

When the World Turns Upside Down

Rises and Falls in World City Hierarchies



Over the last millennium (1000-2000) the slope of the upper tails of city size distributions has oscillated six times between

more egalitarian distributions with fewer but more extreme hubs

hierarchical, flat slopes with many graduated hubs

Sometimes the former also have a second upper tail with more extreme hubs that represent primate cities.

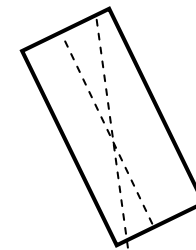
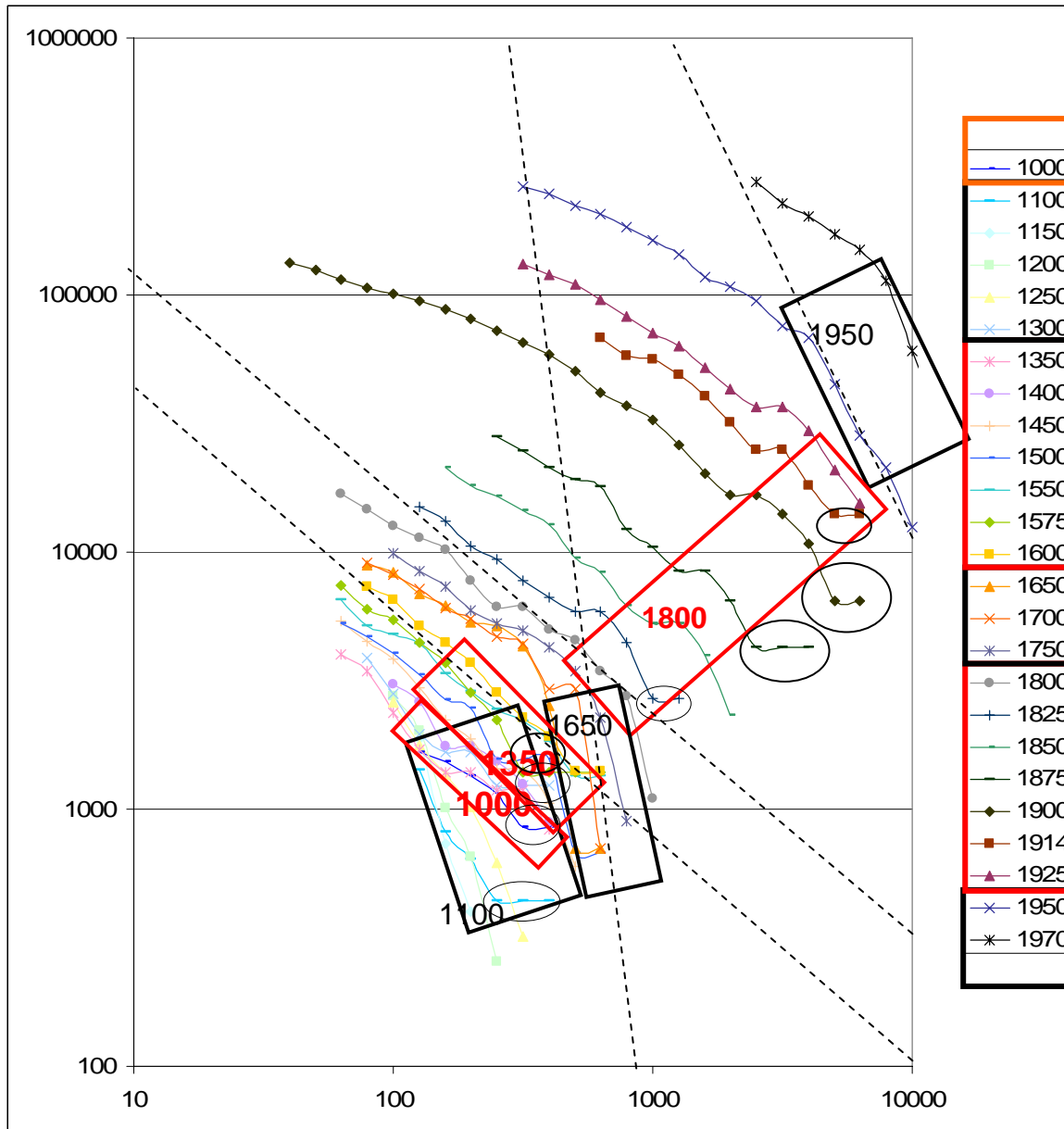
The red distributions in the graph occur in times of world conflicts disrupting trade.

The figure below shows the number of people (in 1000s) on the y axis in world cities at or above the city sizes (in 1000s) on the x axis.

The cities included are of increasing sizes over successive periods, but
if we included all cities over 100K in recent times and projected these curves,
we would have billions of people on the Y axis.

The curves tend to be power-law (straight lines in a log-log scale) in the upper sizes but

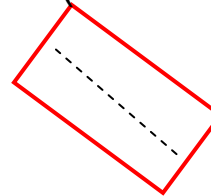
they flatten to more ordinary distributions as the numbers in cities grow smaller, i.e., the curves bend down and to the left for each period.



Higher slopes

Egalitarian

(few hubs)



Lower slopes

Hierarchical

(many hubs)

The long periods of oscillation between these city size periods are coordinated with shorter oscillations in leading sectors of economic innovation, with leading nations, and with global wars, some of which disrupt land routes for trade and others of which stabilize trade.

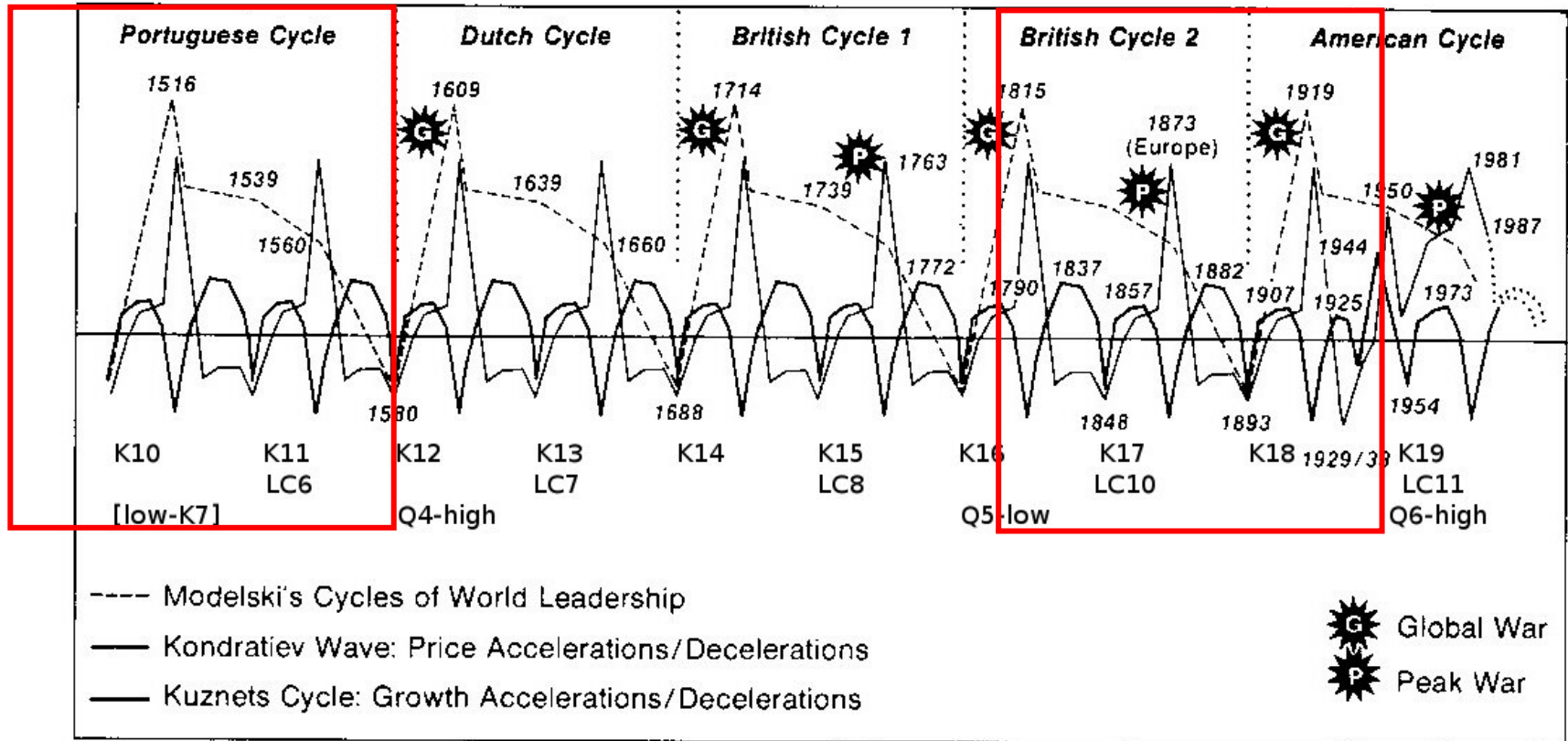


Figure 82. World-Leadership Cycles and the Kondratiev/Kuznets Rhythms

Figure 4: A schematic modified from Berry (1991:161) to show the nesting of cycles for construction and labor migration (Kuznets), inflationary (Kondratieff), world political leadership (Modelski), and city-size distributions (Q). Schumpeterian K-waves are not shown but operate at the time-scale of Kuznets cycles.

These are the primate cities in each period. Except for 1100-1250, in which east-west global integration begins, all world primate cities are in the red (hierarchical, conflictive) periods.

	Muslims	China	I n d i a	Europe	Mongolia	U. S.
1000	Cordova	450	Kaifeng	400		
1100		Kaifeng	442			
1150						
1200		Hangchow	255			
1250						
1300						
1350						
1400		Nanking	487	Vijayanangan	400	
1450						
1500		Peking	672	Vijayanangan	500	
1550		Peking	690	Vijayanangan	480	
1575		Peking	706	Constantinople	660	
1600		Peking	706	Constantinople	680	Agra Mongols 500
1650				Constantinople	700	
1700						
1750						
1800						
1825		Peking	1350	London	1335	
1850						
1875				London	4241	
1900				London	6480	
1914				London	7419	NYC 6700
1925						
1950						
1970						

