

Mini Project Final Reports: Comments

Nuclear Power Plant: Students Average 9.1; Instructor 8.5

Instructor Comments:

This report works on an important and challenging policy choice facing Japan, i.e., whether or not Japan should restart nuclear plants after the devastating experience of the Fukushima accident. It is also well organized and well written. The estimation methods of the two benefit components, i.e., reduction in greenhouse gas emissions and increasing the security in energy supply, however, involve serious problems, as I noted in my comments on the final presentation.

As for the first component, you should have computed the total social costs of GHG emissions by first multiplying the social cost of emissions per kWh of electricity generated by each fuel type and the total electricity generation from that fuel type, and then summing over all fuel types. This will give the total social costs of greenhouse gas emissions. The comparison of these total costs among different cases will yield the relative benefits of going from zero nuclear case to the two restart cases.

Concerning the second component, the risk index produced by CRIEPI does not show the percentage of outage; it only indicates the relative magnitudes of risk. The number, 10.7, for nuclear, for example, does not mean that the percentage of power outage is 10.7%. Power outage has occurred very infrequently in Japan and this number is very unrealistic.

The main part of the benefits must be the gross consumer surplus and the cost side must include the capital (construction) cost. The Japanese Energy Mix Plan requires new nuclear plants. If the initial construction cost is included, this alternative (Alternative 2) will become less attractive.

Here are minor comments. First, in presenting the numbers, please avoid too many digits. The number of digits should reflect the reliability of your estimates. You do not expect that your estimates are accurate to the order of 100 yen, for example. Other reports except possibly the Pollinosis one have the same problem. Second, the main part of the sensitivity analysis is to identify which part of your estimates involves serious uncertainties. You should first discuss which factors are likely to be more uncertain and then present the sensitivity analysis for those factors. I do not repeat this comment but other reports suffer from the same problem. Third, you should provide units of measurement for your numbers in the tables.

Students Comments:

- Crisp writing
- Benefits in energy security concept is quite controversial one
- PV also have decommission cost as well (expired solar panel)
- The report is a well-written and very organized. Considering the Japanese government's inflation targeting could have further strengthened their analysis.
- Examining three alternative make the analysis firm enough to adapt to the complexity of this problem. As the quantitative impact of each alternative was clearly shown, it is possible for policy maker to make final decision based on this paper.
- We can see the real hard work in data collection and analysis part.
- Very well-presented final paper. It was clean, organized and really straight to the point in as much as it could do so.
- It was comprehensive analysis and the report was well organized. They included "increasing the security in energy supply" into the benefit by considering the comments in the final presentation. This is the high-level request, but if they can propose the other alternatives which are not considered by the

Japanese government, it would be wonderful. (I think the Japanese government already knows Energy Mix 2030 is the best out of three alternatives from their own research)

- The report is well written and comprehensive in its treatment of 3 alternatives scenarios. However, the assumption that the price of alternative energy sources does not change in the next 20 years seems unreasonable, as the question of whether nuclear energy remains relevant in the future will depend primarily on the price of other competing energy sources.
- I think the analysis is sound, even though I wished for a little bit more critical thinking. Especially since the question about decommissioning and storing spent nuclear fuel is not solved anywhere on earth, the costs in the future might be higher for nuclear power plants. Much more than is estimated now.
- The report was very well written and easy to follow. I also liked the topic since restarting nuclear plants in Japan has been a hot topic in Japan since the 3.11 earthquake. Unfortunately there are only limited objective analyses on this topic, thus this report was very refreshing to read.
- -Good structure of presentation
Strong methodology
I like the fact they did policy recommendations

Alternate Road Construction: Students Average 8.3; Instructor 8.2

Instructor Comments:

This report is a good application of standard CBA methodology to a rural road construction project in Colombia. The benefit-cost ratio fails to exceed one (1), but this is natural because the forecasted volume of traffic is very low (around 700 vehicles per day in the beginning), and the construction cost is high, probably reflecting rugged terrain.

The executive summary is reasonably well written, but there are a number of things that can be improved. First, it does not report benefit and cost estimates for the secondary market (i.e., the existing road). Second, it needs more discussions on assumptions and methods of estimating key variables such as the generalized user cost in the Without Case. Third, as in the Nuclear Restart Report, there are too many digits in the tables.

The following are minor comments. First, the accident costs in the existing road discussed on page 24 will likely be reduced more than proportionately in the With Case because there will be much less traffic. Second, the project is part of the Multimodal Amazon Hub; the traffic might increase dramatically when the network is completed. A sensitivity analysis of such an optimistic scenario would be interesting.

Students Comments:

- Existing road users will receive benefits from the new road construction as well so for low estimation, at least 736 vehicle should be used instead of 587 for CBA estimation
- It is possible that BCR is less than 1 because of high construction cost in mountainous area
- Still, the Net Present Value (NPV) of the project is negative and Benefit-Cost Ratio (BCR) is less than 1. This makes the implementation of the project costly rather than beneficial. Given this, their conclusion must be further strengthened as to how their research can help the Colombia government consider another road construction project.
- As actual data and pictures were fairly included in the paper, it was attractive as a reading material. Also, the conclusion mainly represented by the BCR seems reasonable.
- Analysis is straightforward but maybe not as creative (or maybe doesn't have to be considering it is standard transportation CBA). Report format is a bit flat and maybe not easy to navigate each section- although inclusion of numerous diagrams and tables certainly helps to visualize the project. Data used seems valid, as use actual country estimates for traffic flows, although not clear why use social discount rate 12%. Also interesting that they found positive social surplus but negative NPV- which may be typical of public projects to cover a social need when otherwise the project may not look so 'financially' profitable.
- It was simple and understandable analysis. However, they didn't write up some important part, for example,

the secondary market part in the executive summary. Moreover, since the net present value was negative, it was difficult to understand the importance of this alternate road.

- The conflict between the results of the NPV analysis and the Supply-Demand framework is a bit difficult to reconcile and does not really lead to a clear policy implication, which from my understanding is supposed to be the key usefulness of CBA. Also, the overall quality of the report may be improved by more clarity in writing and avoiding grammatical (sentence structures and punctuations) pitfalls that present unnecessary distraction for the reader.

- Presentation: Not really well structured, since there is no table of contents, list of tables, and list of figures. Beside that there are several headings that are not placed properly. However, their executive summary is well written and can represent the whole report.

Writing: The writing is quite good, even though there are several parts that are not written well enough and it is quite difficult to be understood by the readers, such as the sensitivity and discounting part. There are only five references that they use in their report, which raises many questions whether they have done an adequate research for their data or not.

Analysis: There are several concerns about the reason why Colombian government should implement this project, since the BCR less than 1 and the NPV is minus. The discounting and sensitivity analysis part is not really well defined in detail and they did not make a comparison between with and without case in this part. This part is crucial for the readers, yet they did not explain it well.

- Overall a fairly ok report.

The topic of the report does not properly indicate that it is on the cost-benefit analysis of construction of the alternate road. Ideally the topic of any report should precisely give some idea about the work included in it.

In the Executive Summary PV, BCR and values used in consumer surplus calculation table are not defined properly. It does not matter much since we all know those. But if some other busy reader, who does not have any idea of those initials, tries to read only the Executive Summary to get an idea of the project, he will have a difficult time. And this is evident throughout the report since lots of terms are used without defining them properly.

The style of writing is not consistent throughout the report. Even though it is a combination of 4 authors, better if different styles were not used.

- Very detailed report. Calculation seems good enough to me.
- The topic of this report was very interesting and the analysis was very clear. However, the analysis aspect of the report was slightly difficult to follow because of size and large number of tables used to present the analysis. Perhaps the content of the analysis would have been easier to follow if the specific calculations were in the appendix.

Sea Ambulance: Students Average 8.4; Instructor 8.5

Instructor Comments:

The topic of this report is interesting and the basic structure of the analysis is good. You can do a number of things to make it more professional.

Analysis and data handling:

(1) Estimating the VSL based on the average annual family income has made the benefit-cost ratio more reasonable than before, but this is not a recommended method because foregone earnings are not the only costs of untimely death. To evaluate a health policy, a typical approach is to use the quality adjusted life years. This would make the benefit of saving life lower because the increase in (healthy) life expectancy may not be that long for a stroke patient.

(2) It is more typical to forecast benefits and costs in constant prices and do not adjust for inflation. Much more important is the adjustment for income (or GDP) increases. For Philippines, the growth rate might be larger than the assumed inflation rate of 3.74%.

(3) The cost of the Sea Ambulance is quite low (around 4 million yen at the current exchange rate). This is based on a newspaper article and may as well be true. In the case reported in the article, the ambulance is a second-hand vessel outfitted with necessary medical equipments. More detailed discussion on the cost estimate is desirable.

(4) It is not clear whether or not the doctor and nurses are hired full time only for 36 trips per year. It is more likely that they work for a hospital when there is no emergency patient to transport.

(5) The use of the Sea Ambulance will not be limited to strokes. Benefits for them should be discussed.

Exposition:

(1) The executive summary is too short and do not contain the summary table for the Cost-Benefit Analysis.

(2) On page 6: “a population of 1,651 in 3,805 households” might be a mistake.

Students Comments:

- New definition of value of life gives reasonable benefit-cost ratio
- The team was able to provide a realistic value of Value of a Statistical Life (VSL). The altruistic behavior of families also strengthens the analysis which makes sense. The value of costs and benefits are well-justified. The analysis was performed in a very clear manner. This is a very job-well done, though, the formatting was not clean.
- Entire process of this analysis written on the paper is fair.
- However, considering the scale of the proposed alternative, impact of this policy is overestimated.
- Report is nicely written and easily understandable.
- This report is well organized and clear. Some improvements have been done to respond the over-estimation comments. They also have proper citation of sources.
- Interesting study and way to approximate so high in terms of creativity; presentation format is also clear and easy to understand. In terms of validity of values used to measure costs/benefits, good that in addition to social discount rate, there is adjustment for inflation; however not entirely convinced about how Value of Statistical Life is approximated-willingness to pay may not necessarily be equal to income value. Additionally as discussed before, NPV seems too high to be acceptable (nearly 18 in best scenario).
- The final report was quite informative and organized pretty well. They also responded to criticisms during the presentation that their BCR was way out of proportion.
- It was well organized analysis, and the result was much more understandable than that of the final presentation. They should point out the weakness and challenges which were not solved in this analysis. I thought the cost of medical equipment and medicines should be taken into account (is this included in the sea ambulance cost?).
- The report is fairly well written, and captures well the usefulness of NPV analysis in making a case for a particular proposal. However, the sole focus on stroke patients, who average about 3 per month, might call into question the credibility of the analysis, because, by easily passing the BCR test, it sets a very low bar for any public project that supposedly save lives in the Philippines. What is to say that a helicopter ambulance will not be justified as well under this sort of analysis?
- Presentation: This report is really well structured and easy to be read, however the executive summary does not include the table of summary and it is placed after the table of content, which should be before the table of content.
Writing: The writing is very good and well structured. Beside that each segment of the report is really well explained and the flow is very smooth. However there is no explanation about which appendix that the reader should read if they want to clearly understand the result of the BCR and NPV.
Analysis: The result of the NPV and also BCR has clearly improved from the presentation result, which makes it quite logic. From the cost aspect, there is a question about what is their benchmark for setting up the sea ambulance captain's salary? And also for the sea ambulance cost, what is the reference for this PHP 1.700.000? While for VSL calculation, is it really correct to calculate VSL simply by subtracting annual family income over the annual poverty threshold? What is the basic argument and reference for this?
- Overall a well written and a fairly good report.
Good justification on the necessity of the project to the local community.
Better if a separate and clear methodology was included.
Simple and clear analysis.
A table of costs and benefits is not included in the Executive Summary, better if it was there for the busy

readers.

The description of fuel cost, uner Benefit & Cost Components, is a bit confusing; I guess there is a typo in it.

- Interesting project
- Good methodology
- I like their writing style

Cedar Pollinosis: Students Average 8.3; Instructor 8.3

Instructor Comments:

This report tackles an important but difficult policy question of how to mitigate cedar pollinosis that afflicts many people in Japan. It is well written and well organized. As I already said in my comments on the final presentation, it is unfortunate that it deals only with the Pigouvian tax policy that is not a realistic policy option.

Analysis and data handling:

- (1) When a Pigouvian tax is introduced, there is a serious risk of coniferous forests being abandoned because the revenues from trees are already very low.
- (2) You should consider imports from other countries. When the tax raises the price of domestically produced lumber, imports will substitute domestic production. This makes the price elasticity of demand fairly high.

Exposition

- (1) The executive summary is too short.
- (2) Some references are missing, e.g., Kakutani (2000) and Bessho (2010).

Students Comments:

- Taxing forest owner is practically unrealistic but it may possible to be implemented in the future
- This is a late submission. The assumption of linear demand is not justified. Demand functions, in most cases, are not linear in nature.
- Theoretical conceptualization of the analysis was challenging. This analysis successfully includes Pigouvian tax to actual forest management policy. It is possible to make comparison between impact of subsidy and taxation.
- Inclusion of graphs is really appreciable.
- The topic is quite challenging and interesting. The report is concise and well organized. However, there are no discussions on alternatives or limitations.
- Although presentation looks clear and easy to read, this report seems to lack depth of quantitative analysis-yes creative and interesting that they estimated demand and supply and calculated based on this; still would have liked to see a more traditional format showing all relevant costs and benefits side by side for comparison. This analysis seems too abstract and difficult to envision as an actual policy alternative.
- The final paper established the groundwork of their paper quite well, and the flow of the paper was logical. However, there were comments raised previously, that seemed to have been ignored, such as the implications of the tax beyond the revenue it generates.
- It was simple analysis and easy to understand. However, this paper didn't consider the time horizon, and I couldn't understand whether this analysis consider the increase of CO2 caused by cutting trees. They should point out the weakness and challenges which were not solved in this analysis.
- Minus point: Not following the deadline of the report and missed it by 4 days.
Presentation: This report is really well structured and easy to be read, however the executive summary does not include the table of summary and it is placed after the table of content, which should be before the table of content.
Writing: The writing is very good and well structured. However there is an issue of the number of

references that they use, which are seven references. This issue raises many questions whether they have done an adequate research for their data or not.

Analysis: Although the result of the analysis seems valid, however the basic idea of implementing Pigouvian tax as a corrective tax seems too simple, and also it can be quite difficult to be implemented by the government.

- Overall a fairly ok report.
Better if photo illustrations are not included in the Executive summary.
The acceptability and the related feasibility of the policy is not studied properly
- Report explains better what they assumed in their calculations.
- This proposal was very creative and although slightly practically difficult to implement, I enjoyed the project's creativity and its attempt to solve an everyday issue for many people in Japan.
- Nice approximation as "pollution" problem
Good explanation with graphs (Ratu)
Easy to understand