**Figure 1 – Economic Progress Eclipses: Objects to Ideas\***

*x*

*z*

*x*

*z*

*x=z*

*z*

*z*

*z*

*x*

*x*

*x*

*x*

*x*

*z*

*z*

*z*

*x*

Future of economic progress

Present of economic progress

History of economic progress

Reading from left to right:

* Objects are the only source of economic progress (*x*⋂ z = ⌀⤇*x* and *z* are disjoint)
* Ideas emerge, but objects dominate overwhelmingly (*z*⊂*x*⤇ {m: m ⋴ x, z = 0})
* Ideas grow, but they far less important than objects (*z*⊂*x*⤇ {m: m ⋴ x, z >0})
* In some cases objects and ideas are equally responsible; sometimes not (*z*⊆*x*⤇ {m: m ⋴ x, m ⋴ z})
* Object- idea mutual eclipse (*x = z* ⤇ {m: m ⋴ x⋂ z and m ⋴ x ⋃ z})
* Ideas and objects intersect (*z*⋂*x*⤇ {m: m ⋴ x, and m ⋴ z})
* In some cases ideas and objects are equally responsible; sometimes not (*z*⊆*x*⤇ {m: m ⋴ z, m ⋴ x })
* Ideas overwhelm objects (x ⊂*z* ⤇ {m: m ⋴ z, x > 0})
* Objects disappearing, but still there (*x*⊂*z*⤇ {m: m ⋴ z, x = 0})
* Ideas are the only source of economic progress ((z ⋂ x = ⌀⤇*z* and *x* are disjoint)

\*Since I am only using set theoretical language rather set theory, the terms inclusion and union, the eclipses they refer to, may be read as embodied (biased) and disembodied (neutral) progress.

**Figure 2 – Rates of Economic Progress form 1,002,000 BC Onwards\***

-1,002,000

1350 AD

2000

Time

Rate of Progress

c

b

a

* -1,002,000BC – 1350AD: Object-driven history of economic progress according to DeLong (1998)and Roser (2015).
* 11350AD – 2000 AD: Object-idea-driven present of economic progress according toLewis (1965) and Romer (1993).
* 2000 – onwards: Idea-driven future of economic progress.
* [a] – [c] = range of future possibilities.

**Source**: Theoretical interpretation of DeLong (1998) and Roser (2014)