

variable	value	objective function	interpretation
η^H	0.05	2.82	New technology benefit
η^M	0.025	2.82	New combination benefit
τ	100	2.82	Shape parameter for idea distribution
ξ	5	2.82	$1/\xi$ is the fraction of viable combinations
λ	0.7	2.82	scale parameter of the cost distribution
κ	3	2.82	shape parameter of the cost distribution

Table 1: Current values that minimize the objective function

Column #	Moment	Model	Data
1	Fraction of refinements in 1880	28%	55%
2	Fraction of new combinations in 1880	65.5%	30%
3	Fraction of new technologies in 1880	6.46%	10%
4	Fraction of refinements in 1930	13.38%	35%
5	Fraction of new combinations in 1930	83.13%	60%
6	Fraction of new technologies in 1930	3.47%	3%
7	Peak of the refinement share	60.95%	60%
8	Year of the peak in refinement share	1846	1870

Table 2: Moments

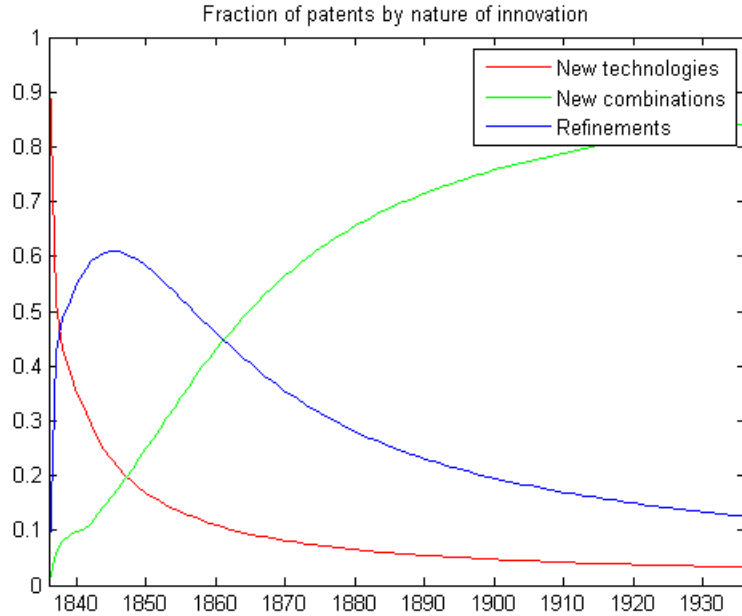


Figure 1: Fraction of patents by type