



NEW YORK  
INVESTMENT  
CONFERENCE

2014



Investment Opportunities  
In An Aging Bull Market

# A Smarter World: Human Intelligence & Economic Growth From 50,000 B.C. To The Singularity

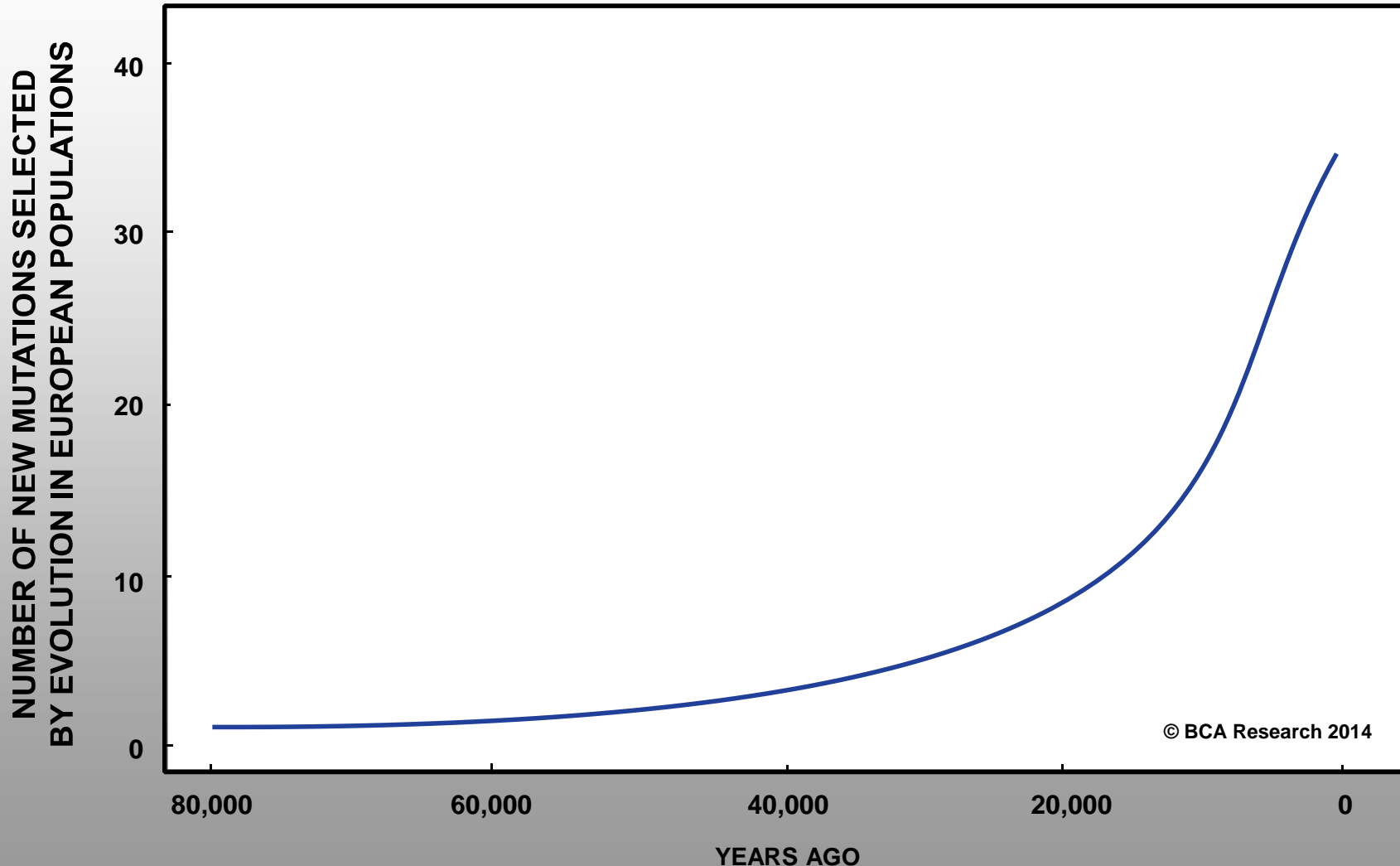
**Peter Berezin**

Chief Strategist, *The Bank Credit Analyst*, BCA Research

***“There has been no biological change in humans in 40,000 or 50,000 years. Everything we call culture and civilization we've built with the same body and brain.”***

**— Stephen Jay Gould**

# HUMAN EVOLUTION HAS ACCELERATED 100-FOLD OVER THE PAST 10,000 YEARS



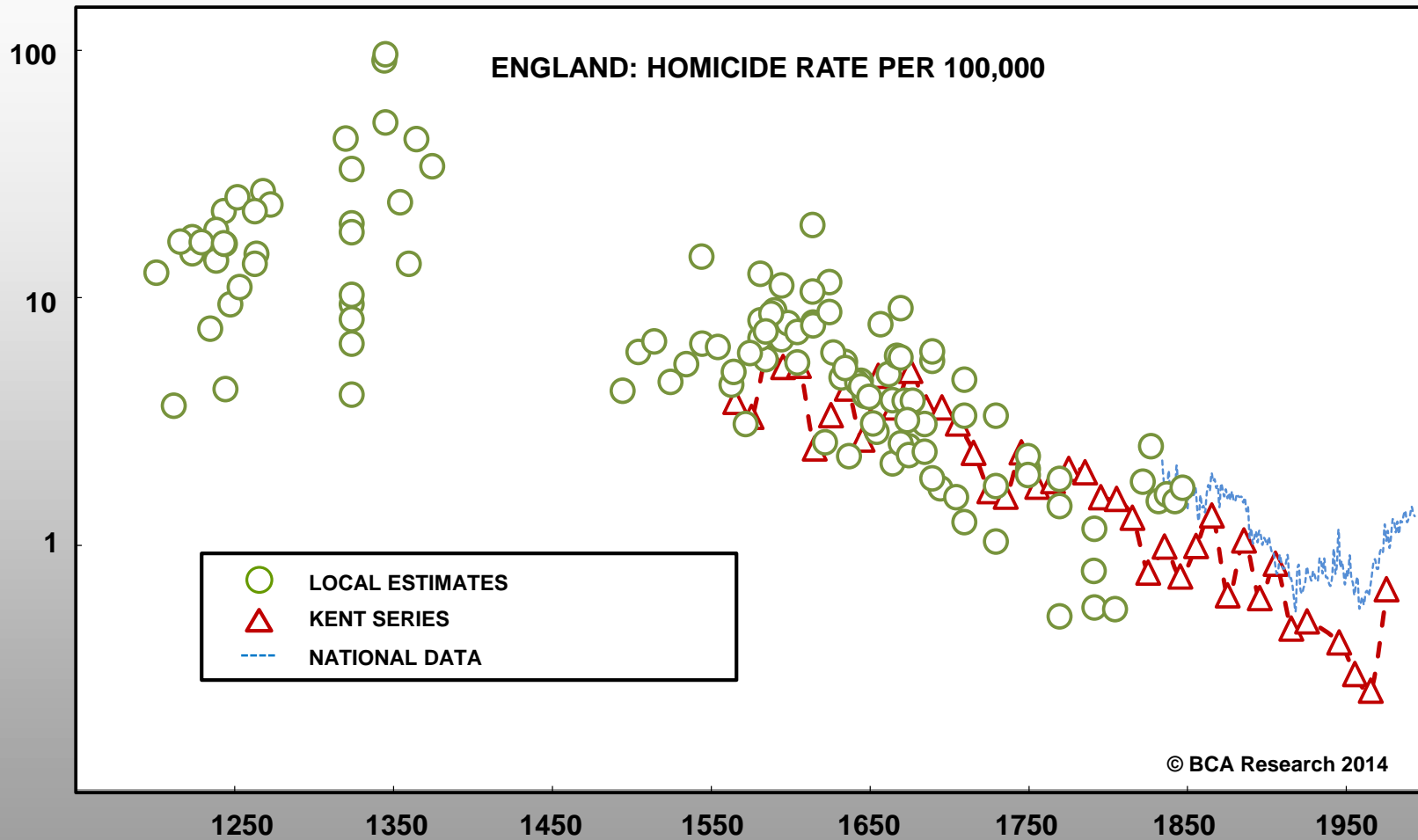
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SOURCE: PROCEEDINGS OF NATIONAL ACADEMY OF SCIENCES.

***“We are more different genetically from people living 5,000 years ago than they were different from Neanderthals.”***

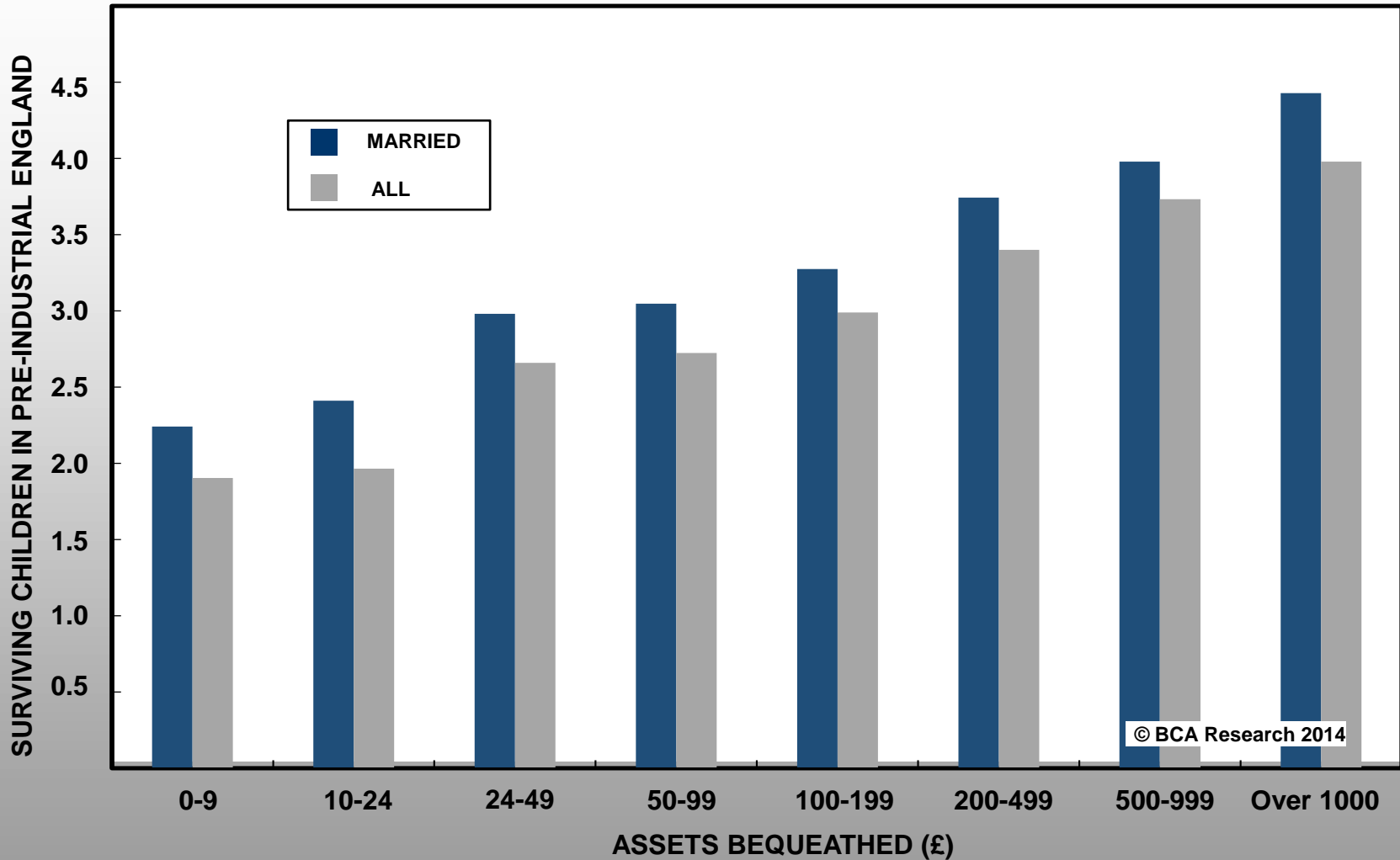
**— John Hawks, Professor of Biological Anthropology and Genetics, University of Wisconsin, Madison**

# LONG-TERM DECLINE IN HOMICIDE RATES



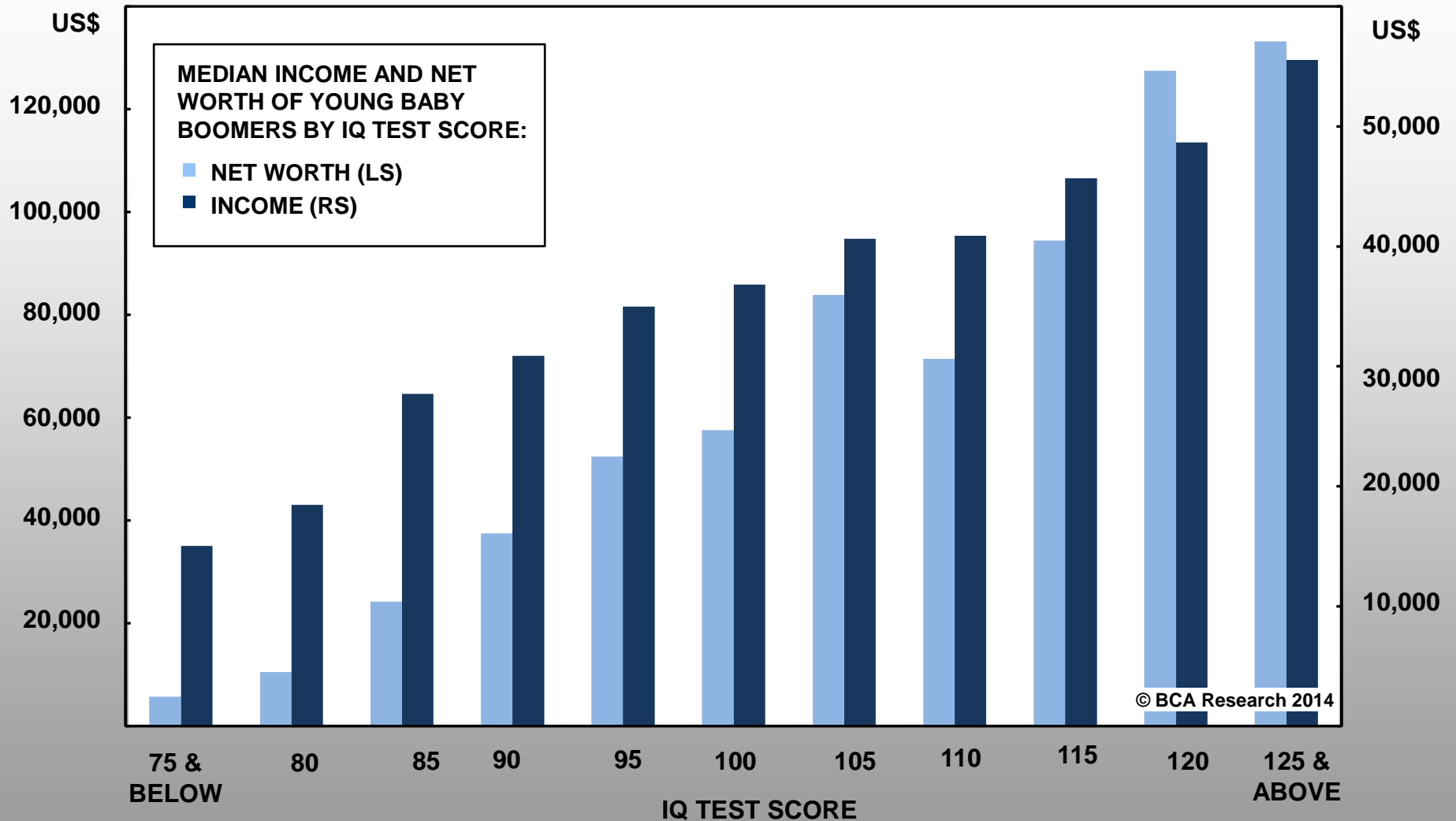
SOURCE: MANUEL EISNER, "MODERNIZATION, SELF-CONTROL AND LETHAL VIOLENCE. THE LONG-TERM DYNAMICS OF EUROPEAN HOMICIDE RATES IN THEORETICAL PERSPECTIVE", *BRITISH JOURNAL OF CRIMINOLOGY* (41:4), 2001.

# SURVIVAL OF THE RICHEST?



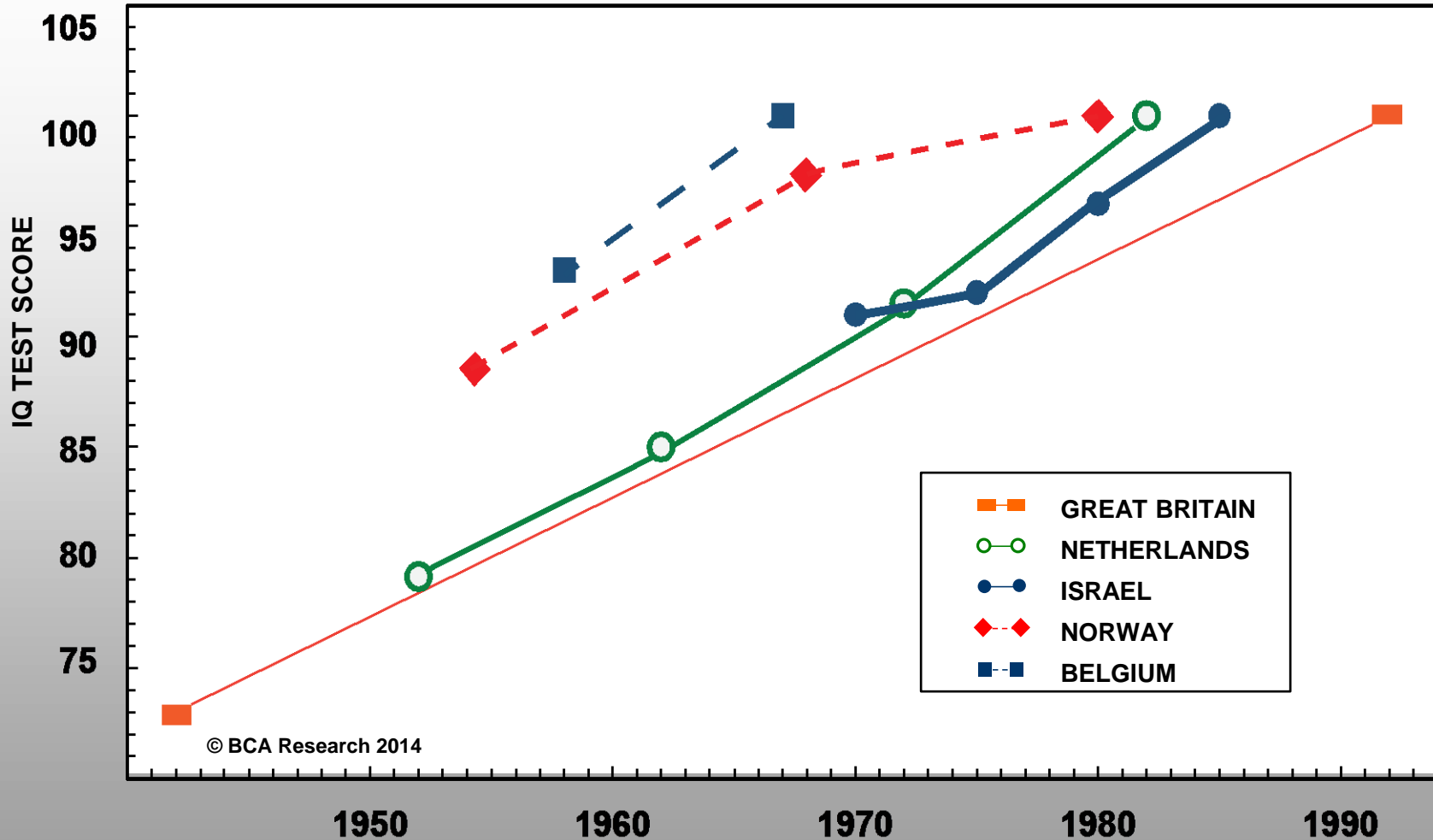
SOURCE: GREGORY CLARK AND GILLIAN C. HAMILTON, "SURVIVAL OF THE RICHEST: THE MALTHUSIAN MECHANISM IN PRE-INDUSTRIAL ENGLAND", *JOURNAL OF ECONOMIC HISTORY* (66:3), 2006.

# POSITIVE CORRELATION BETWEEN IQ AND WEALTH



SOURCE: JAY L. ZAGORSKY, "DO YOU HAVE TO BE SMART TO BE RICH? THE IMPACT OF IQ ON WEALTH, INCOME AND FINANCIAL DISTRESS", *INTELLIGENCE* (35:5), SEPTEMBER-OCTOBER 2007.

# THE FLYNN EFFECT

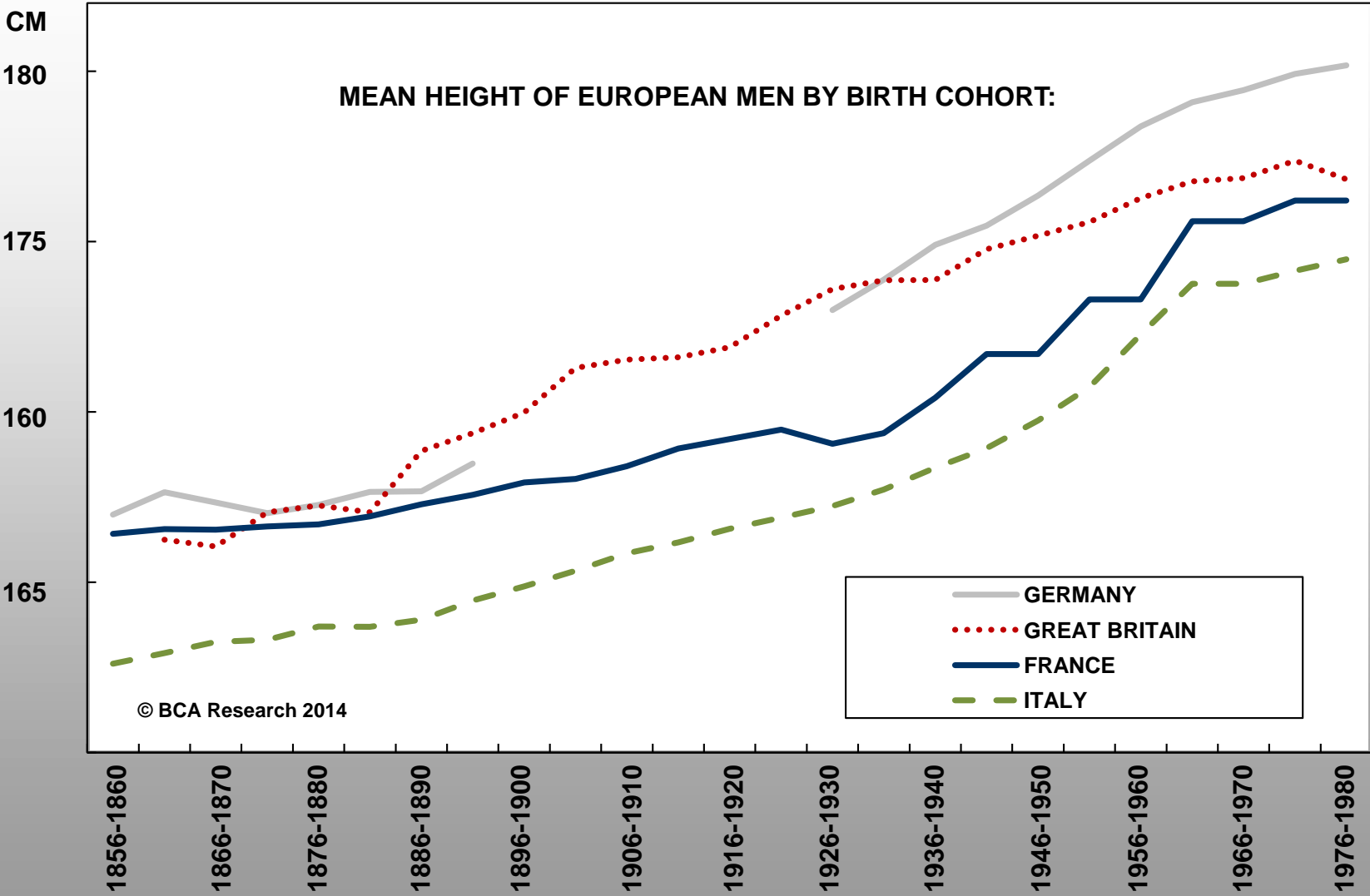


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SOURCE: JAMES R. FLYNN, "SEARCHING FOR JUSTICE: THE DISCOVERY OF IQ GAINS OVER TIME", *AMERICAN PSYCHOLOGIST* (54:1), 1999.

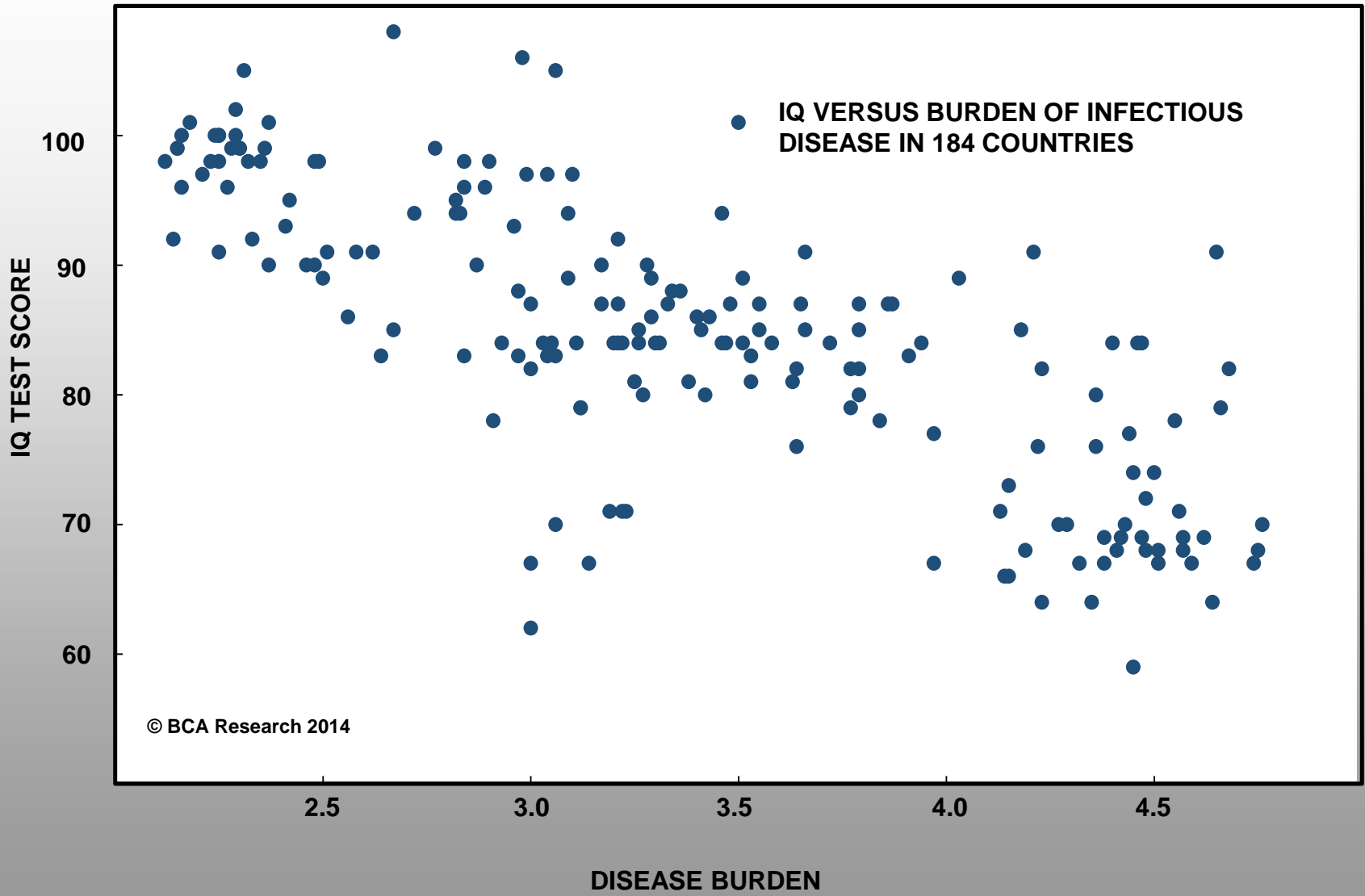


# HEALTHIER BODIES = HEALTHIER MINDS



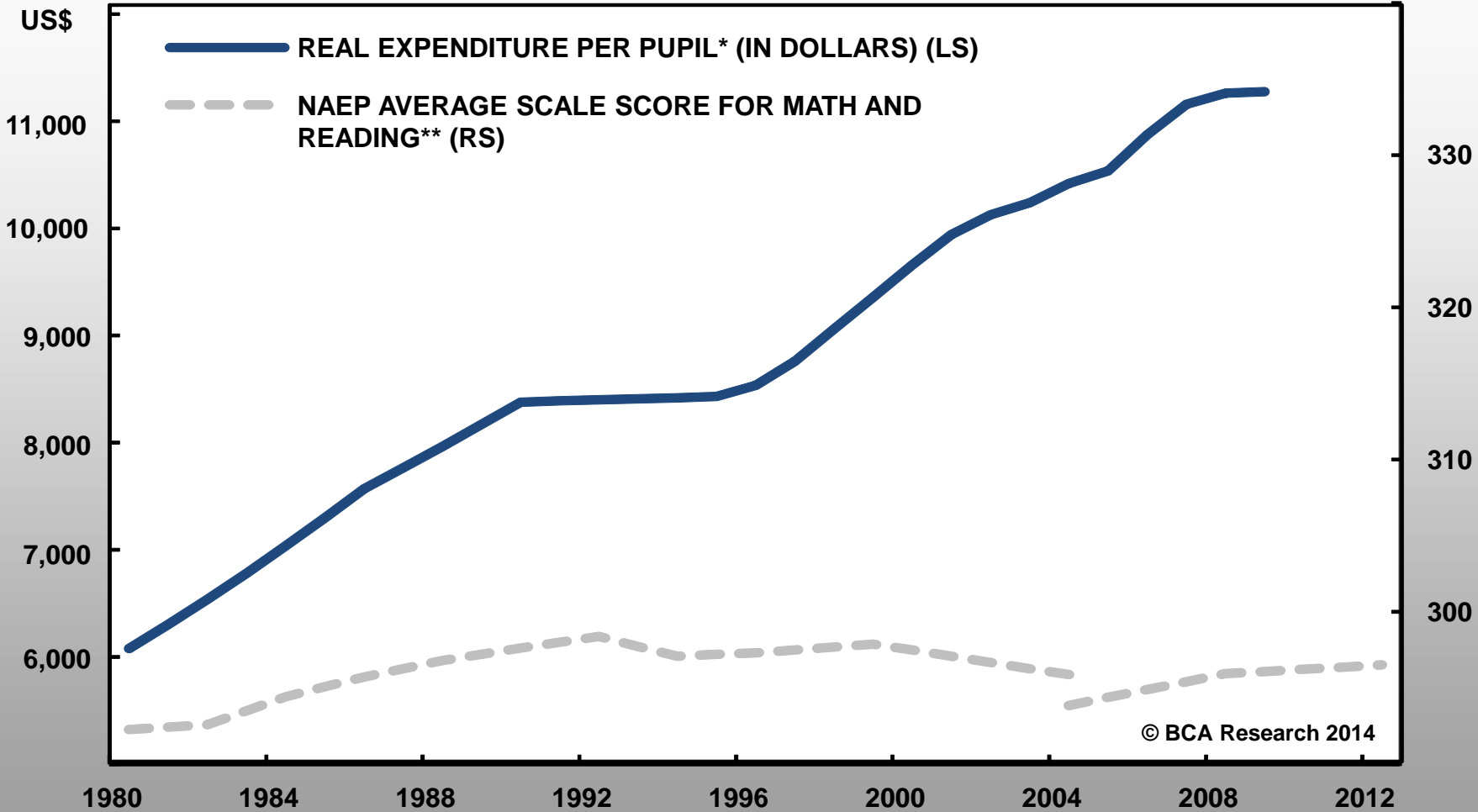
SOURCE: T.J. HATTON AND B.E. BRAY, "LONG RUN TRENDS IN THE HEIGHTS OF EUROPEAN MEN, 19TH AND 20TH CENTURIES", *ECONOMICS AND HUMAN BIOLOGY* (8), 2010.

# IQ AND DISEASE BURDEN



SOURCE: CHRISTOPHER EPPIG, UNIVERSITY OF NEW MEXICO.

# END OF THE FLYNN EFFECT?



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\* FOR ELEMENTARY AND SECONDARY STUDENTS. IN CONSTANT 2011-12 DOLLARS. SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS (2012), DIGEST OF EDUCATION STATISTICS, 2011 (NCES 2012-001), TABLE 191 AND CHAPTER 2 .

\*\* SCALE FROM 0 TO 500. SOURCE: NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS, U.S. DEPARTMENT OF EDUCATION, INSTITUTE OF EDUCATION SCIENCES. BREAK IN SERIES REFLECTS SHIFT TO REVISED ASSESSMENT FORMAT.

# “LET’S JUST FIX THE SCHOOLS”: A REALITY CHECK

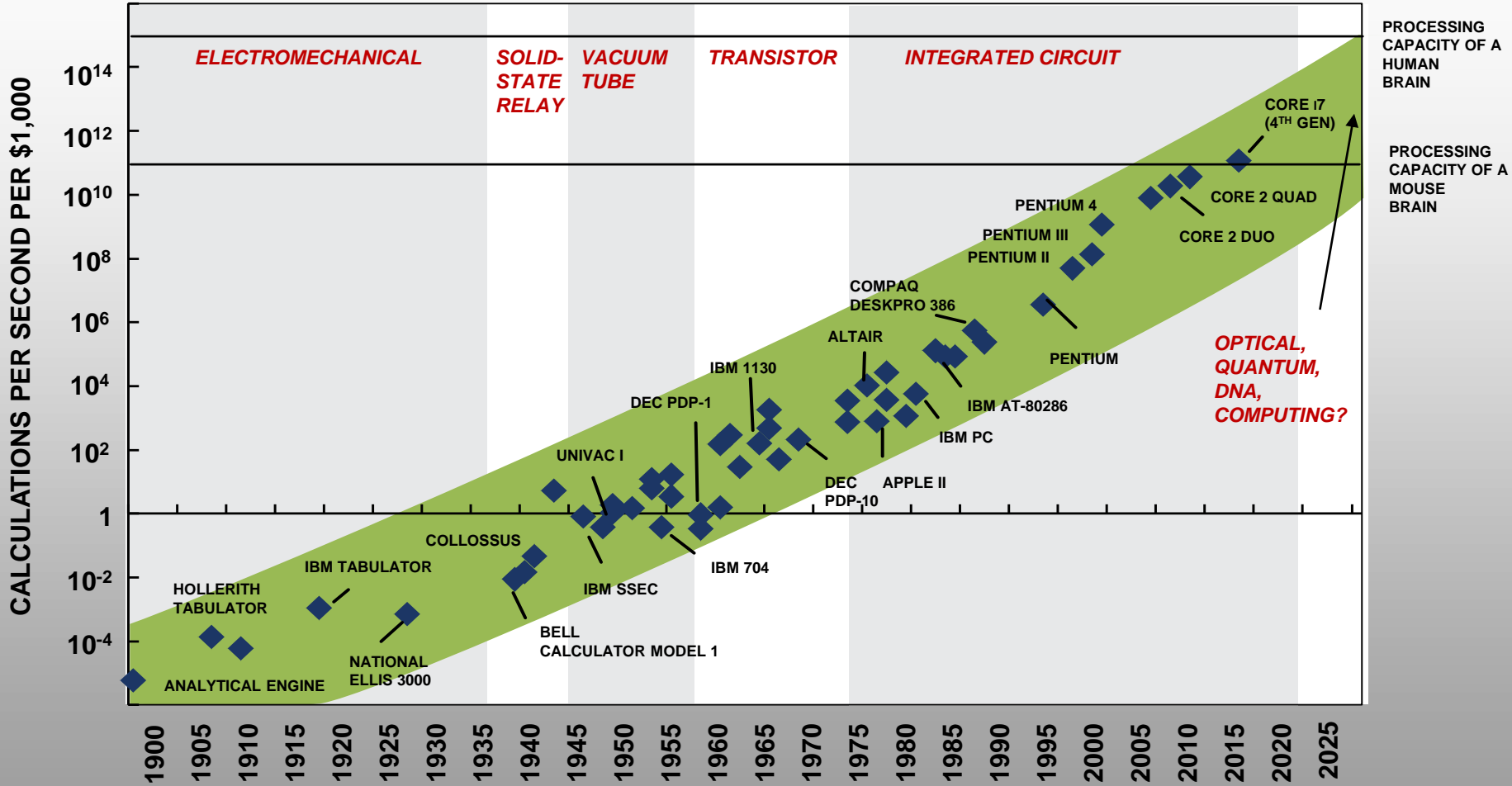
***“The panel did not find any empirical studies that reached the rigor necessary to determine that specific turnaround practices produce significantly better academic outcomes.”***

**– U.S. Department of Education,  
May 2008**

# THE RISE OF THE MACHINES

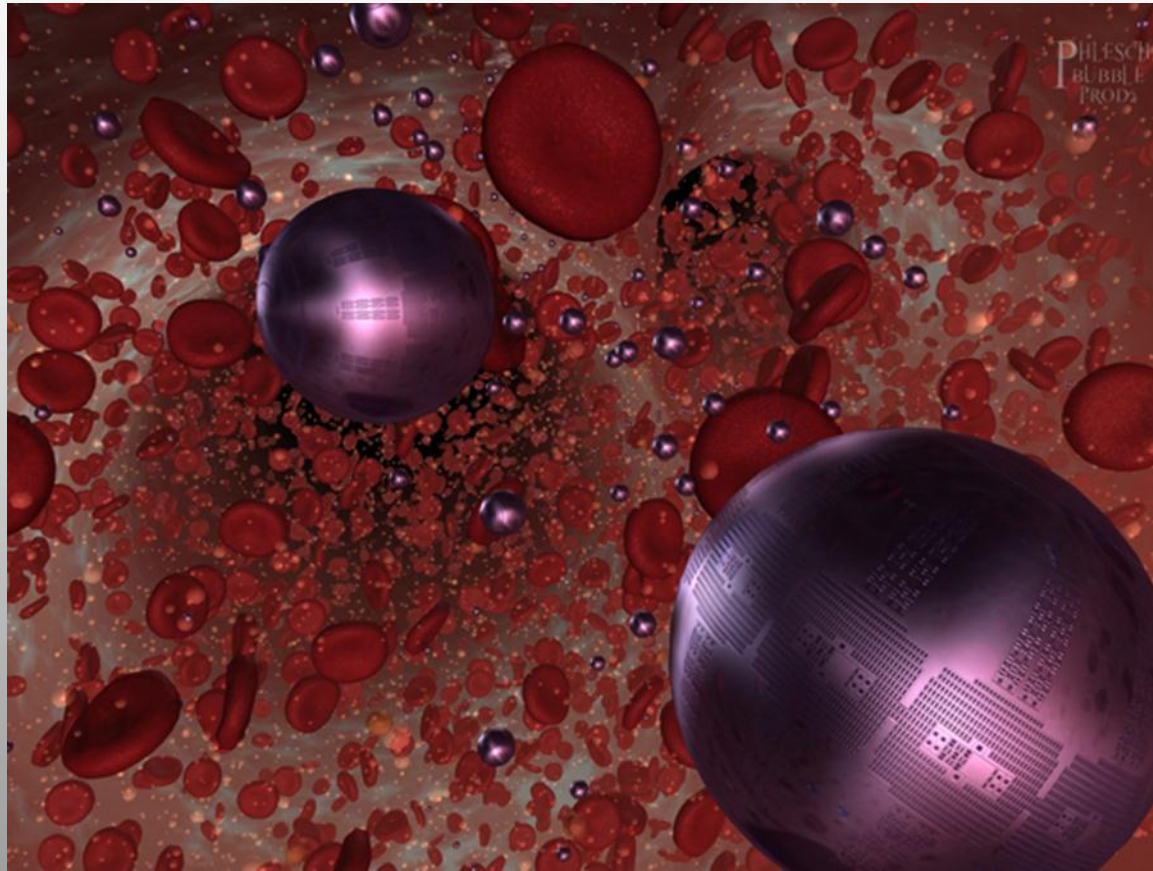


# THE POWER OF EXPONENTIAL CHANGE



SOURCE: RAY KURZWEIL, "THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY", P.67, THE VIKING PRESS, 2006. DATAPOINTS AFTER 2000 REPRESENT BCA ESTIMATES.

# SMARTER AND SMALLER



# THE GENETIC REVOLUTION

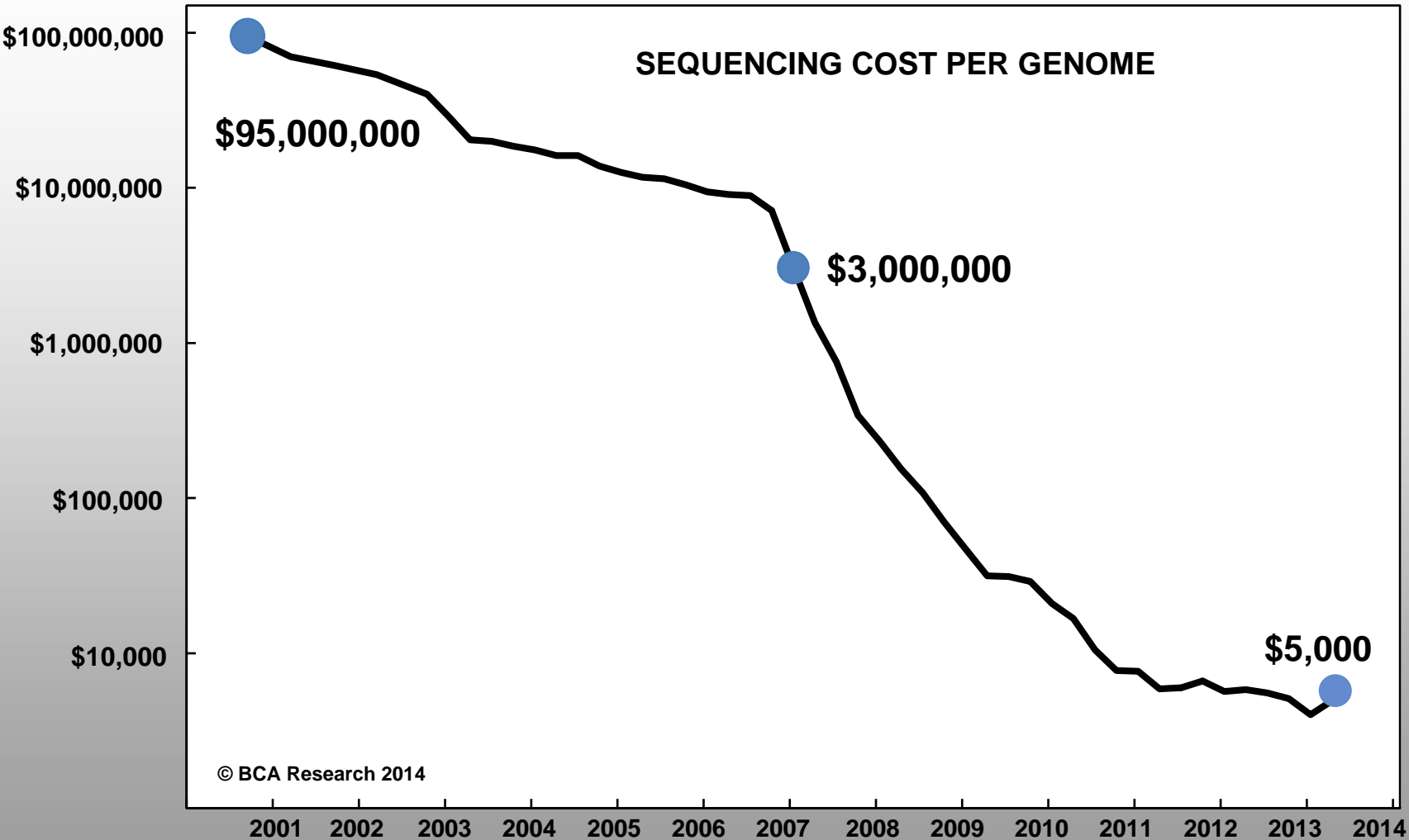




# HOBBIE-J LOOKING UP “MURINE”



# SEQUENCING COSTS HAVE PLUMMETED



SOURCE: NHGRI GENOME SEQUENCING PROGRAM. AVAILABLE AT: [WWW.GENOME.GOV/SEQUENCINGCOSTS](http://WWW.GENOME.GOV/SEQUENCINGCOSTS).  
ACCESSED SEPTEMBER 3, 2014.

# INVESTMENT CONCLUSIONS

- **Focus on BRAIN stocks (Biotech, Robotics, Artificial Intelligence, Nanotechnology), as well as:**
- **Areas that are being transformed by emerging information technologies (Transport, Energy, Manufacturing)**
- **Prepare to live forever (Immortality has arrived; we just don't know it)**