

MINING SECTOR: TOWARDS CONTRIBUTING TO INCLUSIVE GROWTH

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PCED Policy Note

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Why Mining and Inclusive Growth?

- There are many issues that surround mining, but often there has been little agreement between proponents and opponents. (Why is that?)
- This paper intends to help clarify one issue that has been brought up in the many contentious debates, using hard data and an evidence-based approach.
- There is no intention to promote nor disparage the mining sector. This is simply an objective study based on data.

Two Basic Indicators of Growth Contribution

(Source: Madeline Dumaua, 2010)

Industry Description	Final Demand- Output Multiplier	Total Employment Multiplier
Agriculture, Fishery and Forestry	1.47	0.000001
Mining and Quarrying	1.70	0.000002
Manufacturing	2.15	0.000004
Construction	1.94	0.000003
Electricity, Gas and Water	1.57	0.000002
Transportation, Communication and Storage	1.94	0.000003
Finance	1.65	0.000005
Trade	1.65	0.000003
Real Estate	1.20	0.000004
Private Services	1.91	0.000006
Government Services	1.53	0.000001

What is Inclusive Growth?

- Growth with equal opportunities for all sectors in society (Ali and Zhuang, 2007; Ali and Son, 2007)
- Economic expansion to reach the poor (Rauniar and Kambur, 2010)
- The availability of economic opportunities to all, with particular attention to the poor (2011-2016 Philippine Development Plan)

Ingredients for Inclusive Growth

- Good governance and institutions
- Social inclusion
- Creation of safety nets

From Zhuang, (2010)

Central Questions

- Is there evidence to show that mining has directly contributed to inclusive growth?
- If so, how was it able to do so?
 - This could be a model for other industries
- If not, why not? Does it have potential to contribute to inclusive growth?

Empirical Model

- Econometric testing was done to find out if mining and poverty are statistically related.
 - Logit model was utilized
 - Data were sourced from Annual Poverty Indicator Survey and Labor Force Survey
 - Two angles were examined: exit from poverty, and entry to poverty
 - 2007 and 2008 data were used

Empirical Models – Poverty Entry and Poverty Exit

- The poor household was defined to be those whose income was below the poverty threshold set by the NSCB.
- A household was said to have exited poverty if it were poor in 2007 according to the definition above, but not poor in 2008.
- A household was tagged as having entered poverty if it were not poor in 2007 but poor in 2008.

The Variables Tested

- Number of households employed in each industry sector was used as the independent variable.
- The dummy entrepreneurial income was added to the list of independent variables.
- Binary dummy dependent variable of “poor” and ‘non-poor” was used.

List of Explanatory Variables

Variable 1	Agriculture, Hunting and Forestry
Variable 2	Fishing
Variable 3	Manufacturing
Variable 4	Electricity, Gas and Water
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Variable 5	Construction
Variable 6	Wholesale and Retail
Variable 7	Hotels and Restaurants
Variable 8	Transportation, Storage, Communication
Variable 9	Financial Services
Variable 10	Real Estate
Variable 11	Public Administration
Variable 12	Education
Variable 13	Health
Variable 14	Community and Social Services
Variable 15	Private Households
Variables 16-25(Dummy Var)	Different sources of Entrepreneurial Income

Models 1 and 2

Model 1 – Entry to poverty

The results (the marginal effects) indicate the statistical probability that a non-poor household would become poor if the household members were employed in the mining and quarrying industry.

Model 2 – Exit from poverty

The results (the marginal effects) indicate the statistical probability that a poor household would become non-poor if the household members were employed in the mining and quarrying industry.

Caveats

- A narrow definition of poverty was used, which was just the difference of household income on poverty threshold.
 - There are other measurements of welfare which were not utilized from this study.
- The data availability could only allow a two-period analysis. Lagged effects could not be evaluated.
 - Effects on poverty status extending beyond two-period are not included in the study.

Model 1 (Exit Poverty) Results

1. Those members of the labor force who are poor and employed in the agriculture, hunting, and forestry sectors are statistically less likely to exit poverty in the succeeding year.
1. Poor households whose members are employed in private households (*e.g., kasambahays, family drivers, laundrywomen, etc.*) are likewise statistically less likely to be able to escape or exit poverty in the next period.
1. Having members working in the public administration sector increases a poor's household's chance to become non-poor (escape poverty) in the next period.
1. There is no statistical evidence to show that those households that are poor and employed by the mining and quarrying sector will likely exit poverty in the next period.

Model 2 (Enter Poverty) Results

1. There is a significant statistical probability that non-poor households whose members are employed in agriculture, hunting, forestry sectors, will become poor in the succeeding period.
1. Non-poor households that have members who work for private households are statistically likely to become poor in the next period.
1. Non-poor households that generate entrepreneurial income from livestock and poultry, and fishing, have a statistically weak chance of becoming poor in the next period.
1. There is no statistical evidence that shows that non-poor households whose members are employed by the mining and quarrying sector would necessarily become poor in the next period.

Curious result

- The econometric results indicating that households whose members are employed in government are statistically likely to exit poverty in the next period.
 - Further investigation is needed to determine the reason.

Caveat

The correlation of entry and exit with the different sectors/independent variables do not necessarily mean causality. More evidence is needed to establish causality with finality.

Main Conclusions

1. Mining has a neutral impact on poverty as measured by household income disparity from poverty threshold.
 - Mining is neutral when it comes to directly influencing the poverty status of household members that are employed by the sector.
2. The safety net against poverty is woven through entrepreneurship.
 - It appears that low--skill employment is unlikely to push households out of poverty.
 - In terms of policy, support for households to engage in entrepreneurship has good chance of improving household income.

Can Mining Contribute to Inclusive Growth?

- Based on the data and the results, it is unlikely that mining can directly contribute to inclusive growth if the only pathway is labor employment.
- But mining firms are required to allot funds for community development, and if these funds are directed correctly, then there is potential for the mining sector to contribute to inclusive growth.
 - Promote entrepreneurship
 - Increase safety nets for households within the community
 - Investment in human capital to increase skill and labor productivity

Can Mining Contribute to Inclusive Growth?

- Can it contribute to good governance? Probably not directly.
- Can it contribute to social inclusion? Social inclusion is complex to target, the author believes that by promoting education, it is a step closer toward this objective.

End of Presentation
Thank you