Social Impact of Cognitive Enhancement

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"[I]t's not the poor families in Africa that are going to be doing this, it's going to be the very affluent who are going to at first have healthier children...and then it becomes the slippery slope, they will have stronger, faster, smarter children... Then you've got these two very very disparate classes."

• Benefits
  – Reduction of losses
  – Individual benefits
  – Societal benefits

• Costs
  – Individual
  – Competition
Reduction of Losses

- Lost keys UK £250 million/year
- Forgotten standing payment orders: £400 million/month ($53/month person)
- Sleepiness cause 15-20% road accidents (as well as work-related accidents, iatrogenic illness etc)
- Higher IQ likely reduces accident risks

- Can cognitive enhancement reduce this?
Individual Effects

Cognition important for good life

Environmental toxin models

+1 IQ point = +1.763% income (Schwartz),
+2.094/3.631% (Salkever, m/f)

Annual gain / IQ point US $55-65 billion
0.4-0.5% GDP

Effects on schooling, participation rate, social costs

Weiss 1998: 3 point IQ increase:
Poverty rate -25%
Males in jail -25%
High school dropouts -28%
Parentless children -20%
Welfare recipiency -18%
Out-of-wedlock births -15%

Gottfredson 2002
Economy Impact

Growth residual due to productivity increase due to technology, human capital and other factors

Cognition plays a sizeable role
Data from "IQ/GDP, 81 & 195 nations"

\[ y = 0.75128 + 3.44148\times x \quad R^2 = 0.695 \]

\[ (+1 \text{ IQ} = +8.2\% \text{ GDP}) \]

Kanazawa 2006

Dickerson 2005

Kanazawa 2006

Kanazawa 2006
Costs

• Technology diffusion
  – Devices spread fast and thoroughly
  – Country gap

• Drugs
  – Monthly Modafinil cost ~3% of UK median income

• (Medical) services
  – Cost set by expert salaries
Simulation

• Initial experiments with income-enhancement models

• Enhancements that increase earning ability constant factor, decreasing to a low price

• Assumes no redistribution
Enhancement proportional to income
Decreasing Margins
• Gadgets come down in price, problematic if enhances earning capacity proportionally
• Decreasing margins stabilize
• Services likely to be problematic
• Temporary increases in inequality may be worth it if they speed transition
• Near-term enhancements
  – Gadgets and drugs
  – Decreasing margins
  – Narrow task improvements
  – Hence unlikely to be major disruptors
  – Biological enhancements at first less significant than external software, hardware
  – Important tryout for handling more radical enhancement
Approaches

• Laissez-faire
• Rawls: are benefits to worst off worth it?
  – The parties to the social contract "want to insure for their descendants the best genetic endowment (assuming their own to be fixed)."
  – Kaldor Hicks – enhanced pay compensation to the unenhanced through improved economy

• Create a no-envy situation
• Capability approach
• Lottery
• Taxing enhancements
• Taxing enhanceds
• Speed diffusion
• Risks making people fundamentally unequal?
  – Liberal democracy already based on idea of common society of unequal individuals

• Competition
  – Worst off are those who can compete in the fewest domains
  – Many enhancements non-positional (e.g. reducing accidents)
Conclusions

• Potential gains very large
• Spread across society
• Lowest performers likely gain most
• Competition may increase, but also overall wealth and opportunities
• Risks manageable near term
• Need for ecological studies
• Collective enhancement