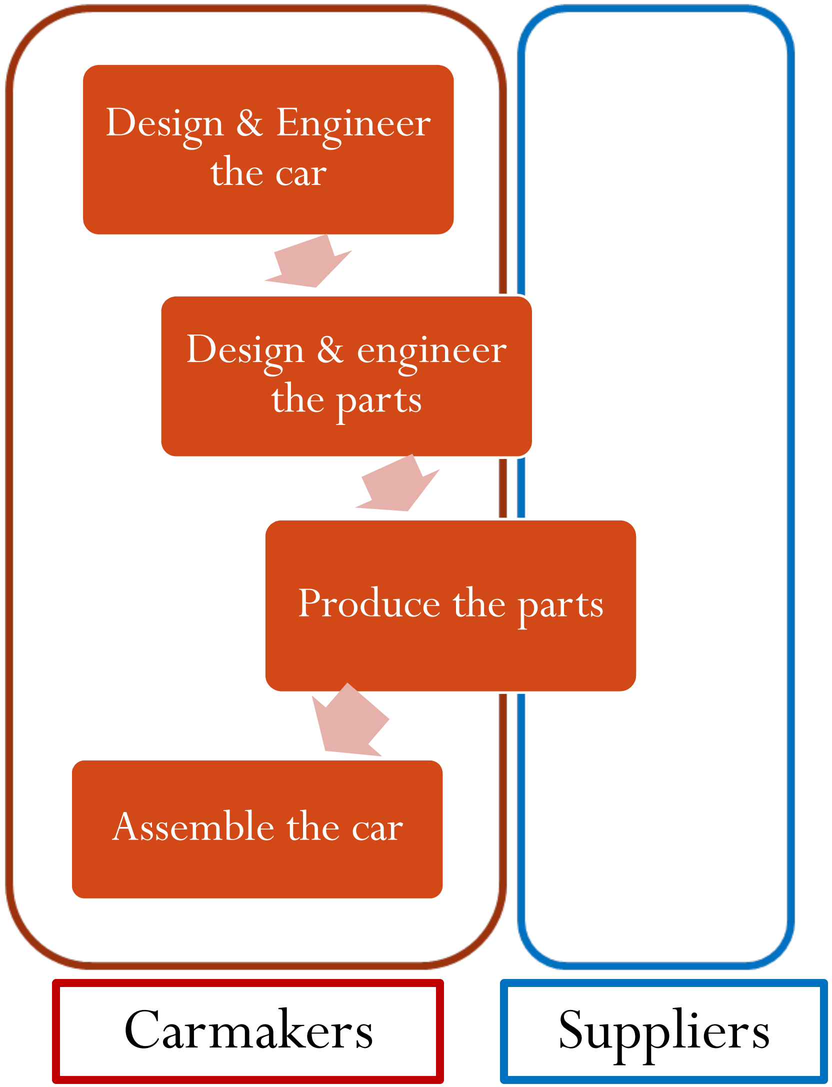
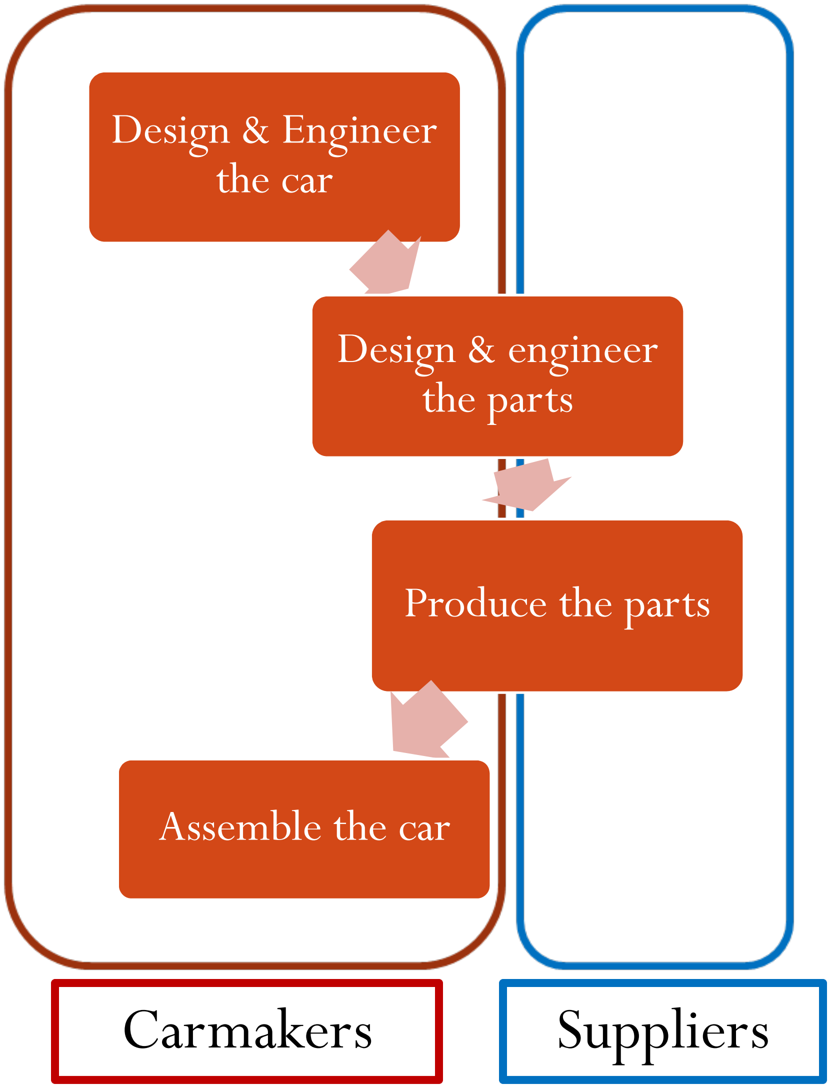
Global Value Chains in the Automotive Industry

Jo Van Biesebroeck
(University of Toronto)

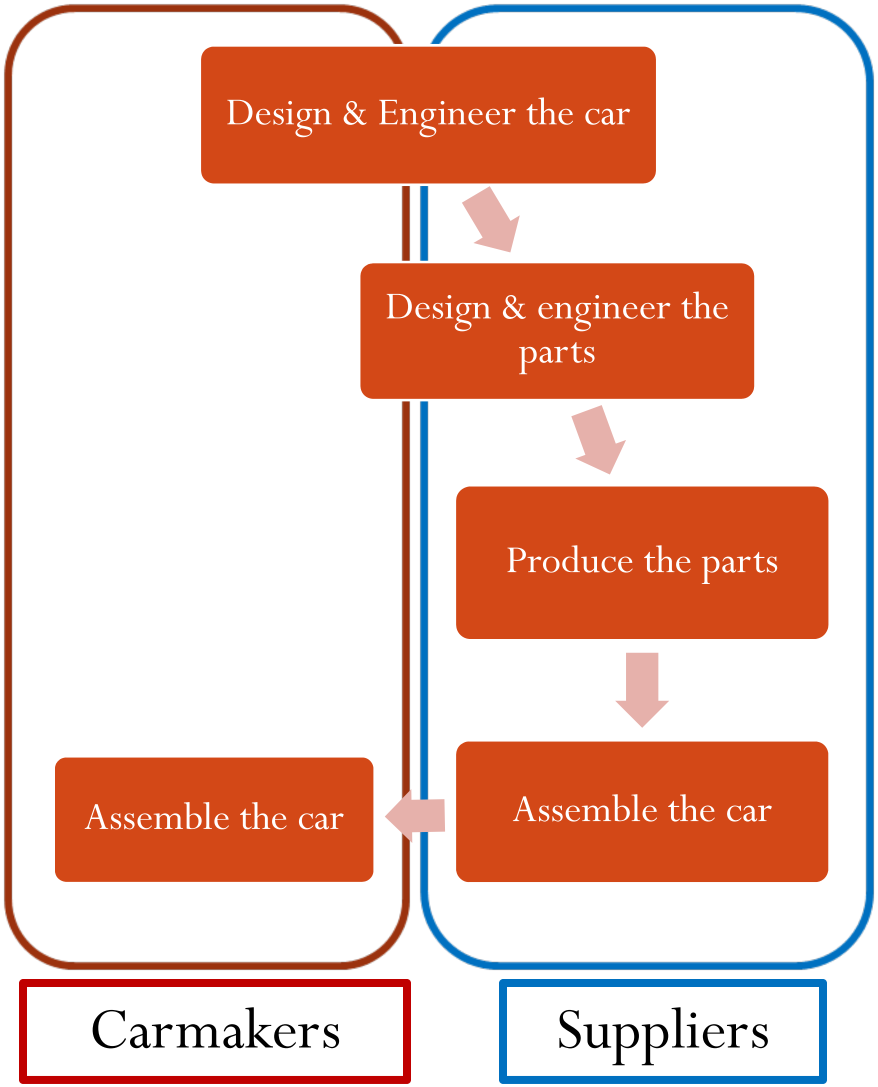
Making a car, anno 1960



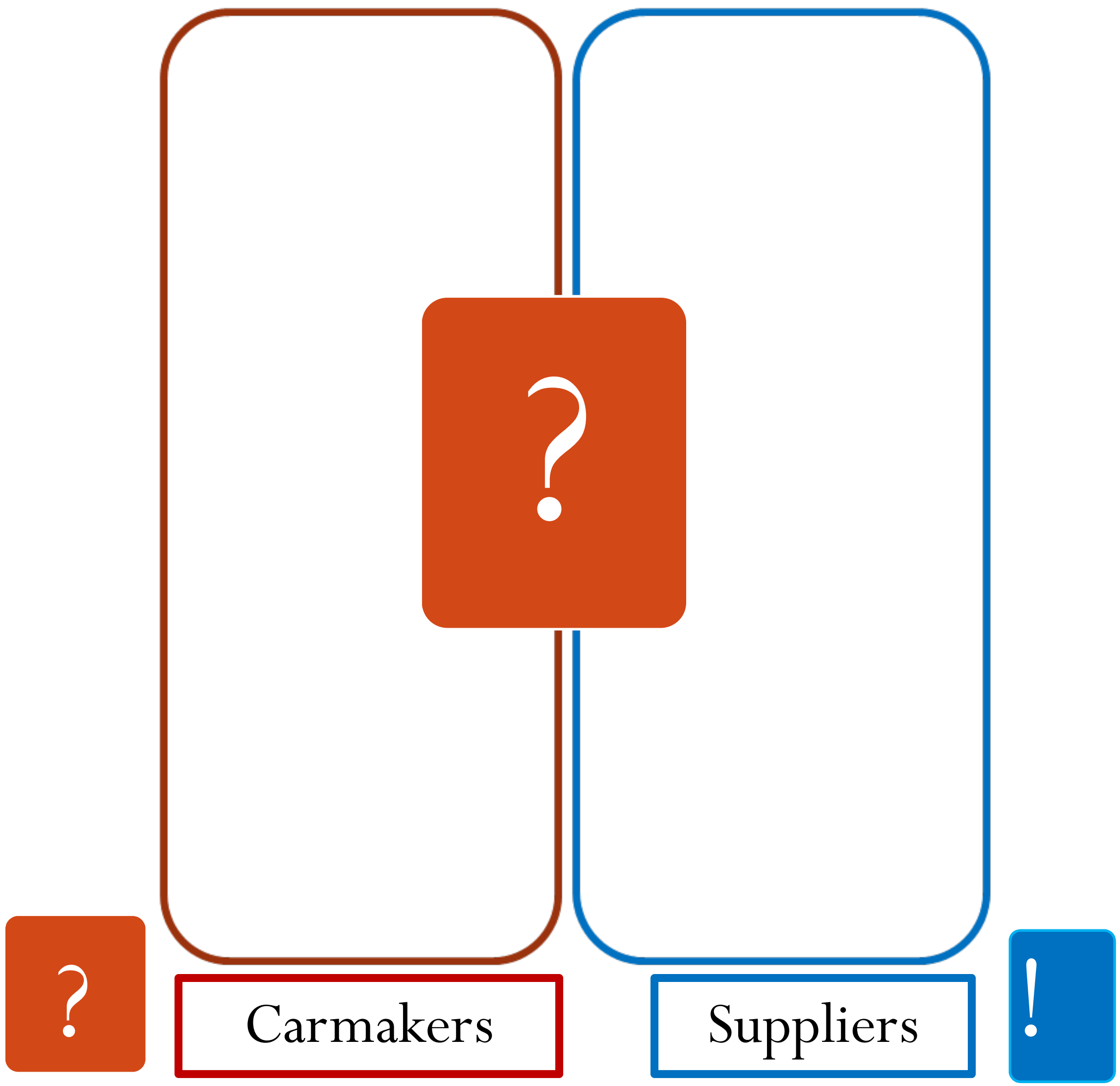
Making a car, anno 1980



Making the BMW X3



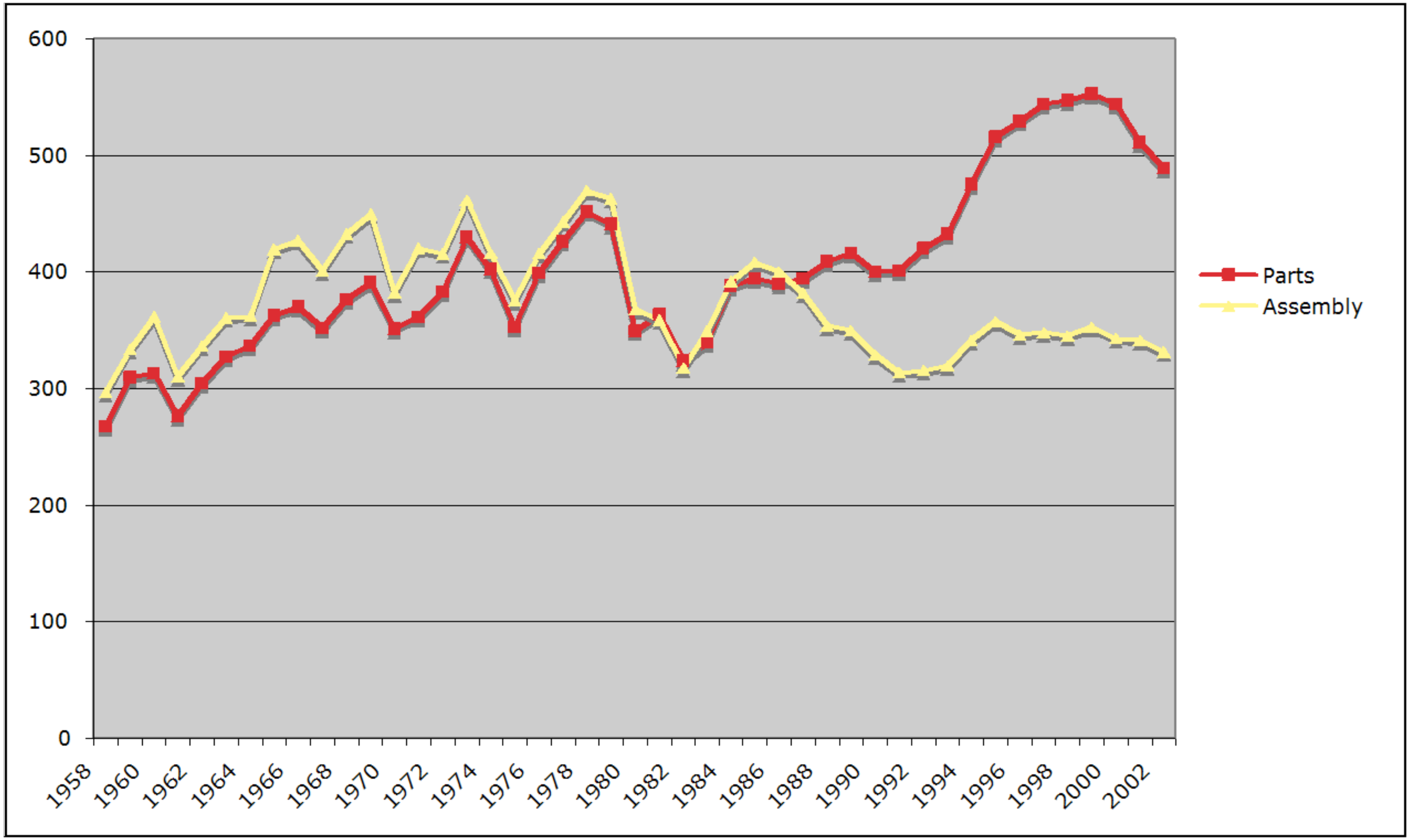
Making the electric car



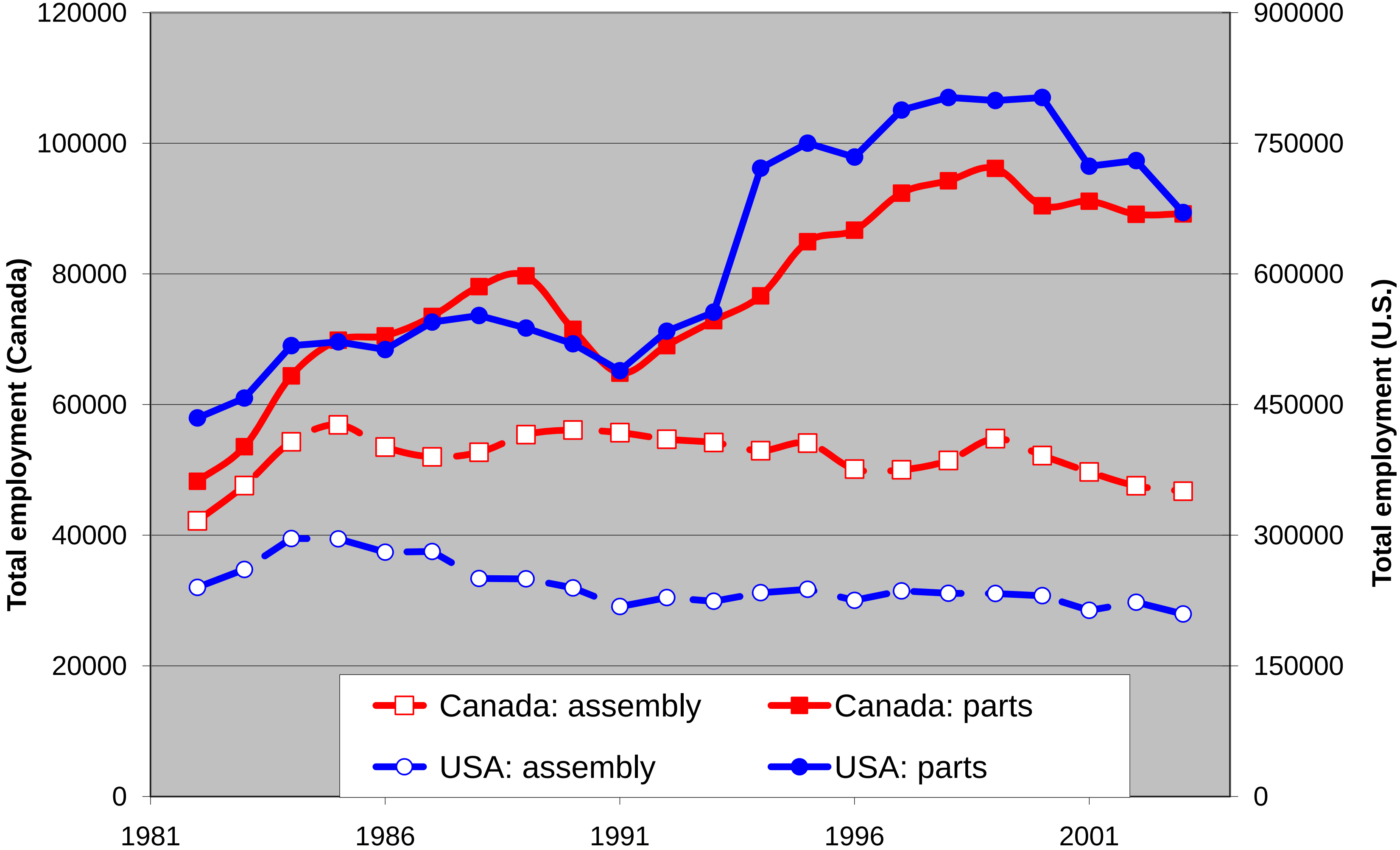
GVC trends in the auto industry

1. For a while already: Assembly sector is shrinking and parts sector is expanding
   - In the U.S. even more than in Canada

Assembly & parts (1958-2003)



Assembly & parts (1991-2005)



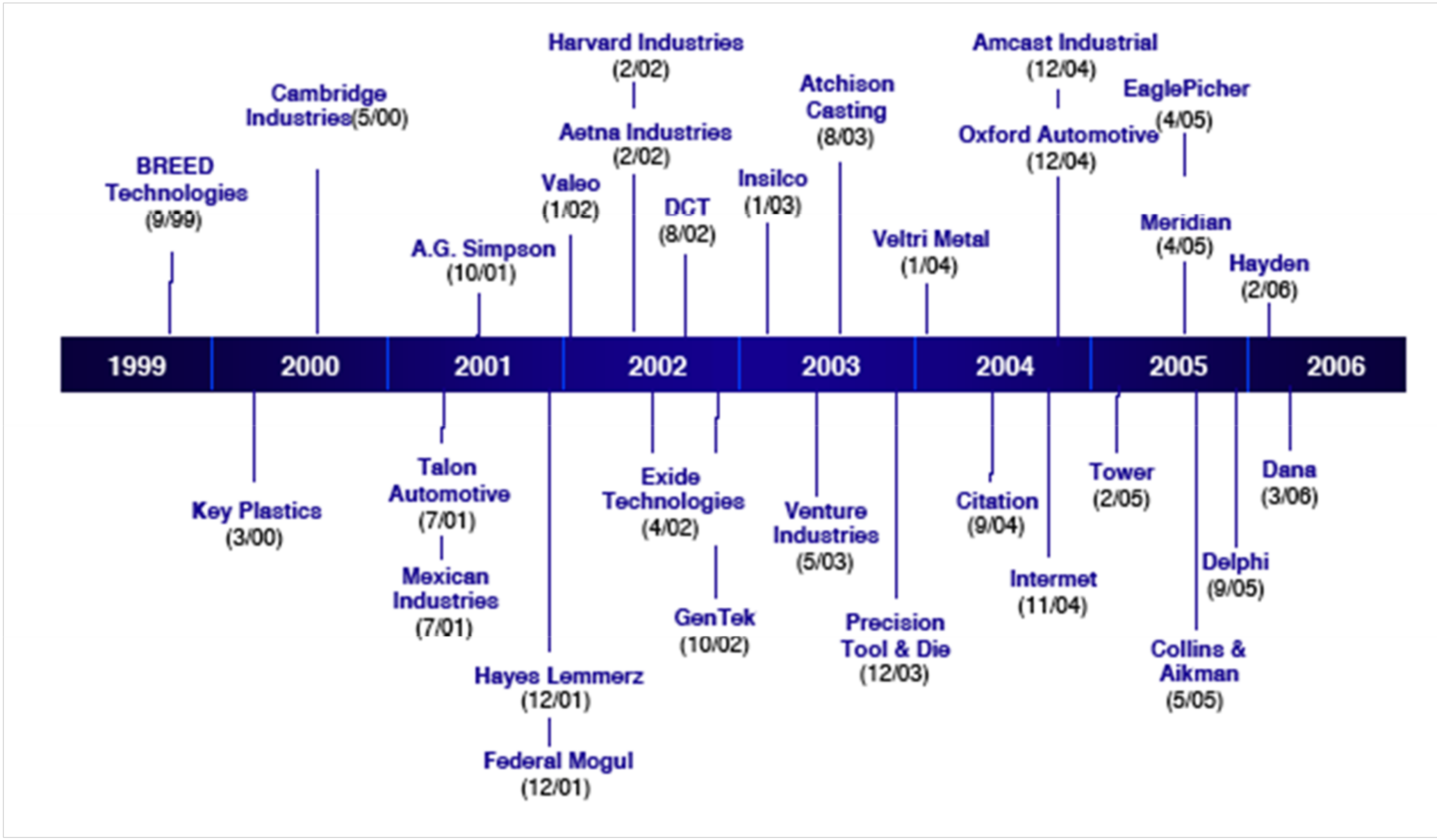
GVC trends in the auto industry

2. Relationships become increasingly important
   - U.S. owned assemblers have an especially difficult working relationship with their suppliers
   - Sector has become extremely interdependent

Index of working relationships

	2002	2003	2004	2005	2006	2007	2002-07 % Change
Toyota	0.76	0.80	0.99	1.00	0.98	1.00	32.2%
Honda	0.72	0.76	0.93	0.90	0.89	0.92	27.9%
Nissan	0.55	0.62	0.73	0.72	0.72	0.70	27.3%
Chrysler	0.42	0.43	0.45	0.47	0.53	0.48	13.7%
Ford	0.40	0.39	0.39	0.38	0.42	0.39	-3.0%
GM	0.39	0.38	0.36	0.27	0.32	0.42	8.1%
Industry Mean	0.54	0.56	0.64	0.62	0.64	0.65	20.7%

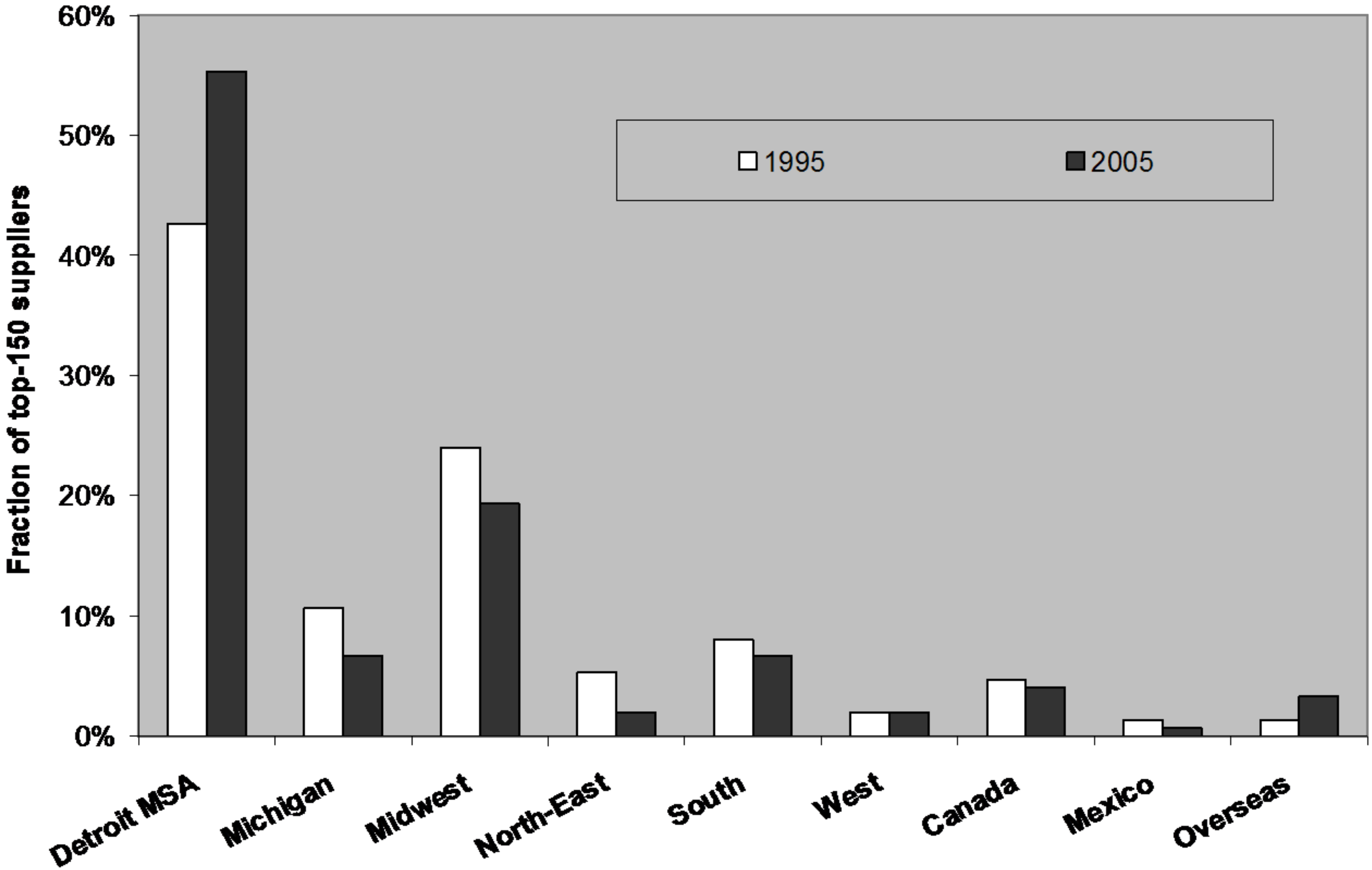
Supplier bankruptcies (1999-2006)



GVC trends in the auto industry

3. Where are the future jobs?
   - In Detroit
   - Overseas
   - In Mexico

HQ of top-150 suppliers in NA



Overseas

	Canada	U.S.	Europe	Latin America	Asia
Fraction of your firm's production taking place in facilities located in..	69%	17%	12%	1.4%	0.3%
Fraction of supply needs that were sourced from…	51%	33%	9%	1.9%	4.7%
Fraction of investments (past 5 years) made in…	49%	18%	4%	1%	28%

"In the last three years, has one or more of your major customers ever threatened to switch to overseas suppliers?"	71% Yes
"In the last three years, has one or more of your major customers asked your firm to initiate or expand activities in new geographical markets in order to facilitate its own expansion agenda?"	64% Yes
Countries mentioned most frequently: U.S. (33%), Korea (33%), China (33%), Mexico (22%)	

Car production worldwide: last decade

	2000	2002	2004	2006	2007	growth '98-'07
Japan	10,141	10,258	10,512	11,484	11,596	1.23%
United States	12,774	12,280	11,988	11,351	10,611	-1.67%
China	2,009	3,251	5,071	7,272	8,890	14.48%
Germany	5,527	5,145	5,570	5,818	6,200	1.05%
South Korea	2,858	3,148	3,469	3,840	4,085	3.30%
France	3,352	3,693	3,666	3,164	3,012	-0.97%
Brazil	1,671	1,793	2,210	2,597	2,960	5.34%
Spain	3,033	2,855	3,012	2,776	2,891	-0.43%
Canada	2,962	2,629	2,712	2,545	2,602	-1.17%
Mexico	1,923	1,805	1,555	2,044	2,254	1.45%
India	867	892	1,511	1,876	2,046	8.12%
United Kingdom	1,814	1,821	1,856	1,650	1,770	-0.22%
Russia	1,203	1,220	1,388	1,495	1,654	2.94%
Italy	1,738	1,427	1,142	1,211	1,284	-2.71%
Thailand	336	540	856	1,184	1,178	12.08%
Iran	239	306	770	1,033	1,175	15.58%
Turkey	431	340	784	992	1,097	8.86%

Car production worldwide: to 2008

	2002	2007	growth 2002-07	2008	growth 2007-08
China	3,251	8,890	9.6%	9,340	5.1%
South Korea	3,148	4,085	2.4%	3,830	-6.2%
Mexico	1,805	2,254	2.0%	2,154	-4.4%
Japan	10,258	11,596	1.1%	11,564	-0.3%
Spain	2,855	2,891	0.1%	1,940	-32.9%
United Kingdom	1,821	1,770	-0.3%	1,450	-18.1%
Canada	2,629	2,602	-0.1%	2,068	-20.5%
United States	12,280	10,611	-1.3%	8,746	-17.6%

GVC trends in the auto industry

4. The worst is yet to come
   - From India
   - From China

Tata Nano, coming in 2011

China: cheap exports will keep coming

1996 - 2006	Growth in total workforce (%)	Share of industry in total employment		Change in industrial workforce (millions)
		1996	2006	
OECD total	11.8	27.8	24.8	-0.4
Canada	22.8	21.8	22.0	+0.7
United States	14.0	23.8	19.8	-1.6
EU15	14.2	29.9	26.3	+0.2
Japan	- 1.6	33.3	28.0	-3.7
Mexico	25.0	22.7	27.4	+3.9
Turkey	5.4	22.6	25.4	+0.9
China	8.2	23.5	25.2	+26.3
China ('02-'07)	4.4	21.4	26.8	+48.4