

# The Societal Costs of Problem Gambling in Norway

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# Background

- Most studies on problem gambling have focused on harms experienced by the gambler and those close to the gambler
- Problem gambling also has an impact on the society:
  - Health care services
  - Judicial system
  - Productivity loss
  - Reduced quality of life



# Background

- Few studies have estimated the societal costs of problem gambling
- No previous study has been conducted in Norway



The Norwegian Gambling  
and Foundation Authority



## DEN SAMFUNNSØKONOMISKE KOSTNADEN AV PROBLEMSPILLING I NORGE

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# Methodological approach

- No agreed-upon method for estimating societal costs

- Productivity Commission (1999)
- Browne et al. (2017)
- Hofmarcher et al. (2020)

- *Prevalence based cost-of-illness study*

- *Direct costs*: Costs that are directly related to the condition and/or its consequences
- *Indirect costs*: Productivity loss in society due to the condition
- *Immaterial costs*: Reduction in the quality of life in society due to the condition



# Step 1: Defining the study population

- Norwegian individuals categorized as problem gamblers by the Canadian Problem Gambling Index (CPGI = 8+)
- 1.4% of adults (16-74 years) / 55 000 individuals according to the latest population study (Pallesen et al., 2020)



# Step 2: Defining the costs

- No consensus
- Based on previous societal cost studies on gambling/problem gambling:
  - Productivity Commission (1999)
  - Browne et al. (2017)
  - Hofmarcher et al. (2020)



# Step 3: Estimating the costs

- Two ways:
  - 1: Direct extraction of the costs
  - 2: *Bottom-up* estimates
    - Cases (i.e., prevalence rates) X mean cost per case
- Uncertainty in the estimates:
  - What costs are specific to problem gambling?
    - Causality adjustments → 20% / 50%

# Data sources

## Prevalence rates:

- Population study (Pallesen et al., 2020; **data collection 2019**)
- Unpublished data from the Norwegian Competence Center for Gambling and Gaming Research – The REGGAM project

## When no available data in the Norwegian context:

- Sweden
- Australia

## Costs (reference year = 2019):

- Governmental reports
- Official statistics – e.g., Statistics Norway
- Requests to various organizations and state agencies





# Direct costs

Formula:  $(N - \text{causality adj.}) \times M_{\text{cost}}$

or direct extraction

In total 822.2 million NOK  
/ 82.3 million €

Type of cost	Causality adjustment	Degree of uncertainty	Costs in million NOK / €
<b>Treatment</b>			
Treatment for problem gambling	0 %	Low	157.5 / 15.9
Treatment of consequences of PG	50 %	High	168.6 / 17.0
<b>Non-profit organizations</b>	0 %	Low	4.9 / 0.5
<b>Debt counseling and enforcement</b>			
Debt counseling	0 %	Low	38.2 / 3.9
Debt enforcement	-	-	-
<b>Judicial system</b>			
Police	20 %	Moderate	27.8 / 2.8
Court	20 %	Moderate	29.6 / 3.0
Correctional service	20 %	Moderate	20.4 / 2.1
<b>Prevention, research and regulation</b>			
Prevention and reserach	0 %	Low	12.1 / 1.2
Regulation	0 %	Low	19.1 / 1.9
<b>Other costs</b>			
Recruitment	50 %	High	321.7 / 32.5
Homelessness	-	-	-
<b>TOTAL</b>			<b>822.8 / 82.3</b>
<i>Note. Costs are rounded to the nearest decimal, - = not estimated</i>			

# Indirect costs

Formula:  $(N - \text{causality adj.}) \times M_{\text{Time absent}} \times M_{\text{salary(incl.tax)}}$

In total 2 426.1 million NOK  
/ 244.5 million €

Type of cost	Causality adjustment	Degree of uncertainty	Costs in million NOK / €
<b>Presenteeism</b>	20 %	Moderate	464.5 / 46.8
<b>Work absence</b>			
Sick leave	0 %	Moderate	103.4 / 10.4
Imprisonment	20 %	Moderate	18.5 / 1.86
Unemployment	50 %	High	891.9 / 89.9
Work disability	50 %	High	56.1 / 5.65
Premature death / Suicide	50 %	High	891.8 / 89.9
<b>TOTAL</b>			<b>2 426.1 / 244.5</b>

Note. Costs are rounded to the nearest decimal

# Immaterial costs

Proxy cost = State victim compensation

( $M_{\text{victim compensation}} \approx 2\,200 \text{ €}$ )

Formula:  $(N - \text{causality adj.}) \times M_{\text{victim compensation}}$

or:

$(N - \text{causality adj.}) \times M_{\text{victim compensation}} \times M_{\text{close others}}$

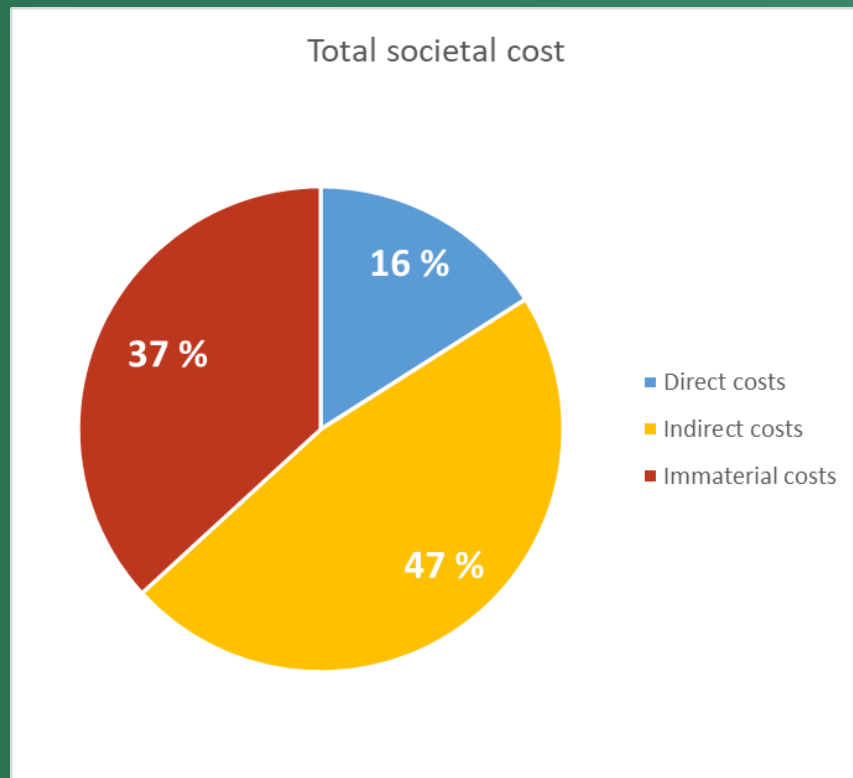
In total 1891.3 million NOK /  
190.5 million €

Type of cost	Causality adjustment	Degree of uncertainty	Costs in million NOK / €
<b>Physical harms</b>			
Somatic disease / discomfort	-	-	-
Violence	20 %	Moderate	127.3 / 12.8
<b>Emotional and psychological harms</b>			
Psychological harm	50 %	High	153.0 / 15.4
Divorce/separation	50 %	High	116.3 / 11.7
Unemployment	50 %	High	106.0 / 10.7
Suicide attempt	50 %	High	16.9 / 1.7
<b>Harms to close others</b>			
Violence	20 %	Moderate	285.2 / 28.7
Psychological harm	50 %	High	342.8 / 34.5
Divorce/separation	20 %	Moderate	260.5 / 26.2
Unemployment	50 %	High	237.4 / 23.9
Suicide attempt	50 %	High	37.8 / 3.8
Gambler's premature death	50 %	High	2.5 / 0.25
Subject of crime	20 %	Moderate	205.7 / 20.7
<b>TOTAL</b>			<b>1 891.3 / 190.5</b>

*Note.* Costs are rounded to the nearest decimal, - = not estimated.

# Total societal cost

5.1 billion 2019-NOK / 514.6 million 2019-€



Total cost in relation to...	Cost
Each case of problem gambling	93 458 NOK / 9 329 €
Each citizen (16-74; 3.94 mill.)	1 305 NOK / 130 €
Gross Domestic Product 2019 (GDP; 3 568 488 mill. NOK)	0.14 %
The regulated gambling industry's net income (10 577 mill. NOK)	48.6 %

# Discussion

- Sweden → 14 bill. SEK
- High levels of uncertainty in some estimates
- Some estimations are clearly underestimations
  - E.g., premature deaths → suicides only
- Missing data
- In summary: 5.1 bill. NOK / 514.6 € is a conservative estimate

# Conclusion

- Problem gambling has a high impact on the Norwegian society
- There is a large discrepancy between the costs of problem gambling and the resources allocated for prevention/research
- Stronger investments into research, prevention measures, and low-threshold services will be important to reduce the societal cost of gambling in Norway
- Reducing the societal costs of problem gambling may increase the «real profit»/societal benefits of gambling



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