <http://www.fsc.ca/ada/eng/>

Forest Certification

- Market means to account for perceived deficiencies in forest regulation
- Two possible examples include the Forest Stewardship Council (FSC) and the Canadian Standards Association (CSA).





FSC

- “[I]nternational certification and labeling system...” (FSC, 2007)
- Uses third party audits to certify management of forests.
- Applies its “check-tree” logo to approved forest products.
- Standards set to regional forest type.



FSC

- Widely accepted by Environmental Non-Governmental Organizations (ENGO) as the “best” certification standard.
- Much stricter certification standard.
- “Forest Stewardship Council (FSC) Certification – the only alternative”
Greenpeace website.

■ Source <http://www.greenpeace.org/canada/en/campaigns/boreal/solutions-to-boreal-forest-dec/fsc>



CSA

- Guidelines are from the Canadian Council of Forest Ministers (CCFM)
- Uses third party audits to certify management of forests.
- Applies the CSA logo to approved forest products.
- Company to company variation.



Certification in Canada

- CSA

- 90 forests certified, ~85M Ha

- FSC

- 38 forests certified, ~15M Ha

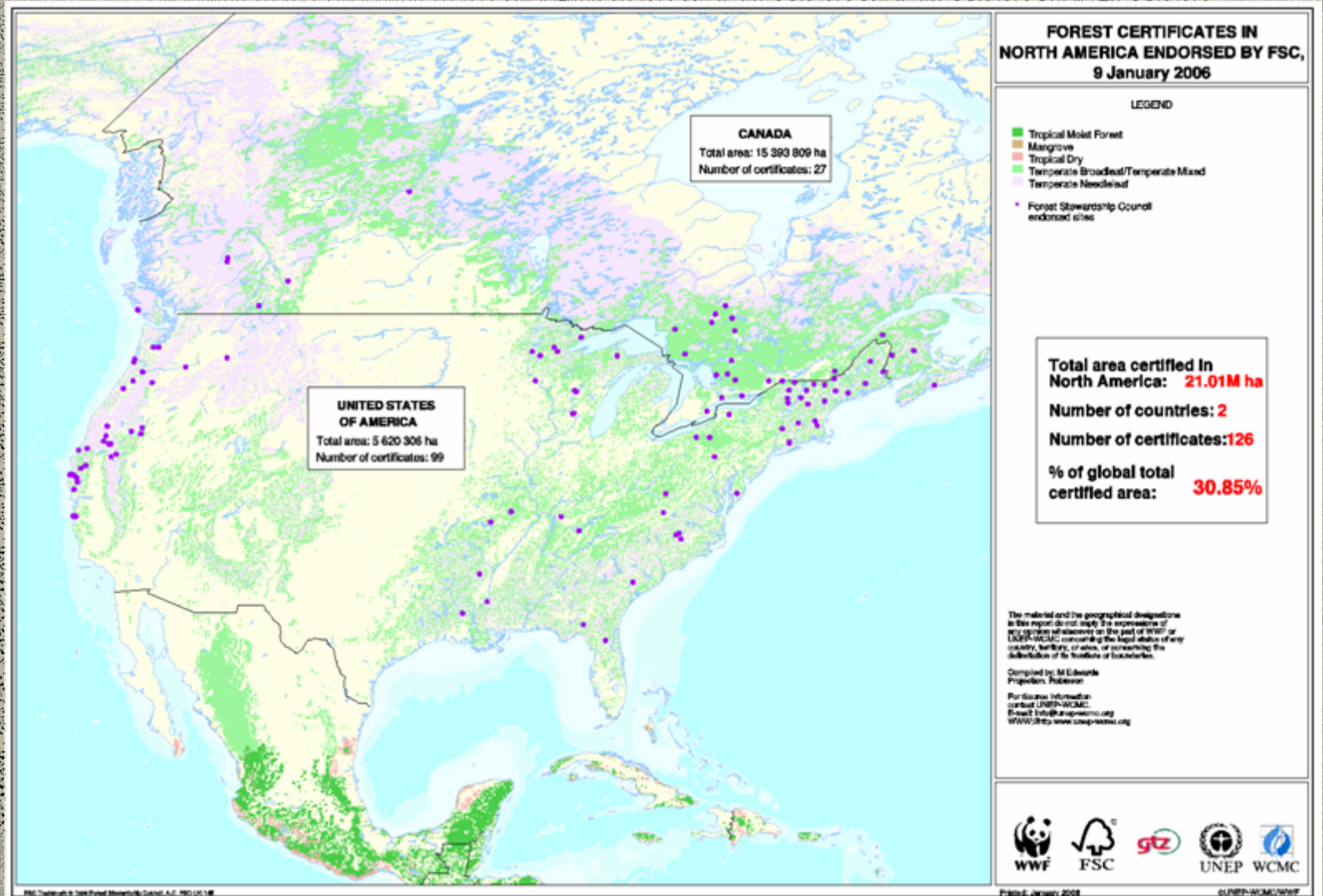
- Canada Total


- ~148M Ha of third-party certified forests

- Info source: <http://www.certifiedwoodsearch.org/certificationcanada/searchforests.aspx>

- Photo source: http://www.unep-wcmc.org.uk/forest/ff/hs/nam_large.htm

Certification (FSC forests)





Survey

- Data was obtained through survey.
- Administered over the internet for Alberta residents.
- Questionnaire asked respondent about demographic characteristics and paper consumption.
- Short informative paragraph about FSC and CSA schemes.



Methodology

- Basic look at descriptive statistics.
- k-means cluster analysis.
- Factor analysis of New Environmental Paradigm responses.
- Choice model analysis of FSC and CSA certification schemes.



Descriptive statistics

- 52% female
- 70% college education or higher
- 73% earn \$50,000/year or higher
- Average age of 43 years



Cluster Analysis

- k-means cluster analysis used.
- 3 clusters were obtained from the sample group.
- Cluster 1
 - Called "Environmentalists"
 - 15.05% of sample
- Cluster 2
 - Called "Baby-Boomers"
 - 42.47% of sample
- Cluster 3
 - Called "Academics"
 - 42.47% of sample



Cluster Analysis

■ Environmentalists

- Generally older
- Lower annual income, less education

■ Baby-Boomers

- Generally middle aged
- Higher annual income, average education

■ Academics

- Generally younger
- Lower annual income than C.2, high level of education



Factor Analysis

- Respondents were asked to respond to the New Environmental Paradigm (NEP) questionnaire.
- 15 questions.
- NEP is one measure of respondents environmentalism.
- Examine structure of responses with Principal Component Analysis (PCA).



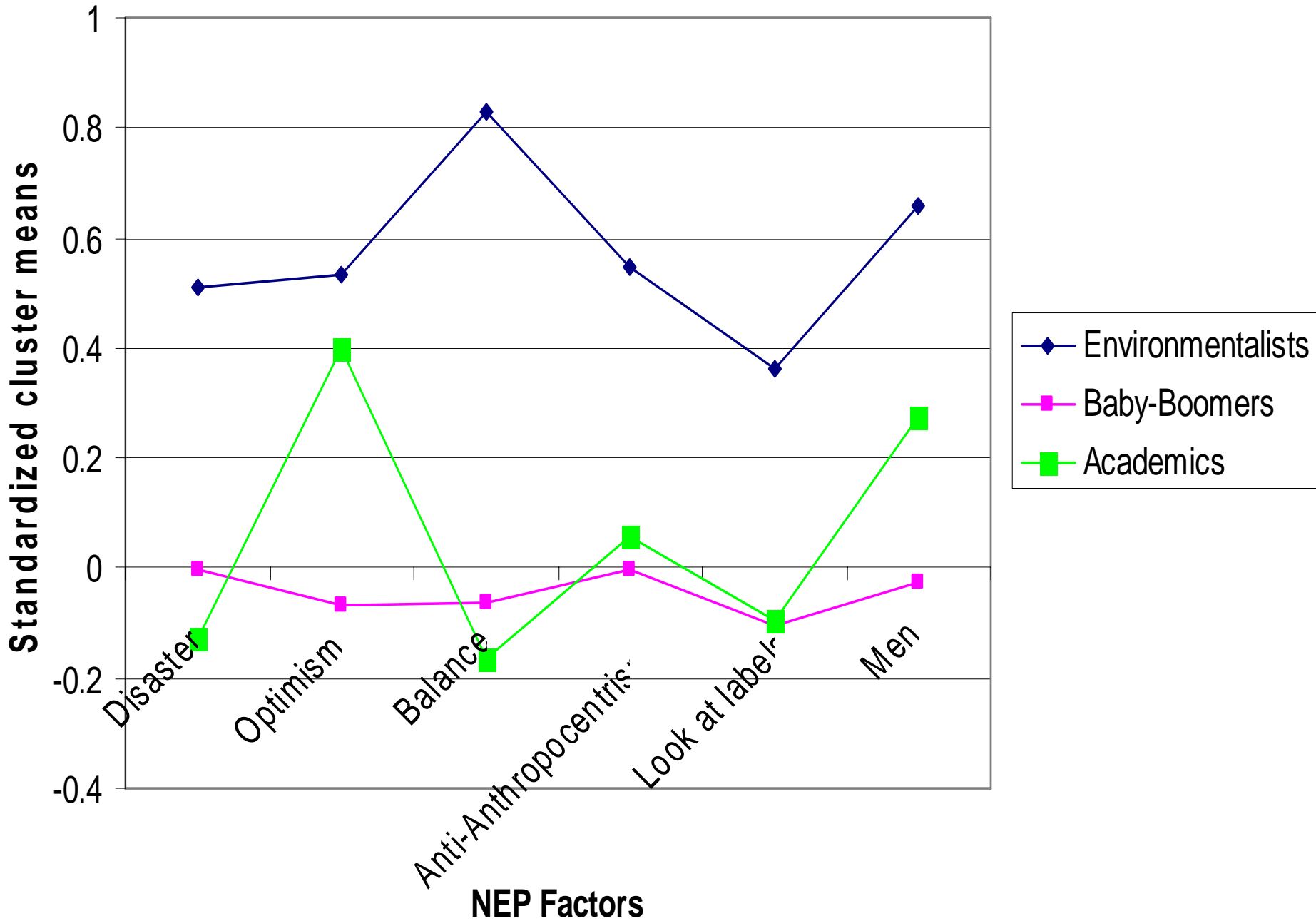
Factor Analysis

- Varimax rotation.
- Four components were obtained.
- Factor 1
 - Called "Disaster"
- Factor 2
 - Called "Optimism"
- Factor 3
 - Called "Balance"
- Factor 4
 - Called "Anti-Anthropocentrism"



Factor Analysis

- These factors were then used as a means to explore the relationship between clusters.
- Clusters 1 and 3 appear to be the most different across various traits.

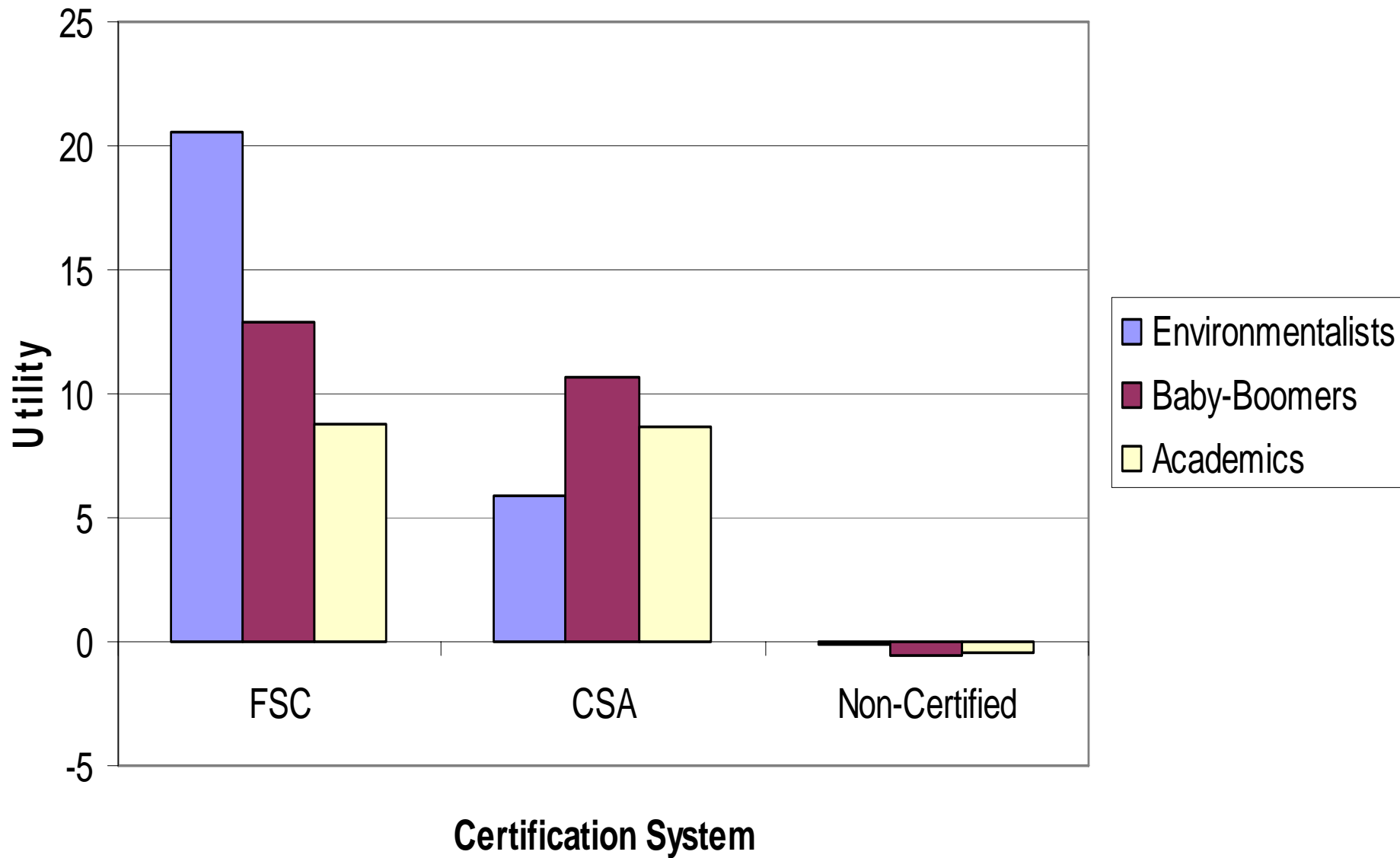




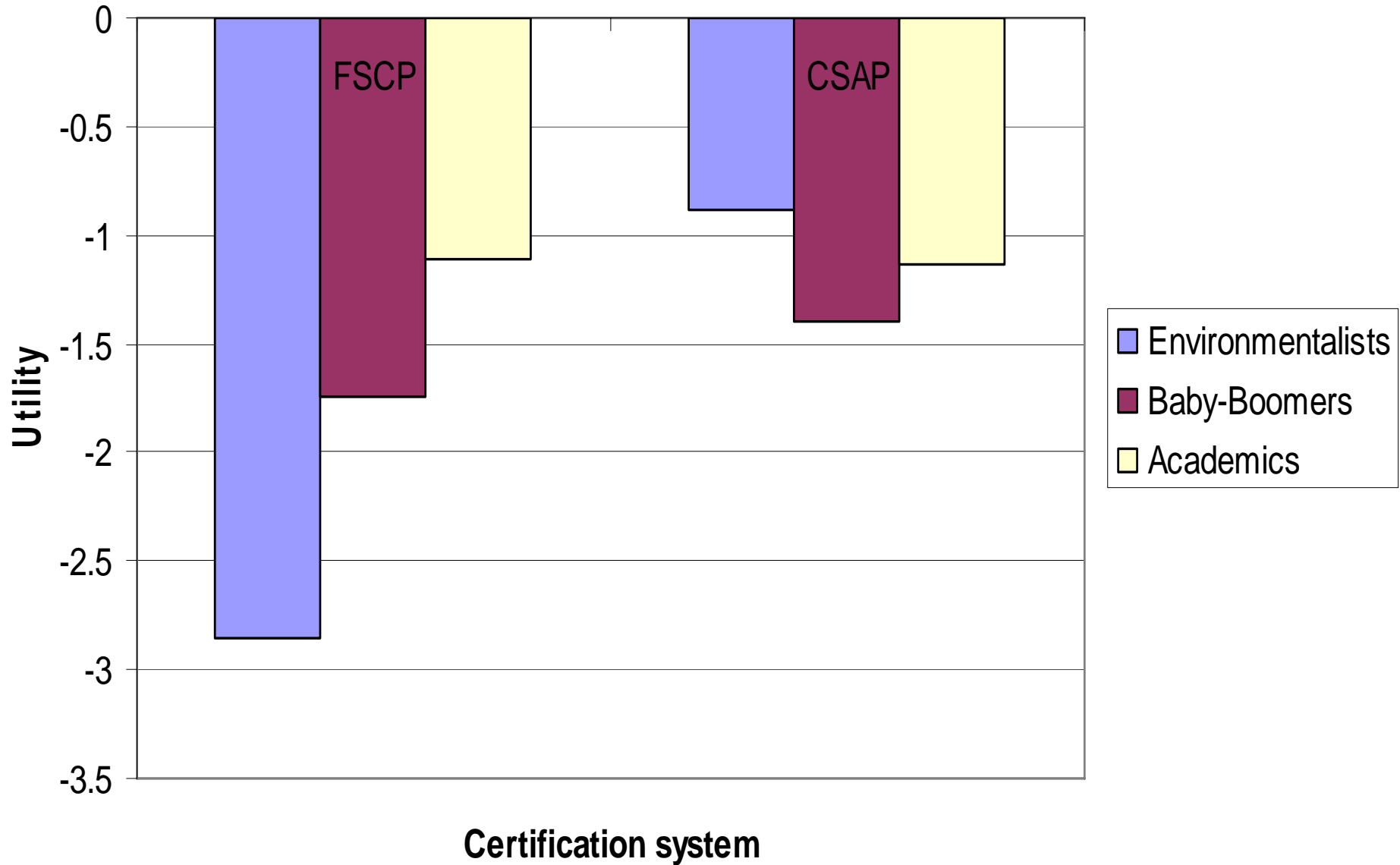
Choice Model

- Four specifications of the model run.
- A model was run with each one of the three clusters.
- A model was run with the three aggregated.
- Effect of price, gender, income and whether individuals look at labels on choice.

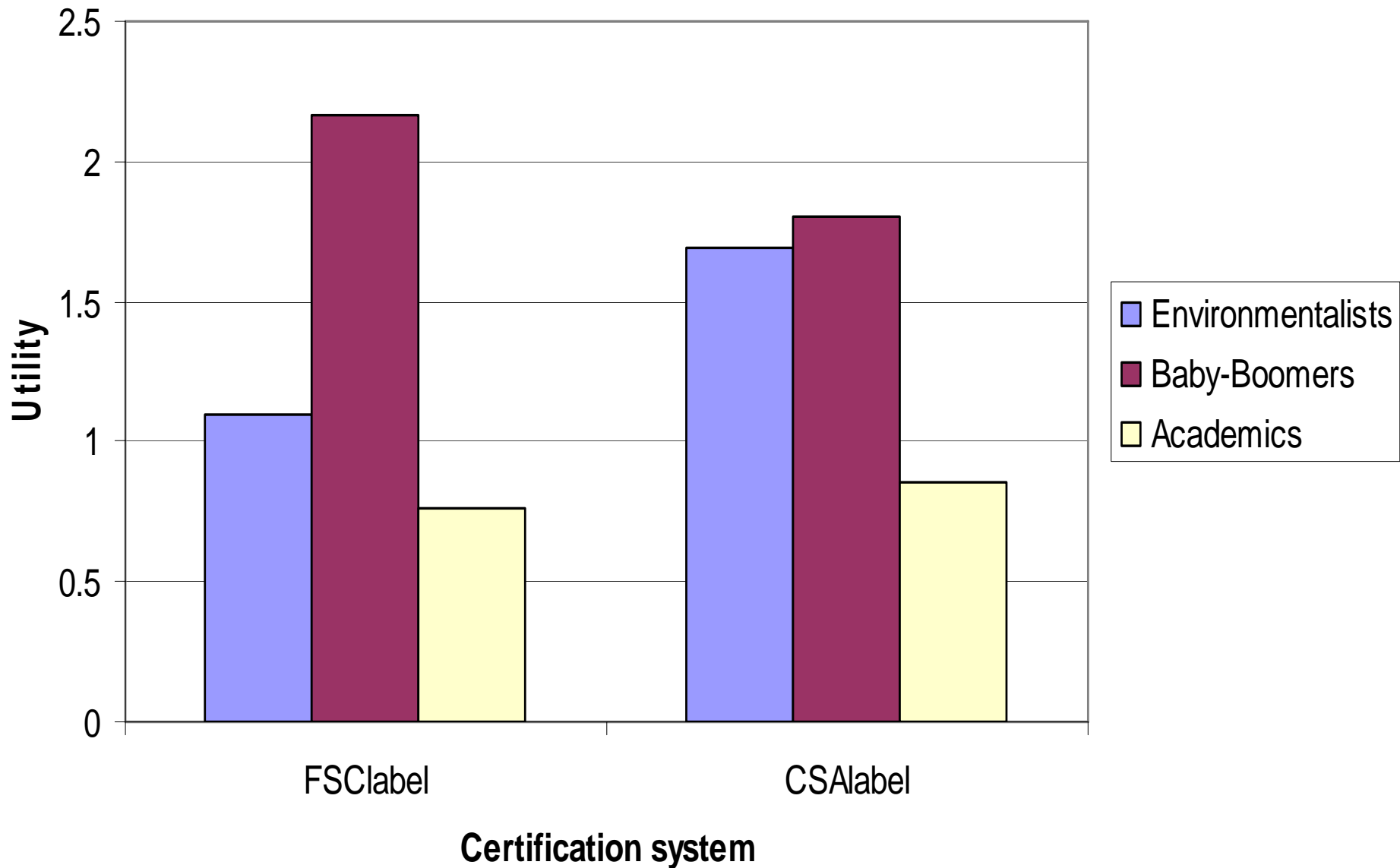
Choice of certification system



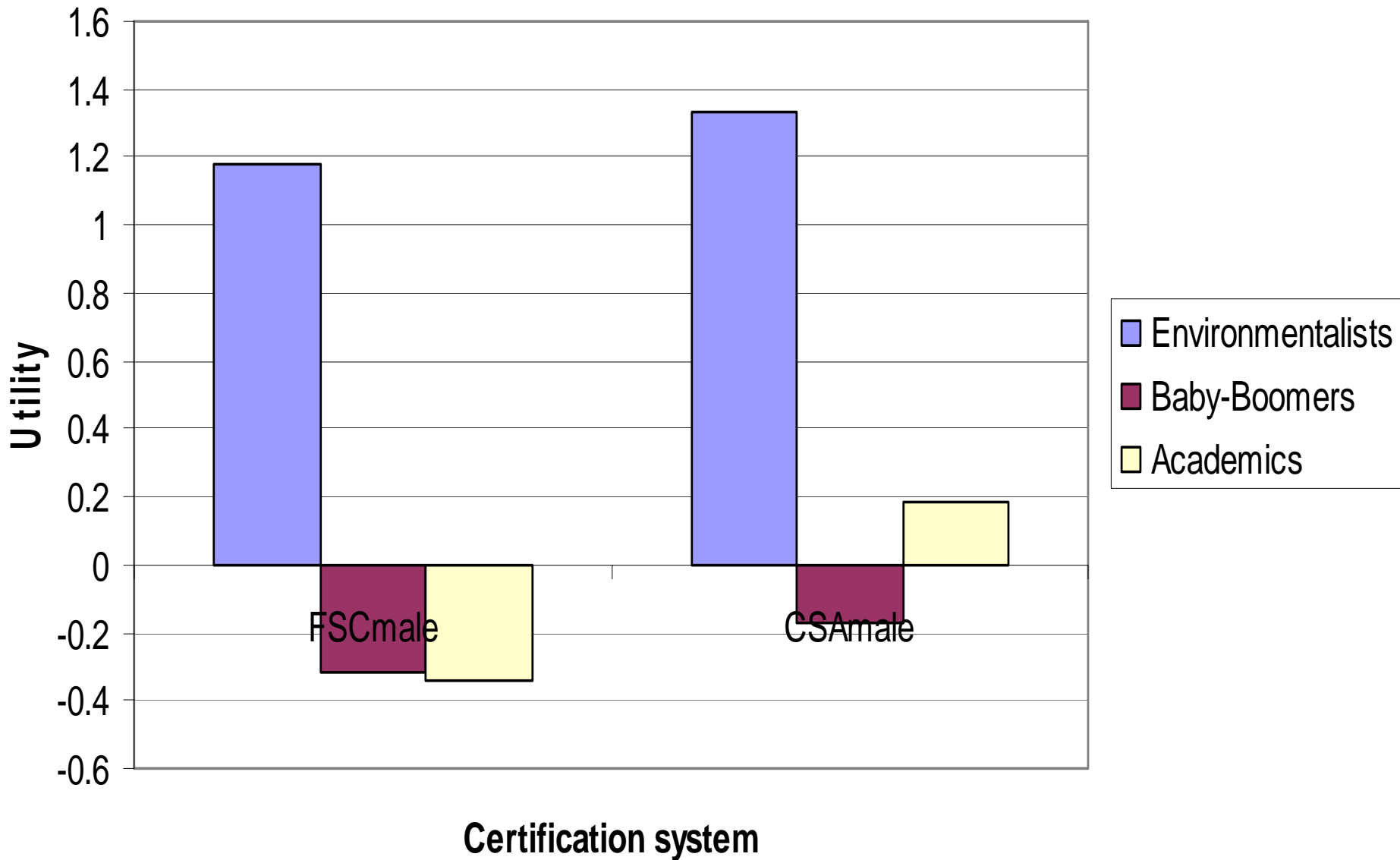
Price effects on choice



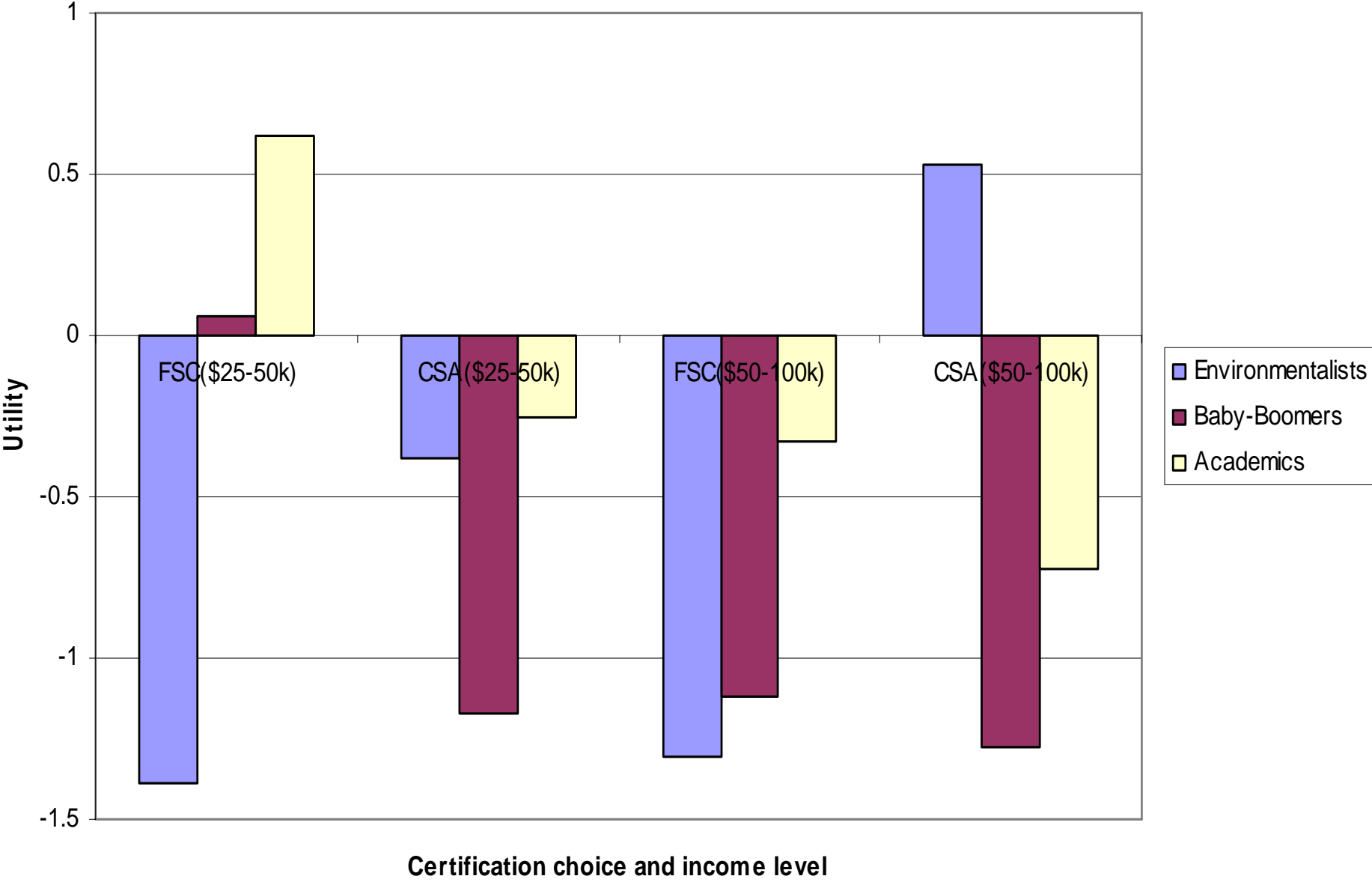
Choice of people who look at labels



Effect of gender on choice



Effect of income level on certification choice





Conclusions

- Overall, respondents chose FSC over CSA and non-certified paper.
- Choice was highly significant for all the clusters.
 - Although positive, choosing CSA was not significant for the cluster “environmentalists”



Conclusions

- Overall, own price effects were negative for both FSC and CSA.
 - Interestingly, the own price effect appears to be stronger for FSC paper than CSA for the cluster “Environmentalists”.



Conclusions

- People who look at labels will overwhelmingly choose certified paper.
 - For both of the clusters, “Baby-Boomers” and “Academics”, choice of FSC and CSA was approximately the same.
 - “Environmentalists” who look at labels appeared more willing to choose CSA.



Conclusions

- Overall, gender appears to be a minor component of certification choice.
 - The exception is men within the cluster “Environmentalists”. Tended to choose CSA certified paper.



Conclusions

- Income level did not appear to have a clear effect on consumer choice.
 - The exception is in the ‘Baby-Boomers’ and ‘Academics’. Both groups had significant, negative effect on the choice of CSA at the \$50,000-100,000 income range.



Final Thoughts

- FSC does appear to be preferred to CSA certification.
- Gender does not appear to have a strong correlation to certification choice.
- People who look at labels are more willing choose certified products.
- Higher incomes have some correlation with lower demand for CSA certification.



References

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Thank you.