

The Devil is in the Details: Overview of the Main Methodological Issues in Cost/Benefit Analyses of Gambling

**Dr. Robert Williams &
Rhys Stevens
University of Lethbridge
Lethbridge, Alberta**



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- Socioeconomic analysis of gambling impact is a very important issue with major policy implications.
- However, it is beset by many methodological issues and problems.
- Consequently, most prior research on this issue is either inconsistent, inadequate, biased, or all three.
- This presentation discusses the main methodological issues and outlines approaches to their resolution.

Strong Vested Interests Corrupting the Research

- Funders for this type of research often have a vested interest in a certain outcome. In Canada, this includes provincial governments.
- Very reminiscent of the tainted research on the:
 - benefits of pharmaceuticals
 - economic benefits of professional sports teams
- ➔ *Socioeconomic research funding needs to come from independent agencies without a vested interest in the outcome (e.g., AGRI, OPGRC).*



Very complex methodological issues

- Probably more complexities involved in this area than any other area of gambling.

→ *Exhaustive elucidation and exploration of the main methodological issues is required so as to provide the groundwork for the actual approach.*

What to Measure

- New economic activity has pervasive socioeconomic ripple effects. Despite this, many studies only measure and report the most apparent economic impacts that are easily quantifiable in monetary terms (e.g., employment, government revenues, etc.).
 - e.g., Anderson's (1997) study of casino gambling; Littlepage et al. (2004) study of riverboat gambling; Rabeau's (2004) study of casino gambling in Quebec.
 - Creates an unbalanced analysis in that economic gains/losses are not measured against social costs/benefits.
- *A wide net must be cast to capture and report all potential economic and social variables that may be impacted.*



How to Quantify the Impacts and Combine them into an Aggregate Value

- Measurement and quantification of social costs/benefits is the primary problem.
 - Conventional cost-benefit analysis does not capture some social costs/benefits.
 - Classical welfare economics does not capture social problems if they do not result in a reduction in the aggregate wealth of society.
 - ‘Genuine progress indicators’ that assess the ‘aggregate well-being’ of society are more theoretically satisfying, but somewhat subjective and arbitrary.

- ➔ *Classical cost-benefit analysis can quantify and combine all impacts with clear monetary costs/gains.*
- ➔ *Other social costs/ benefits are best quantified in the most straightforward way that best captures the impact.*
- ➔ *End result will be several different indices (e.g., total \$ cost/benefit; % change in suicides; % change in crime, etc.).*
- ➔ *This approach makes it explicit that the ultimate judgement about overall social/economic cost/benefits depends on relative importance one assigns to these different indices.*



How Large a Geographic Area to Assess

- Most studies have examined gambling impacts in the area where the venues have been introduced, without consideration of larger regional impacts.
- However, in many cases, increased financial inflow in one region comes at the expense of financial outflow in adjoining regions.
- ➔ *Socioeconomic analyses should examine the geographic 'magnitude' of the impact and to estimate both community-specific costs/benefits, and macro, regional impacts. Patronage origin provides some guidance about how large a geographic range to study.*



How Long a Time Span to Assess *(both after and before)*

- The length of time it takes for all economic and social impacts of gambling to manifest themselves is unknown.
 - Many economic impacts fairly immediate, others take a few years, others reverse with time.
 - Negative social impacts often take longer, and may decline with time.
 - New gambling venues are always added to existing gambling opportunities (even if illegal). Lag effects of these pre-existing opportunities can be mistaken for immediate impacts of new facilities.
- *Need to document prior gambling opportunities and socioeconomic effects for several years before the opening of the new gambling venue as well as for several years after.*



Difficulties in Isolating the Effects of Gambling

- Pre-Post studies ignore the fact there are a multitude of economic and social forces at work that account for social/economic changes in a community in any given time period.
 - A much stronger methodology is a matched control comparison where changes in the community receiving the gambling venue(s) are compared against changes in an economically, socially, and demographically similar community that did not receive new gambling venue(s).
- *Use both pre-post and control community comparisons.*



Limitations of Cross-Sectional Designs

- Most socioeconomic impact studies collect annual socioeconomic community indicators and then try to attribute changes to the introduction of the new gambling activity
- e.g., A problem gambling increase after 1 year being responsible for a corresponding bankruptcy rate increase after 1 year.

However, increases in Problem Gambling coincident with an increase in bankruptcies has different explanations

Y1	Y2
B	B
B	B
	B
	B

Y1	Y2
B	
B	B
	B
	B

■ = Problem gambling
B = Bankruptcies

➔ *A longitudinal cohort design establishes whether these are related (left) or unrelated problems (right)*

Also, a stable prevalence rate (e.g., 1 out of 3 people) could mean various things

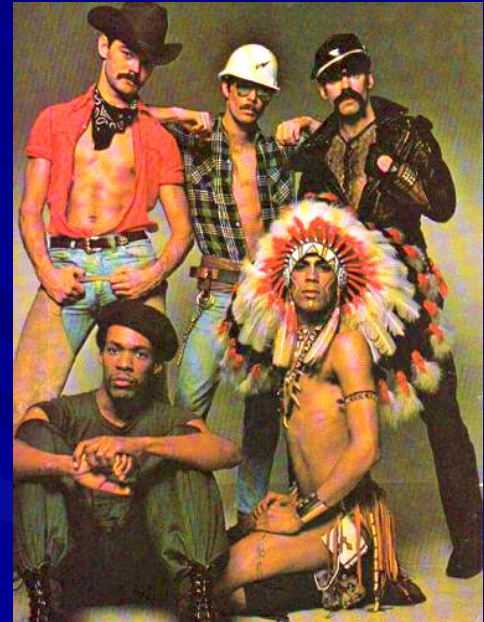
Y1	Y2	Y3	Y4	Y5
Red	Red	Red	Red	Red
Red	Red	Red	Red	Red
Blue	Blue	Blue	Blue	Blue
Blue	Blue	Blue	Blue	Blue
Blue	Blue	Blue	Blue	Blue
Blue	Blue	Blue	Blue	Blue

Y1	Y2	Y3	Y4	Y5
Red	Blue	Red	Blue	Red
Red	Red	Blue	Red	Blue
Blue	Red	Red	Blue	Blue
Blue	Blue	Blue	Red	Red
Blue	Blue	Blue	Blue	Blue
Blue	Blue	Blue	Blue	Blue

→ *A longitudinal cohort design establishes whether these impacts are experienced by a narrow (left) or wide (right) segment of society*

Impacts are Somewhat Specific to Different Segments of Society

- The lack of significant community-wide changes does not address subpopulation impacts
- If 5% of a population (e.g., problem gamblers) experiences a 100% increase in bankruptcy rates (e.g., 2% to 4%), this change will not be statistically significant at a community level if there is no change in the other 95% (e.g., nonproblem gamblers).
- General population surveys and statistical data often do not contain a large enough sample of these subpopulations to address these impacts.
- ➔ *The best impact studies are ones that over sample subpopulations most at risk for being impacted so that these subpopulation impacts can also be examined.*



Impacts are Somewhat Specific to the Type of Gambling

- Different forms of gambling (e.g., lotteries, slot machines, bingos, casinos, etc.) are associated with different:
 - rates of problem gambling
 - Economic spin-offs
 - Etc.
 - Venue location (tourist areas versus nontourist area) influences:
 - degree of new versus cannibalized job creation and revenues
 - Problem gambling rates in local populace
 - Etc.
- *Need to qualify results as being specific to the type of gambling*



Impacts are Somewhat Specific to the Jurisdiction Studied

■ Jurisdictions differ in:

- Their availability of different types of gambling.
- Strength of their policy and educational initiatives to prevent problem gambling.

➔ *Results need to be qualified as being specific to the jurisdiction studied.*

Impacts are Somewhat Specific to the Time Period Studied

- Gambling availability and gambling policy can change rapidly within a jurisdiction.
 - Populations with extended exposure to gambling may have different rates of problems compared to places that have more recently introduced it.
- *Results need to be qualified as being specific to the time period studied.*

The End

Y1	Y2	Y3	Y4
			B
	B		
		B	
		B	

→ *A longitudinal cohort design can also detect lag effects not detectable with cross-sectional designs*