

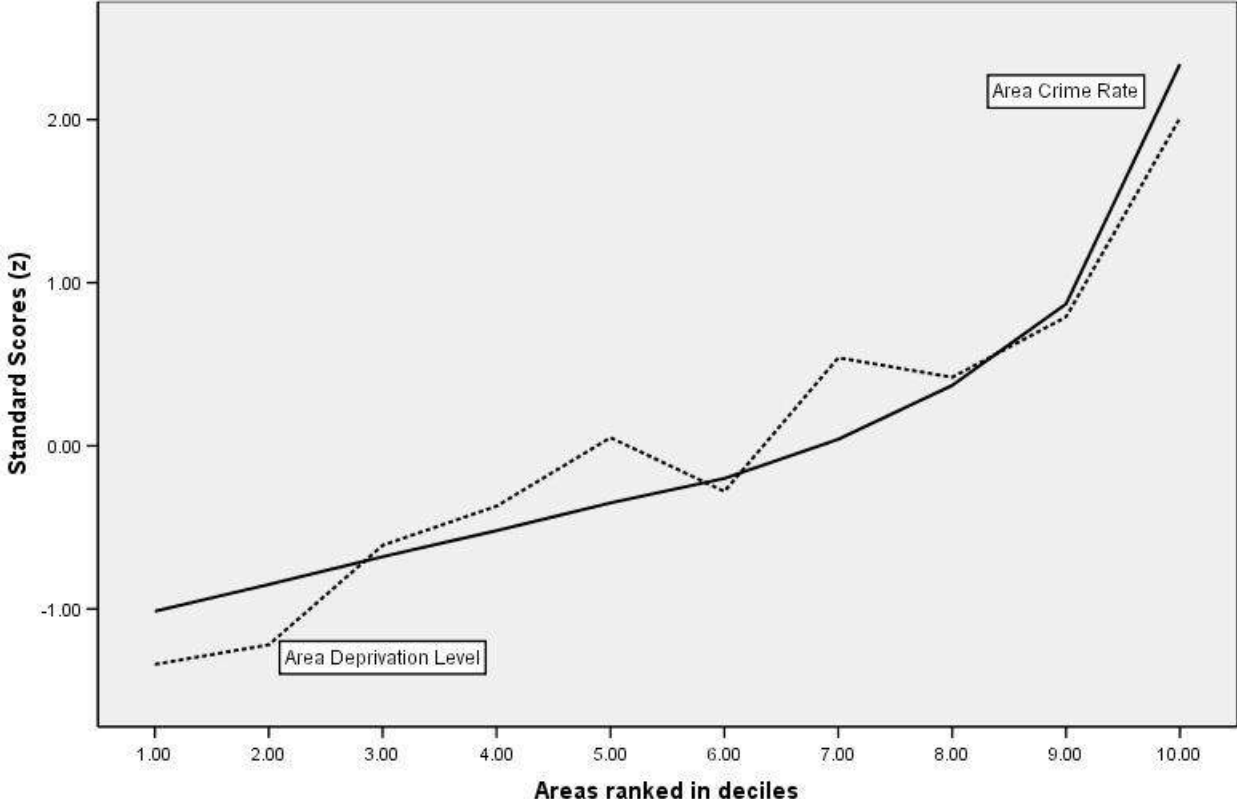
# *A Quantum of Crime in an Unfair World*

*The microphysics of crime victimization*

Tim Hope

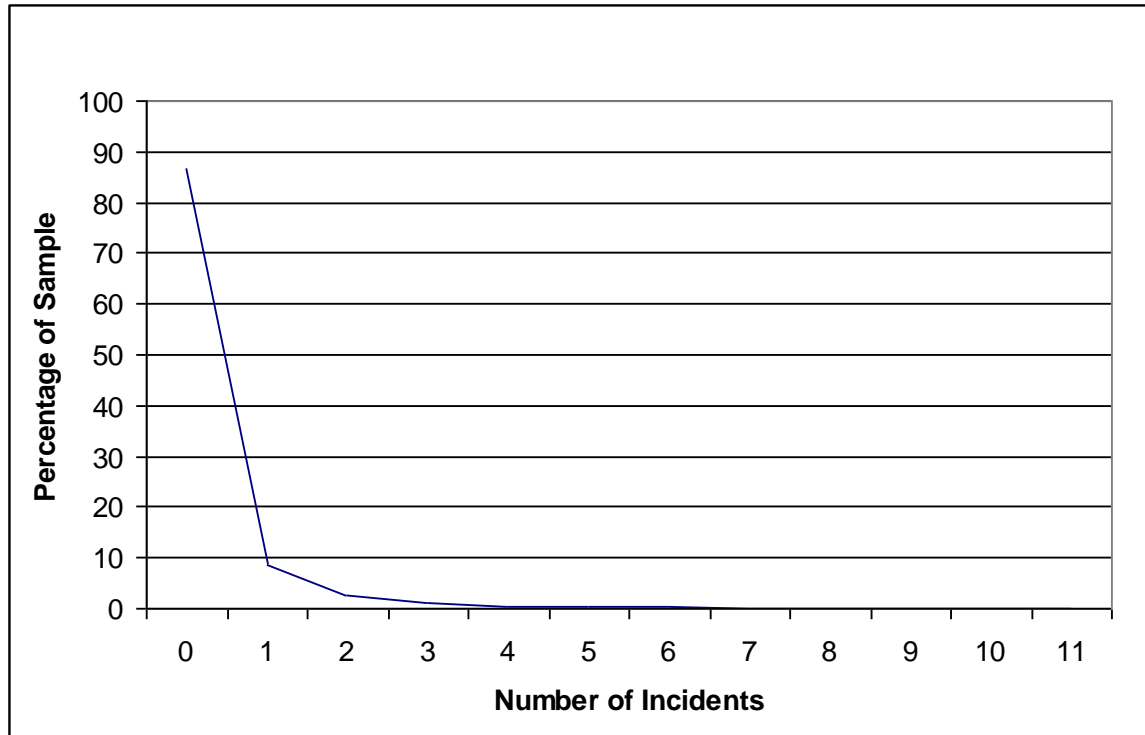
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Distributions of Mean Property Crime Victimisation Rates by (1) Area Crime Rate and (2) Area Deprivation Level



Data source: 1992 BCS/1991 UK Census. For definition of Area Deprivation Index see Hope (2001)

# The distribution of crime victimization



# Exposure to risk

- Risk-flags
  - Environmental (extrinsic) factors flagging-up risk (risk-heterogeneity)
  - Regular and constant without intervention
- Risk-boosts
  - Situational (intrinsic) factors boosting further victimization (state-dependency)
  - Repetitive and incremental without intervention

# State-dependency in crime victimisation?

probabilities conditional on prior probabilities\*

	<i>Pr. Once, conditional on none</i>	<i>Pr. Twice, conditional on once</i>	<i>Pr. Three or more, conditional on twice</i>
<b><i>Damage to household property</i></b>	0.003	0.060	0.592
<b><i>Theft of and from vehicles</i></b>	0.003	0.016	0.445
<b><i>Burglary</i></b>	0.000	0.010	1.000
<b><i>Domestic violence</i></b>	0.000	0.250	1.000
<b><i>Stranger violence</i></b>	0.000	0.008	1.000

\*Calculated using Bayes Rule.

Source: British Crime Survey 2005/06, weighted data (Base = 47,729) (Walker et al., 2006, Tables 2.03 and 2.06).

# Crime victimization turnover: outflow probability conditional on inflow probability (odds ratios)\*

Household property crime victimization: panel data

	<i>Wave 1 (outflow)</i>		
<i>Wave 2 (inflow)</i>	<i>None</i>	<i>One</i>	<i>Two or more</i>
<i>None</i>	<b>1.09</b>	6.14	8.71
<i>One</i>	0.15	<b>0.86</b>	1.22
<i>Two or more</i>	0.06	0.36	<b>0.50</b>

\* Using Bayes Rule, with Prior likelihood = 1.

Household survey data, N = 583; Wave 1 = 12 months; Wave 2 = 12 months;  
(Wave 2-Wave 1) = 36 months

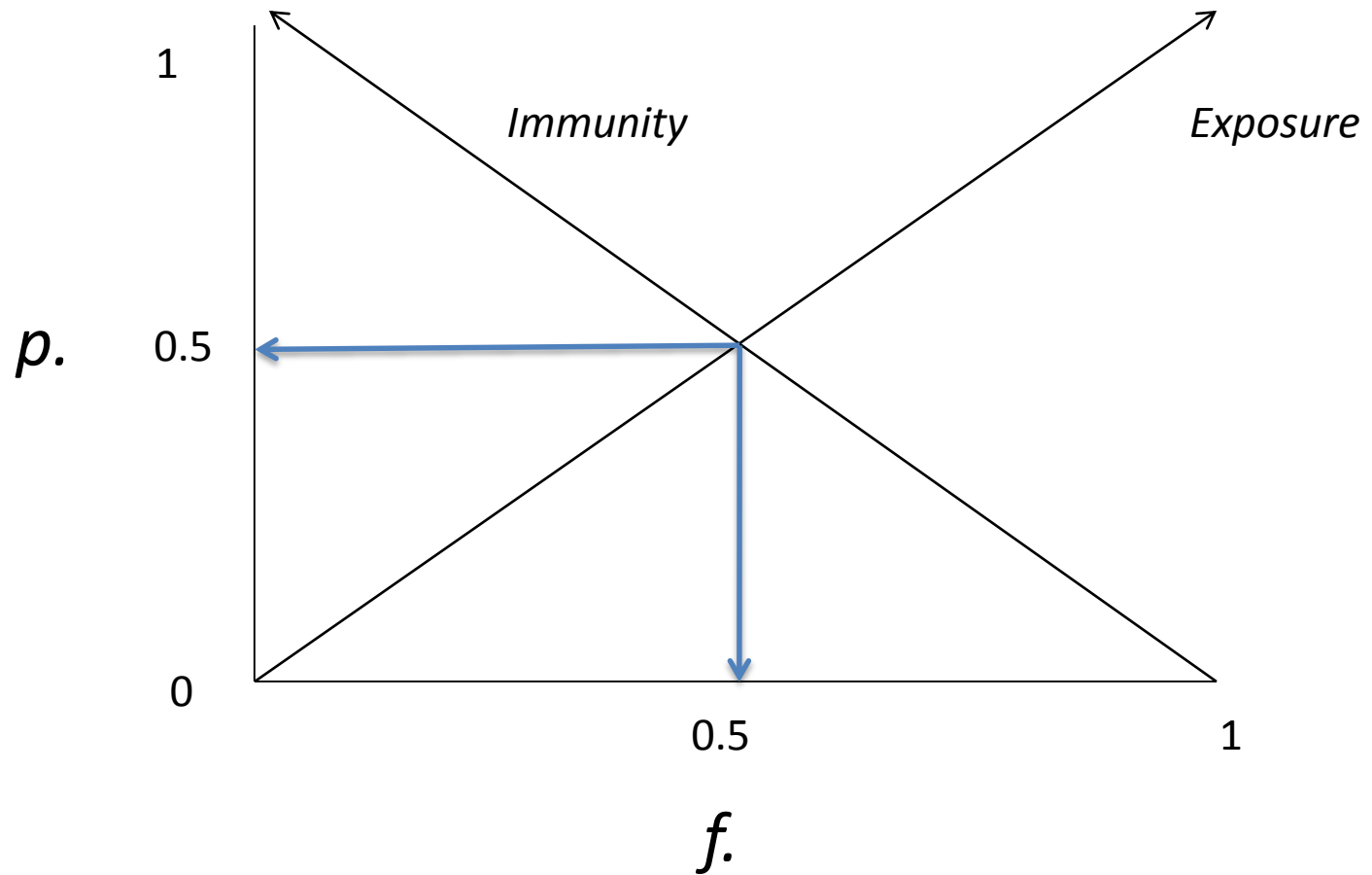
Source: Hope and Trickett (2008:49, Table 2)

# Immunity

(Hope and Trickett, 2008;2004)

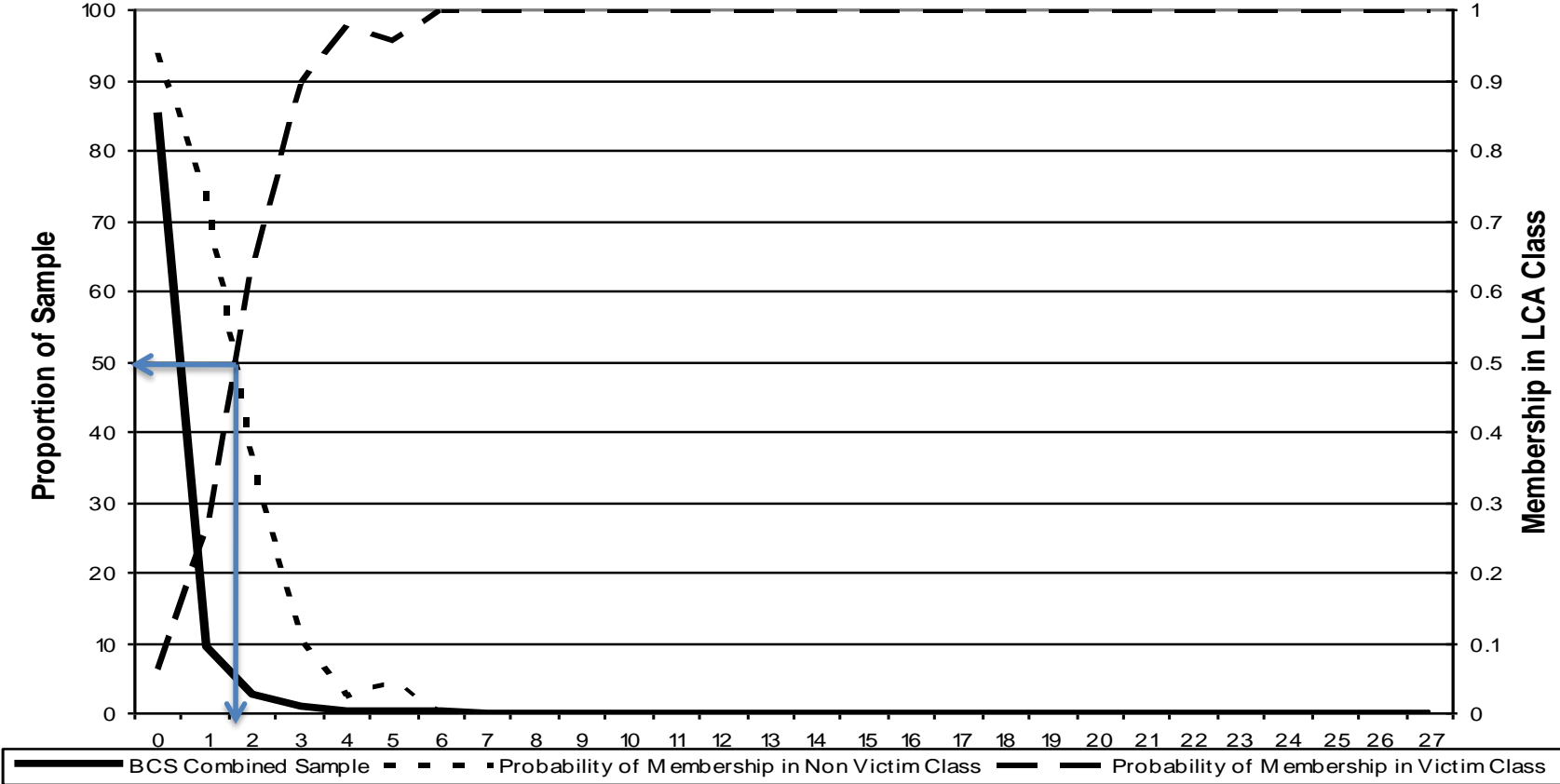
- Non-victimisation
  - ...is the *normal* condition
  - General tendency towards non-victimisation over time
  - Some (weak) persistence of short-run risk in the longer term
- Powerlessness to avoid exposure
  - Can't move away/can't get out from abusive neighbourhood/relationship
- Capacity to avoid exposure
  - Never been at risk, avoiding risk, removal from risk

# Probability ( $p.$ ) and frequency ( $f.$ ) of crime victimisation





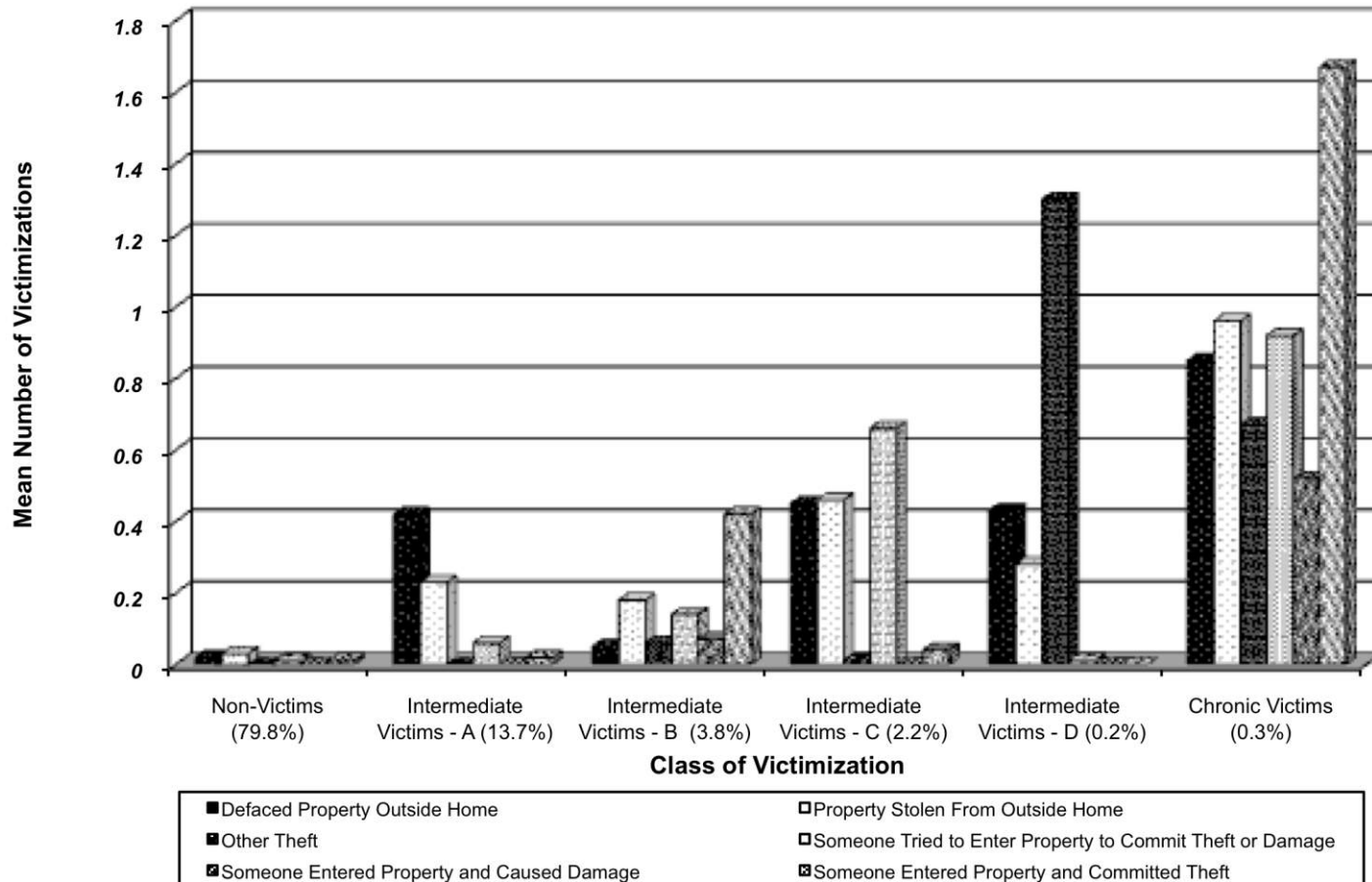
# Distribution of Property Victimization in BCS Combined Sample and Probability of Membership in Two Class LCA Model



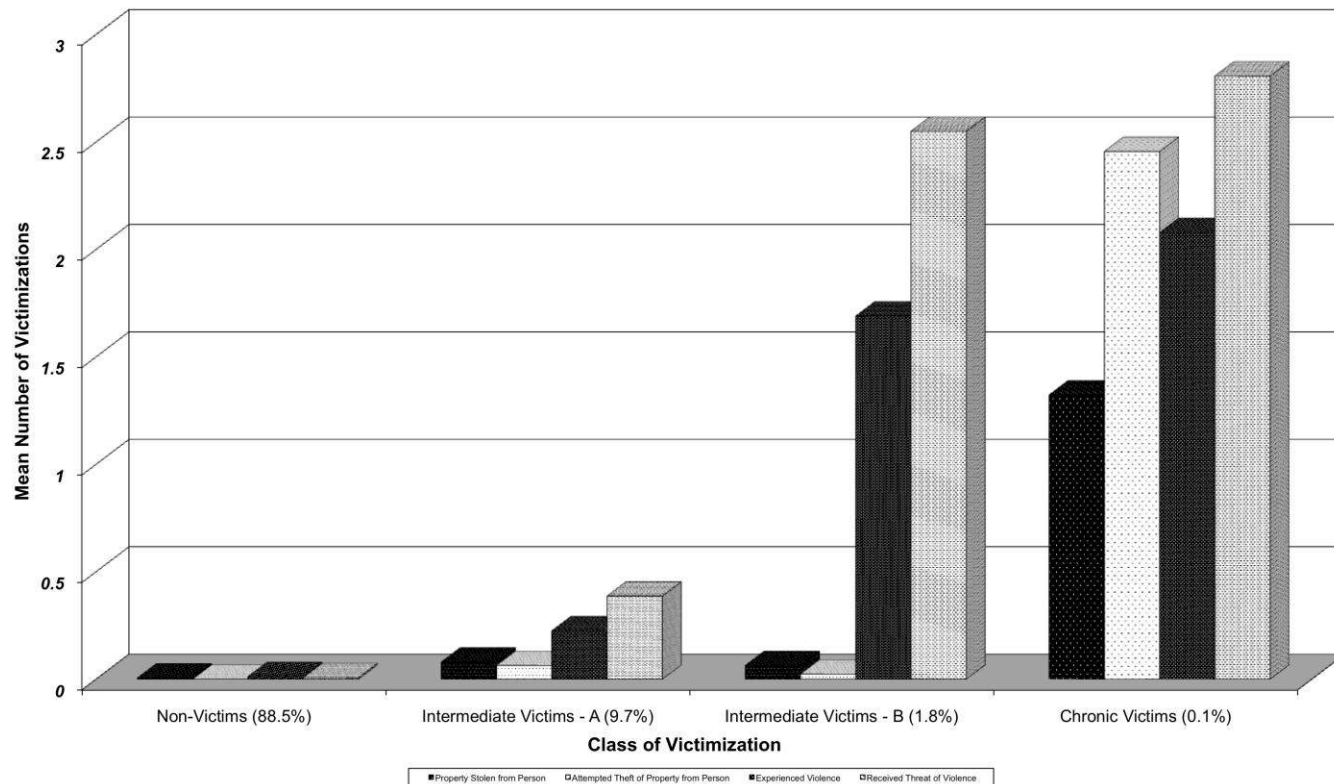
Hope and Norris (2013: ) British Crime Survey data

# Mean Number of Victimizations by Property Crime Type – Six Class BCS Model

Hope and Norris (2013)



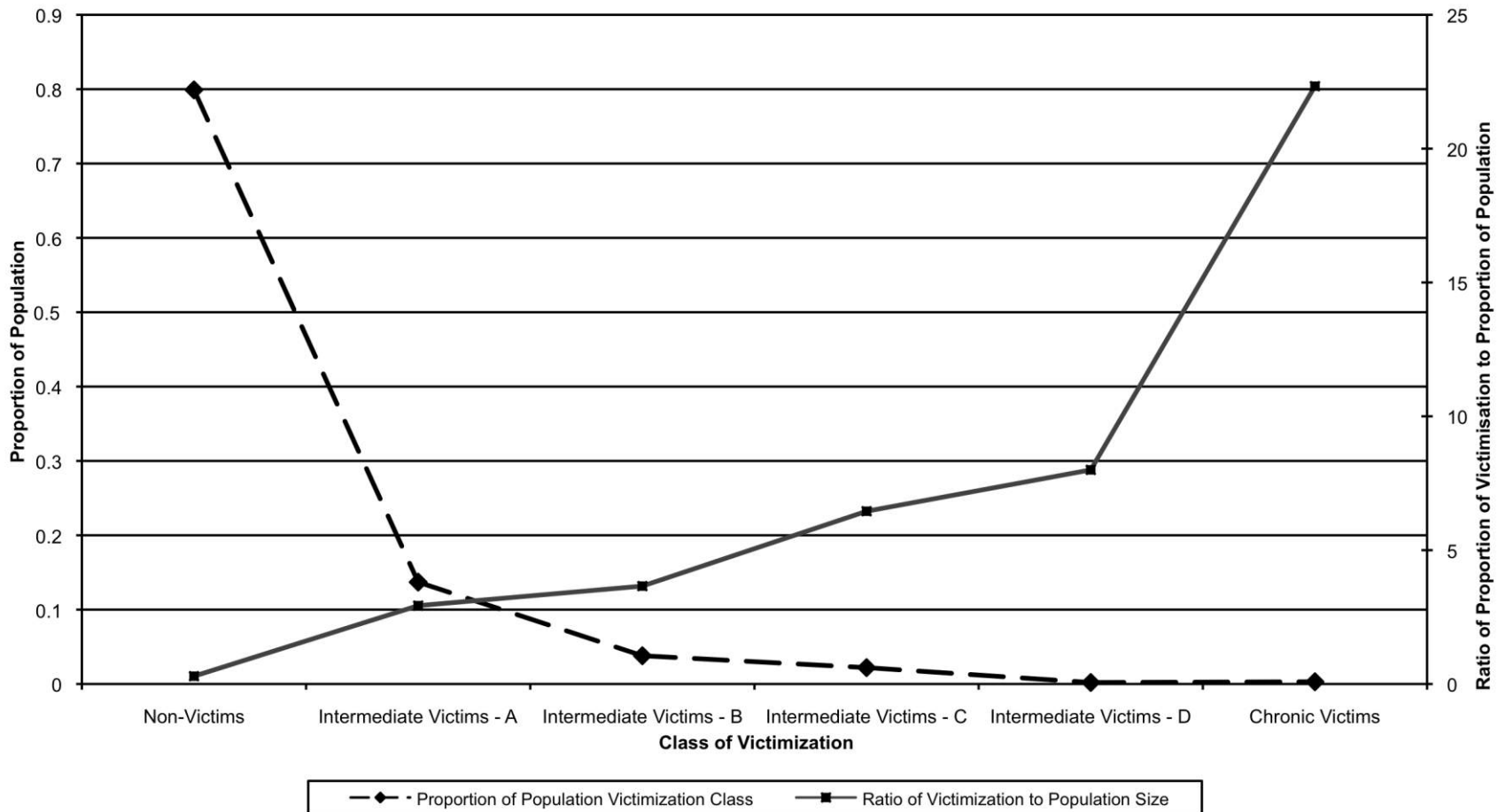
# Mean Number of Victimizations by Personal Crime Type - Four Group SCVS Model



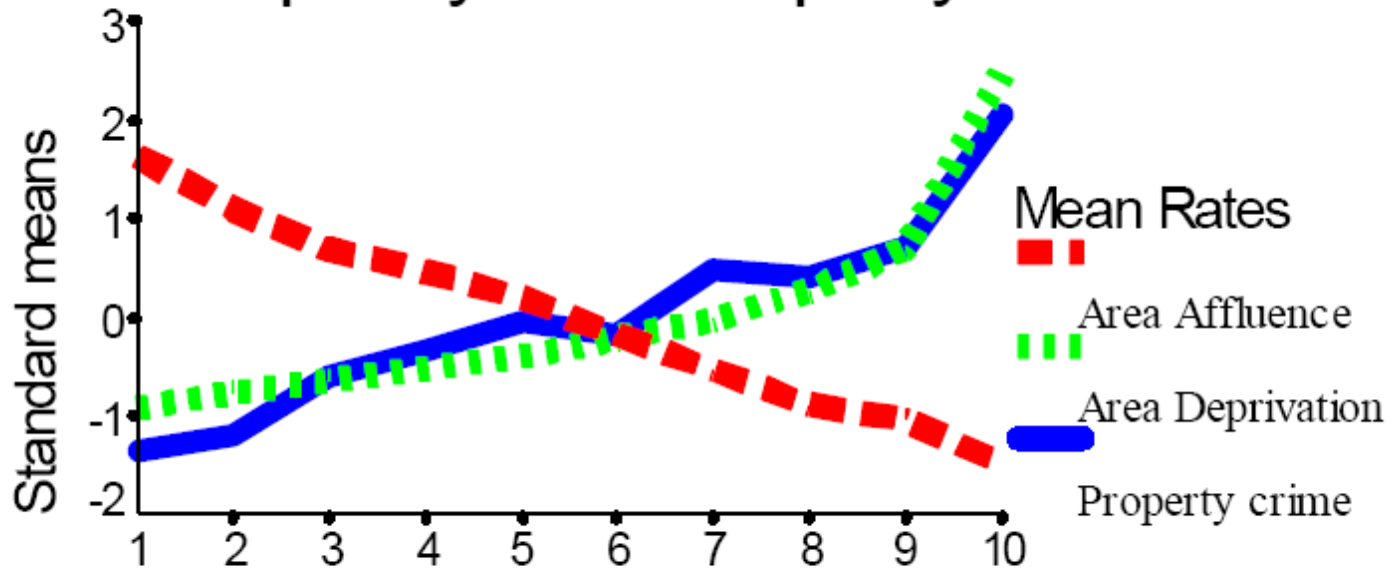
Hope and Norris (2013)

# Proportion of population and mean victimization by class (BCS Property Six Class Solution)

Hope and Norris (2013)



# Inequality and Property Crime



Area Deprivation (deciles)

Source: 1992 British Crime Survey/1991 Census

Hope (2001)

# Probabilities of victimization frequencies by victim categories (row percentages)

Frequency of Victimization	Class of Victimization					
	'Immune'	Intermediate				'Chronic'
		A	B	C	D	
0	0.87	0.1	0.02	0.01	0	0
1	0.51	0.29	0.13	0.06	0.01	0
2	0.14	0.46	0.23	0.14	0.02	0.01
3	0.03	0.5	0.21	0.19	0.03	0.04
4	0.01	0.48	0.17	0.23	0.02	0.09
5	0	0.45	0.11	0.22	0.08	0.14
6	0	0.68	0.02	0.21	0.03	0.06
7	0	0.44	0.03	0.29	0.04	0.2
8	0	0.25	0.02	0.39	0.01	0.33
9	0	0.12	0.02	0.27	0.09	0.49
10	0	0.19	0	0.27	0.01	0.52
11	0	0.06	0	0.29	0	0.64
12	0	0.04	0	0.36	0.11	0.49
13	0	0	0	0.62	0	0.37
14	0	0	0	0.01	0	0.99
15	0	0	0	0	0	1
16	0	0	0	0	0	1
17	0	0	0	0	0	1
18	0	0	0	0	0	1
Crime (Proportion)	.23	.40	.14	.14	.02	.07
Population (Proportion)	.80	.14	.04	.02	.002	.003

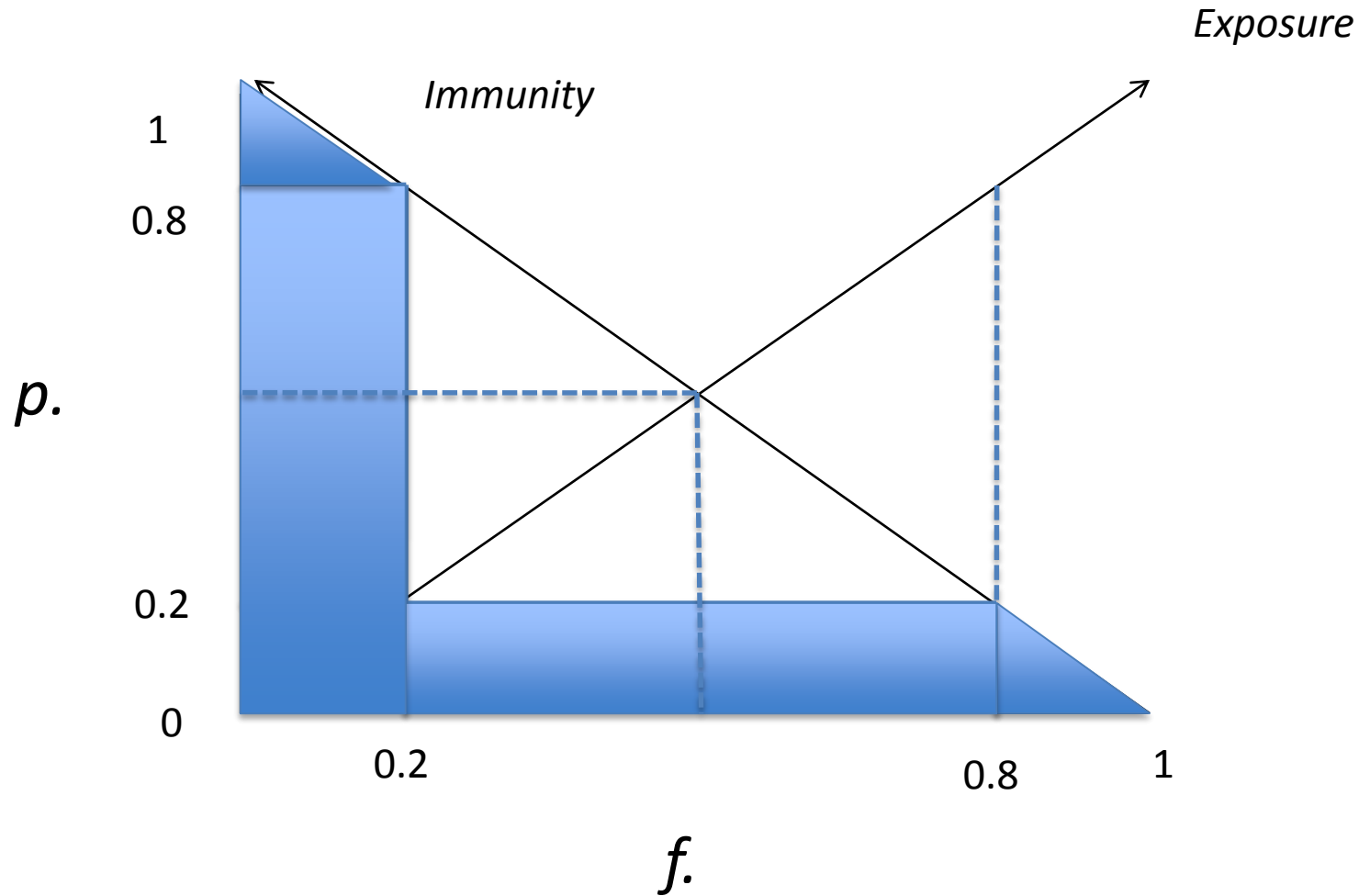
# 80/20 Pareto Inequality in Household Property Crime

Victimisation class	Percentage of population in each class	Percentage of total victimisation produced by each class
Immune	80.00	23
Susceptible	19.70	70
Chronic	0.03	7

Latent Class Analysis: household property crime (six-class ABIC optimal solution; Susceptible class comprises 4 sub-classes)

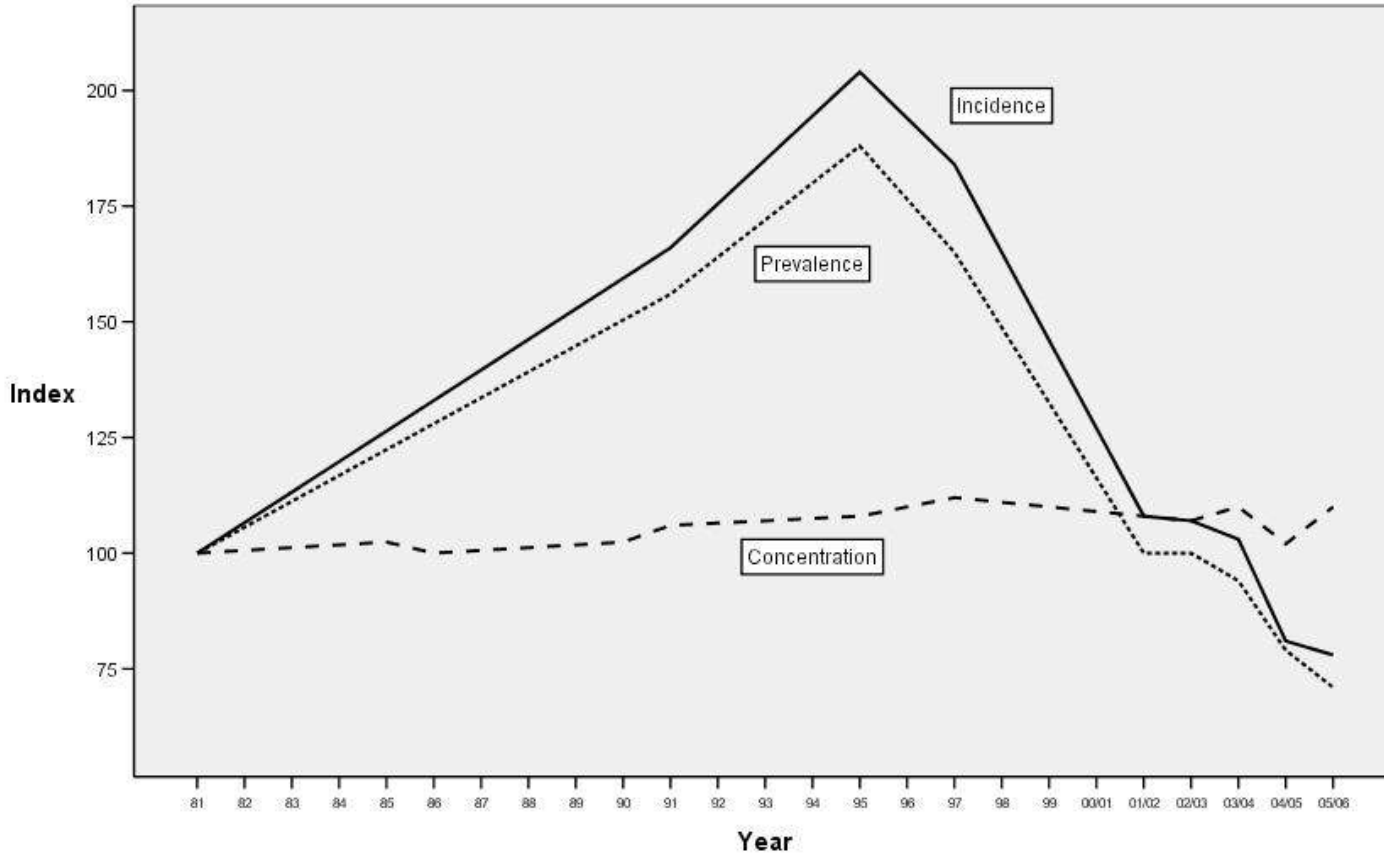
Source: Hope and Norris (2013). British Crime Survey (weighted data)

# Probability ( $p.$ ) and frequency ( $f.$ ) of crime victimisation





### Burglary in England and Wales, 1981-2006: incidence, prevalence and concentration



Indexed data (interpolated) 100 = 1981. Source: British Crime Survey (HOSB 12/06, Tables 2.02, 2.03)

# References

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- Hope, T & Norris, P (2013) 'Heterogeneity in the frequency distribution of crime victimization'. *Journal of Quantitative Criminology*, 29 (4), 543-578
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