

Options and Potential for Cooperation Between China and Mexico in the AAC

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**A Dialogue in the Autoparts-Automobile
Chain Between Mexico and China
Mexico City, August 19th**



**CENTRO DE ESTUDIOS
CHINA-MEXICO**

UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO

<http://www.economia.unam.mx/cechimex>

TOPICS

- **Background of AAC**
- **The Mexican AAC**
- **The Chinese AAC**
- **Conclusions and Options for Cooperation**

Background (1)

- AAC one of the first that started with process of outsourcing; this process will deepen in the short and medium term (including segments of higher value-added), transfer of “modules”
- Regionalization of production in the AAC: consumers, tariff and non-tariff barriers, policies and incentives, ...
- Next to a technological “revolution” (?) in terms of EV and effects for new OEMs, new suppliers, ...?
- Crisis 2008-2009: huge regional differences
- And: massive sectorial instruments (EU, UE, China ...) (Rodrick 2010)

Background (2)

- Deepening of competition –nationally and regionally-, new technologies, standards and firms?
- And, globally trend in ACC:
 - Deep regional shifts in production
 - Increasing Asian predominance
 - Newcomers: China, Corea, Brasil, México...
 - China

Background (3)

- Deepening of competition –nationally and regionally-, new technologies, standards and firms?
- And, globally trend in ACC:
 - Long term deep regional shifts in production
 - Increasing Asian predominance
 - Newcomers: China, Corea, Brasil, México...
 - China
 - Crisis 2008-2009: differentiated effects
 - Profound firm-level effects

Background (4)

Share over total production of automobiles (1961-2009) (percentage)															
	1961	1971	1981	1991	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
United States	48.5	32.5	22.8	15.4	23.2	21.9	20.3	20.8	20.0	18.6	18.0	16.3	14.7	12.3	9.3
UK	8.8	6.6	3.5	3.5	3.5	3.1	3.0	3.1	3.0	2.9	2.7	2.4	2.4	2.3	1.8
Italy	6.1	6.4	4.6	4.6	3.0	3.0	2.8	2.4	2.2	1.8	1.6	1.8	1.8	1.5	1.4
Germany	15.8	14.5	13.7	13.3	10.1	9.5	10.1	9.3	9.1	8.6	8.7	8.4	8.5	8.6	8.4
France	8.7	10.2	9.5	9	5.7	5.7	6.4	6.1	6.0	5.7	5.3	4.6	4.1	3.6	3.3
México	n/d	0.6	1.3	2	2.8	3.3	3.3	3.1	2.6	2.4	2.5	3.0	2.9	3.1	2.5
Japan	2.2	14.1	25.4	27.6	17.6	17.4	17.4	17.4	17.0	16.3	16.2	16.6	15.8	16.4	12.9
China	n/d	n/d	n/d	0.2	3.3	3.5	4.1	5.6	7.3	8.1	8.6	10.4	12.1	13.3	22.4
Spain	0.5	1.7	3.1	5.5	5.1	5.2	5.1	4.8	5.0	4.7	4.1	4.0	3.9	3.6	3.5
Brazil	0.9	1.3	1.5	2	2.4	2.9	3.2	3.0	3.0	3.6	3.8	3.8	4.1	4.6	5.2
South Korea	n/d	n/d	0.3	3.3	5.1	5.3	5.2	5.3	5.2	5.4	5.6	5.5	5.6	5.4	5.7
India	0.2	0.2	0.2	0.5	1.5	1.4	1.4	1.5	1.9	2.3	2.5	2.9	3.1	3.3	4.3
World Total	11,391	26,453	27,407	35,287	56,259	58,374	56,305	58,994	60,663	64,496	66,482	69,223	73,266	70,527	61,715

Fuente: elaboración propia con base en OICA (2010).

Background (5)

The effect of the global crisis (production of all vehicles) (2008-2009)

	2008	2009	SHARE	
			2008	2009
European Union				
27 countries	18,439,079	15,252,862	26.06	24.72
15 countries	15,174,690	12,241,033	21.45	19.83
America	16,886,089	12,535,540	23.86	20.31
NAFTA	12,943,726	8,760,536	18.29	14.20
Canadá	2,082,241	1,490,632	2.94	2.42
United States	8,693,541	5,708,852	12.29	9.25
México	2,167,944	1,562,052	3.06	2.53
South America	3,942,363	3,775,004	5.57	6.12
Brasil	3,215,976	3,182,617	4.55	5.16
Asia and Oceania	31,507,403	31,753,104	44.53	51.45
China	9,299,180	13,790,994	13.14	22.35
South Korea	3,826,682	3,512,926	5.41	5.69
India	2,332,328	2,632,694	3.30	4.27
Japan	11,575,644	7,934,516	16.36	12.86
TOTAL	70,757,299	61,714,689	100.00	100.00

Fuente: elaboración propia con base en OICA (2010).

Background (6)

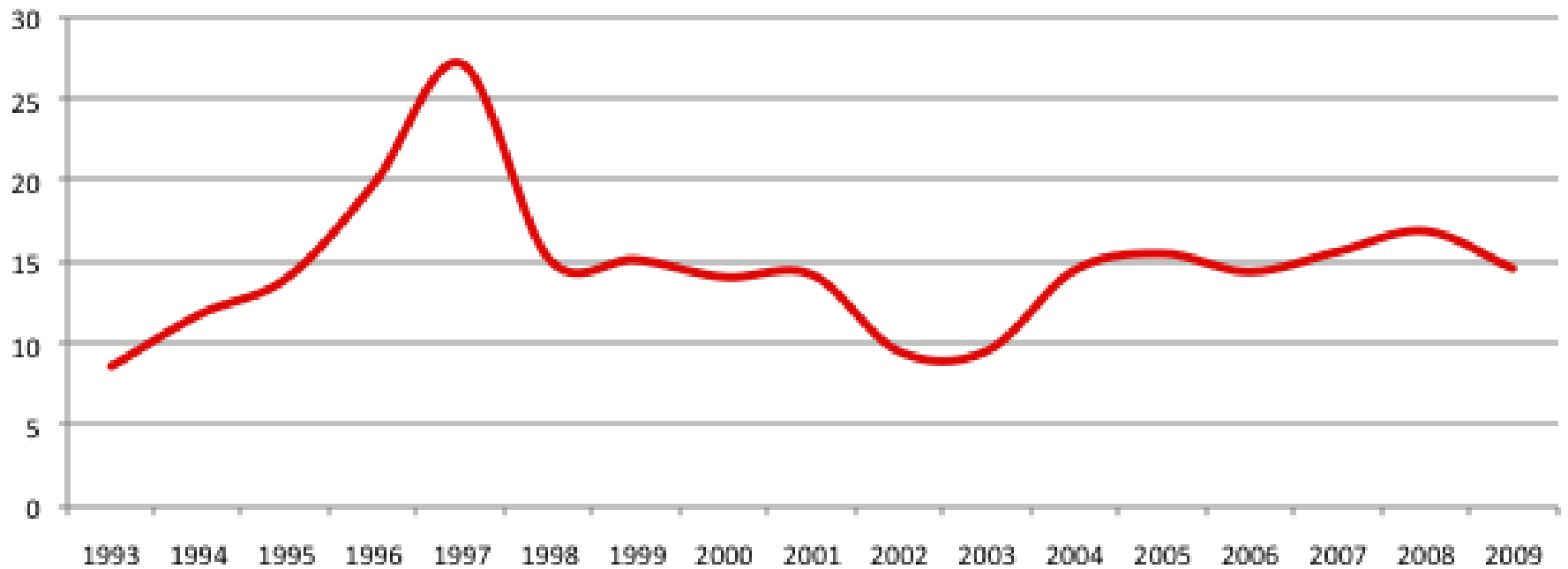
Main Automobile Producers (2009)

		Total	Percentage	Automobiles for passenger	Percentage
	TOTAL	60,499,159	100.00	51,075,480	100.00
1	Toyota	7,234,439	11.96	6,148,794	12.04
2	G.M.	6,459,053	10.68	4,997,824	9.79
3	Volkswagen	6,067,208	10.03	5,902,583	11.56
4	Ford	4,685,394	7.74	2,952,026	5.78
5	Hyundai	4,645,776	7.68	4,222,532	8.27
6	PSA	3,042,311	5.03	2,769,902	5.42
7	Honda	3,012,637	4.98	2,984,011	5.84
8	Nissan	2,744,562	4.54	2,381,260	4.66
9	Fiat	2,460,222	4.07	1,958,021	3.83
10	Suzuki	2,387,537	3.95	2,103,553	4.12
18	Beijing Automotive	684,534	1.13	684,534	1.34
20	Dongfeng Motor	663,262	1.10	663,262	1.30
21	FAW	650,275	1.07	650,275	1.27
22	Chery	508,567	0.84	508,567	1.00
24	BYD	427,732	0.71	427,732	0.84
25	SAIC	347,598	0.57	347,598	0.68
26	Anhui Jianghuai	336,979	0.56	336,979	0.66
27	Geely	330,275	0.55	330,275	0.65
29	Brilliance	314,189	0.52	314,189	0.62
31	Great Wall	226,560	0.37	226,560	0.44
33	Shangdong Kaima	169,023	0.28	169,023	0.33
35	China National	120,930	0.20	120,930	0.24
37	Chongqing Lifan	104,434	0.17	104,434	0.20
38	Fujian	103,171	0.17	103,171	0.20
40	Shannxi Auto	79,026	0.13		0.00
42	Ziyang Nanjun	72,470	0.12	72,470	0.14
45	Guangzhou Auto	62,990	0.10	62,990	0.12
47	Chenzhou JiÁO	51,008	0.08	51,008	0.10
48	Qingling Motor	50,120	0.08	50,120	0.10
49	Hebei Zhongxing	48,173	0.08	48,173	0.09
	Resto	12,408,704	20.51	9,382,684	18.37

Fuente: elaboración propia con base en OICA (2010).

Background (7)

import / export coefficient with China (1993-2009)



Fuente: elaboración propia con base en Banco de México (2009).

Background (9)

Mexico: EXports to China (\$US million)

	1995	2000	2005	2006	2007	2008	2009	1995-2009
Total	37	204	1,136	1,688	1,895	2,047	2,216	9,222
26 Ores,Slag,Ash	0	0	101	133	288	477	553	1,553
29 Organic Chemicals	4	3	104	139	135	95	94	573
72 Iron And Steel	0	4	102	28	51	51	109	345
74 Copper+Articles Thereof	0	0	146	429	361	487	408	1,832
84 Machinery	1	157	296	403	363	143	124	1,487
85 Electrical Machinery	0	19	39	84	186	292	269	889
86 Railway;Trf Sign Eq	0	0	0	0	0	0	0	0
87 Vehicles, Not Railway	0	5	52	199	212	181	209	858

Source: own ellaboration based on SICM/CECHIMEX (2010).

Mexico: imports from China (1995-2009) (\$million)

	1995	2000	2005	2006	2007	2008	2009	1995-2009
Total	521	2,880	17,696	24,438	29,747	34,754	32,529	142,565
27 Mineral Fuel, Oil Etc	40	92	129	111	130	152	103	756
39 Plastic	26	101	511	629	737	884	776	3,663
84 Machinery	38	415	4,567	5,655	6,105	6,714	7,199	30,692
85 Electrical Machinery	140	904	7,110	10,608	12,915	15,555	15,361	62,594
87 Vehicles, Not Railway	2	39	336	488	654	786	537	2,843
90 Optic,Nt 8544;Med Instr	20	114	414	927	1,530	1,672	1,279	5,956
94 Furniture And Bedding	11	61	286	398	492	551	410	2,209
95 Toys And Sports Equipmt	68	204	625	1,067	2,099	2,194	1,610	7,867
96 Miscellaneous Manufact	5	24	131	153	161	176	141	791

Source: own ellaboration based on SICM-CECHIMEX (2010).

MEXICO (1)

- **2.7% of GDP; 16% of manufacturing's GDP and round 1 million direct and indirect jobs (43% in autoparts, 32% mechanical workshops; 17% after-market; 8% distribution; 6% manufacturing)**
- **Around 10,000 firms: 13 OEM manufacturing plants (passenger vehicles) and 11 OEM (commercial vehicles)**
- **Around \$80 billion intermediate consumption (INEGI 2010)**
- **Domestic market sales of around 1 million (2004-2008)**

MEXICO (2)

- **5 Decrees (1962-1993) and NAFTA (1994)**
 - Chapter 401, 62.5% of regional value-added
- **Own legislation (2003, until 2010) for automobiles:**
 - **Manufacture at least 50,000 units**
 - **Invest at least \$100 million in fixed assets**
 - **“Newcomers”**: 3 year transition period that allows for duty-free imports of units
 - **Annual supervision of public sector (SE)**

MEXICO (3)

- **12 FTAs with 42 countries and 32 commercial and investment agreements**
- **Mexico-China treaty to avoid double taxation (APPRI)**
- **Several programs for temporary imports to be reexported (including maquiladoras)**

MEXICO (4)

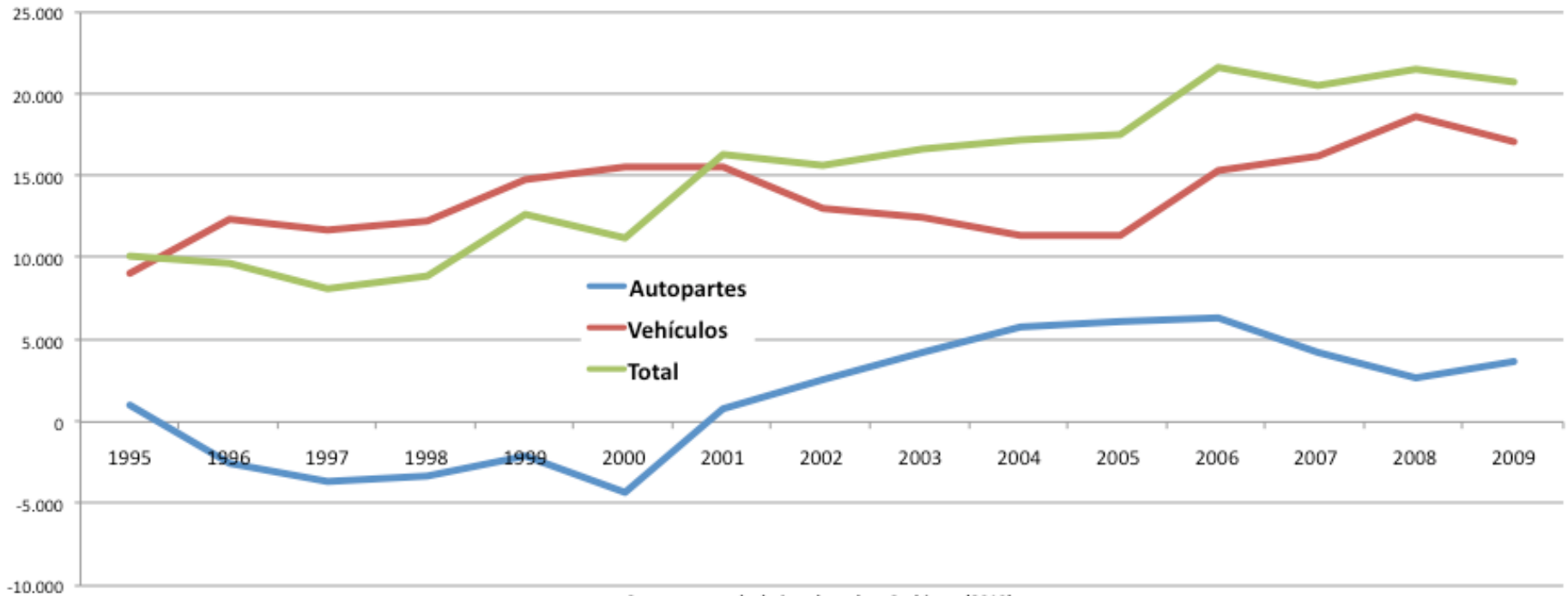
Mexico: total production of vehicles (domestic markets and exports) (1988-2008)
(AND NOT INCLUDING CRISIS OF 2009)

	1988	1993	1994	2000	2005	2006	2007	2008
UNITS								
EXPORTS								
Vehicles	174,246	493,194	575,031	1,432,998	1,192,850	1,556,598	1,623,963	1,666,133
Cars	145,002	445,587	503,588	931,211	732,614	1,093,228	1,127,832	1,138,710
Trucks	29,244	47,607	71,443	501,787	460,236	463,370	496,131	527,423
DOMESTIC MARKET								
Vehicles	330,956	562,027	522,350	456,488	413,610	422,173	398,278	437,668
Cars	208,781	389,733	352,975	347,878	320,209	310,874	288,833	284,877
Trucks	122,175	172,294	169,375	108,610	93,401	111,299	109,445	152,791
TOTAL PRODUCTION								
Vehicles	505,202	1,055,221	1,097,381	1,889,486	1,606,460	1,978,771	2,022,241	2,103,801
Cars	353,783	835,320	856,563	1,279,089	1,052,823	1,404,102	1,416,665	1,423,587
Trucks	151,419	219,901	240,818	610,397	553,637	574,669	605,576	680,214
PERCENTAGE								
EXPORTS								
Vehicles	34.49	46.74	52.40	75.84	74.25	78.66	80.31	79.20
Cars	40.99	53.34	58.79	72.80	69.59	77.86	79.61	79.99
Trucks	19.31	21.65	29.67	82.21	83.13	80.63	81.93	77.54
DOMESTIC MARKET								
Vehicles	65.51	53.26	47.60	24.16	25.75	21.34	19.69	20.80
Cars	59.01	46.66	41.21	27.20	30.41	22.14	20.39	20.01
Trucks	80.69	78.35	70.33	17.79	16.87	19.37	18.07	22.46
TOTAL PRODUCTION								
Vehicles	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cars	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Trucks	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: own elaboration based on AMIA (2010).

MEXICO (6)

Mexico: trade balance of AAC (1995-2009)



Source: own calculations based on Cechimex (2010).

MEXICO (7)

United States: imports in the AAC by country (1990-2009)

	1990	1995	2000	2005	2006	2007	2008	2009
			\$US					
1 JAPON	31,583	37,347	46,554	51,484	59,008	58,284	54,633	33,108
2 CANADA	29,166	44,288	62,911	69,644	68,485	67,156	52,550	35,037
3 MÉXICO	6,913	18,330	39,658	43,283	49,614	52,202	48,243	37,581
4 ALEMANIA	7,978	9,120	18,550	27,124	26,516	26,166	26,009	16,126
5 COREA	1,795	2,278	5,927	11,471	12,397	12,156	11,323	8,293
6 CHINA	97	635	1,633	5,401	6,903	8,530	8,750	7,200
Total de los países seleccionados	77,532	111,999	175,233	208,409	222,924	224,493	201,509	137,345
Resto del Mundo	8,569	10,510	17,715	26,562	28,167	29,583	27,566	17,399
Total importado por Estados Unidos	86,101	122,509	192,948	234,971	251,091	254,076	229,076	154,744

	percentage							
1 JAPÓN	36.68	30.48	24.13	21.91	23.50	22.94	23.85	21.40
3 CANADÁ	33.87	36.15	32.61	29.64	27.28	26.43	22.94	22.64
3 MÉXICO	8.03	14.96	20.55	18.42	19.76	20.55	21.06	24.29
4 ALEMANIA	9.27	7.44	9.61	11.54	10.56	10.30	11.35	10.42
5 COREA	2.08	1.86	3.07	4.88	4.94	4.78	4.94	5.36
6 CHINA	0.11	0.52	0.85	2.30	2.75	3.36	3.82	4.65
Total de los países seleccionados	90.05	91.42	90.82	88.70	88.78	88.36	87.97	88.76
Resto del Mundo	9.95	8.58	9.18	11.30	11.22	11.64	12.03	11.24
Total importado por Estados Unidos	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Fuente: elaboración propia con base en CECHIMEX (2010).

MEXICO (8)

United States: imports in the AAC by country (1990-2009)

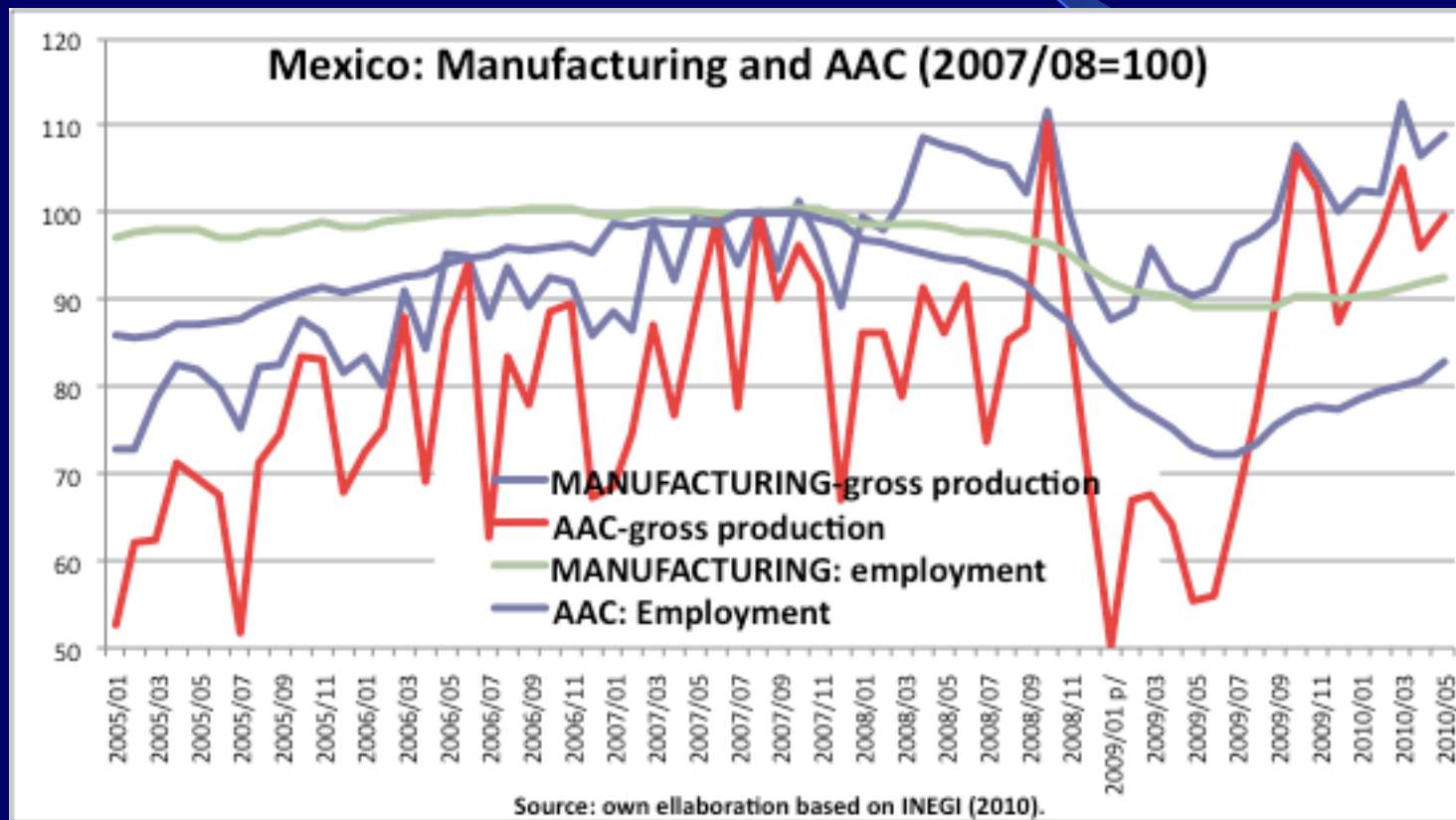
		1990	1995	2000	2005	2006	2007	2008	2009
				tariff rate					
1	JAPÓN	0.23	0.15	0.06	0.08	0.04	0.04	2.51	2.53
3	CANADA	2.80	2.66	1.85	1.85	2.18	2.19	0.05	0.04
3	MÉXICO	2.89	0.72	0.12	0.10	0.11	0.12	0.10	0.10
4	ALEMANIA	2.69	2.69	2.47	2.48	2.47	2.62	2.38	2.34
5	COREA	2.92	2.76	2.46	2.53	2.48	2.50	2.45	2.69
6	CHINA	3.43	3.84	2.55	2.53	2.56	2.59	2.71	3.64
	Total importado por I	1.87	1.60	1.17	1.29	1.30	1.30	1.34	1.34
				tariff rate (Mexico = 100)					
1	JAPÓN	7.99	21.00	44.55	78.18	37.70	32.09	2,436.87	2,522.47
3	CANADÁ	97.05	368.17	1,486.36	1,919.35	1,993.93	1,890.28	45.03	37.98
3	MÉXICO	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
4	ALEMANIA	93.09	373.23	1,983.42	2,574.23	2,263.84	2,265.40	2,315.16	2,332.10
5	COREA	101.04	382.75	1,977.78	2,621.37	2,272.41	2,164.10	2,383.18	2,680.03
6	CHINA	118.73	532.02	2,046.28	2,617.28	2,349.10	2,241.56	2,627.08	3,621.44
	Total importado por I	64.60	221.09	942.63	1,338.74	1,191.36	1,121.76	1,305.88	1,329.65

Fuente: elaboración propia con base en CECHIMEX (2010).

MEXICO (8)

MEXICO:

- Profound crisis (2008-2009) and rapid recovery (2010/01-...)



CHINA (1)

- Qualitative evolution: of AAC:
 - 1970s-1980s: build up and slow growth
 - 1980s-1990s: FDI and joint ventures
 - 2000s-...: local brands and independent R&D and massive public strategies (municipalities, cities, provinces and central government)

China's AAC: some Characteristics (2000-2009)

	Production (units)	Investments (million RMB)	Employment	Employment (R&D)
2000	2,070,000			
2001	2,340,000	19,400	1,506,000	45,000
2002	3,250,000	28,300	1,570,000	53,000
2003	4,440,000	49,860	1,605,000	62,000
2004	5,070,000	64,130	1,693,000	71,000
2005	5,710,000	73,420	1,669,000	89,000
2006	7,280,000	78,090	1,855,000	91,000
2007	8,880,000	86,790	2,041,000	109,000
2008	9,350,000	77,230	2,094,000	124,000
2009	13,790,000			

Source: own elaboration based on several sources (2010).

CHINA (2)

China's AAC: some Characteristics (2000-2009)

	Imports (\$ million)	Exports (\$ million)	Trade Balance (\$million)	Imports (units, passenger)	Exports (units, passengers)
2000					
2001	4,700	2,710	-1,990	61,776	3,273
2002	6,590	3,360	-3,230	115,047	3,359
2003	14,840	8,030	-6,810	153,591	6,117
2004	16,860	12,420	-4,440	162,077	17,214
2005	15,430	16,770	1,340	154,834	32,460
2006	21,270	28,910	7,640	218,312	83,935
2007	26,770	41,260	14,490	302,096	208,617
2008	32,230	47,630	15,400	395,799	245,917
2009	33,170	36,810	3,640	409,187	105,949

Source: own elaboration based on several sources (2010).

CHINA (3)

- CCPIT (2009) and DRC (2010): massive policies at different levels, including 12th Five Year Plan (2011-2015), National Commission for Development and Reform, regulation of FDI in automobiles, etc., including:
 - Independent technologies
 - Clean vehicles, EV (hybrid?)
 - Go Global (vs joint venture?)
 - Local brands and domestic producers are supported massively
 - Next consolidation, given 161 OEMs and 4,600 autoparts?

CHINA (4)

- Critical: Chinese brands increased their share over total sales from 5% (2000) to 30% in 2009 (and 35% in 2015?)
- Important investments in middle of global crisis: 20-30 million cars to be produced in 2020?
- Several tiers of firms based on production, exports, foreign plants, etc, including in first tier: SAIC, FAW, Dongfeng, Chang'an, BAIC, Guangzhou Automobile Group, Chery, BYD, Brilliance, Gely and Great Wall, among others. Interested in LAC in 2010? Around 5 OEMs?

CHINA (5)

- Champions in consolidation process? Will cities and provinces allow?

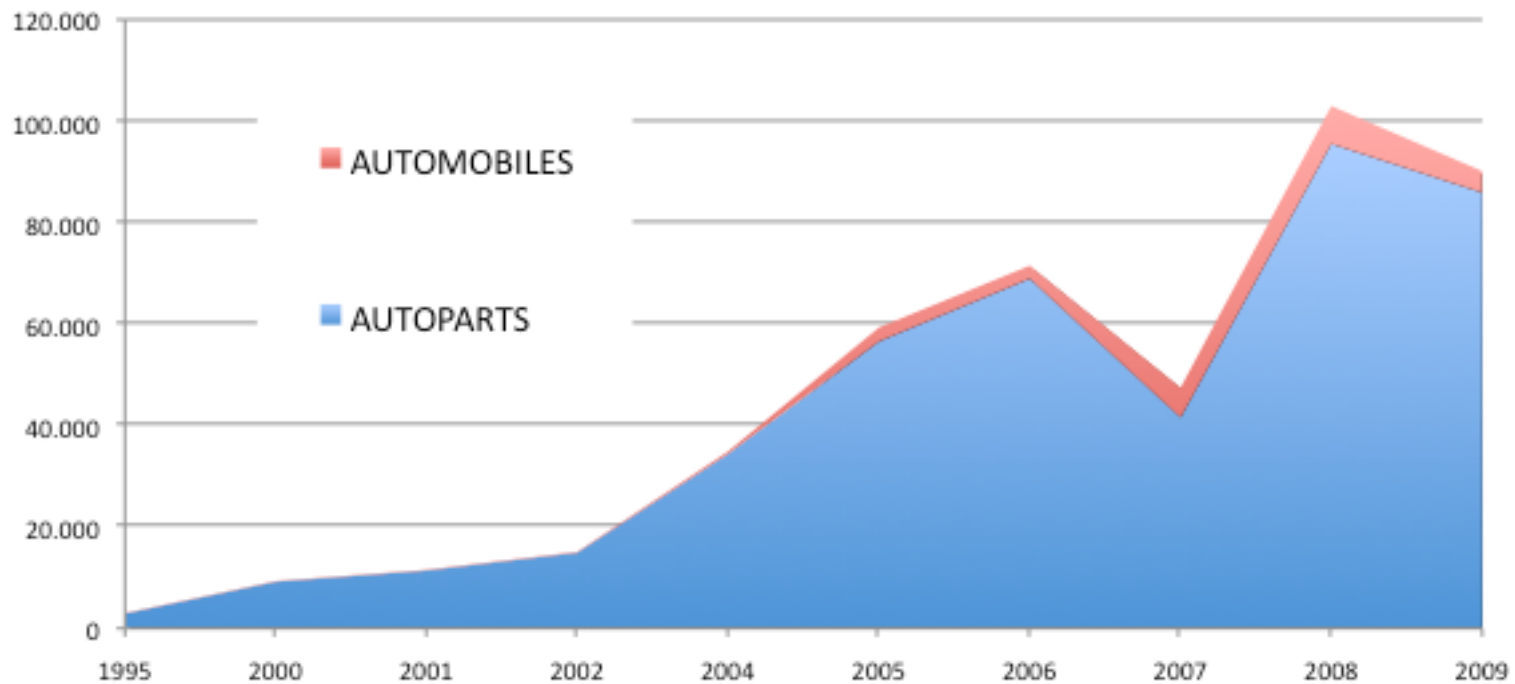
Sales by firm (2009) and market share

	sales (thousands of units)	Market share
Shanghai Automotive Industry Corporation	2,706	19.83
FAW Group Corporation	1,945	14.25
Dongfeng Motor Corporation	1,898	13.91
Chang ´an Automotive Group	1,870	13.7
Beijing Automotive Industry Holding	1,243	9.11
Guangzhou Automobile Group	607	4.45
Chery Automobile Co	500	3.67
BYD Auto Co.	448	3.29
BrillianceAutomobile Group Limited	348	2.55
Zhejiang Geely Holding Group	329	2.41
Anhui Jianghuai Automobile	322	2.36
Great Wall Motor Company	226	1.66
China National Heavy Duty Truck	125	0.92
Shandong Kama	105	0.77
Subtotal	12,670	92.86
Total	13,640	100

Source: own ellaboration (2010).

CHINA (6)

China: exports of the AAC by segments (1995-2009)
(\$millions)



Fuente: elaboración propia con base en Cechimex (2010).

CHINA (7)

CHINA: TOTAL IMPORTS AND TRADE BALANCE IN THE ACC (1995-2009)

	1995	2000	2002	2004	2005	2006	2007	2008	2009
	(\$million)								
Autopartes	3,097	7,330	12,042	20,060	19,670	25,100	24,818	30,915	33,064
Automotriz	1,045	987	3,250	5,084	4,964	7,344	10,420	14,803	15,011
Total	4,143	8,317	15,292	25,143	24,634	32,444	35,237	45,718	48,075
	share								
Autopartes	74.77	88.13	78.75	79.78	79.85	77.36	70.43	67.62	68.78
Automotriz	25.23	11.87	21.25	20.22	20.15	22.64	29.57	32.38	31.22
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	Trade balance								
Autopartes	-207	1,863	2,882	14,355	36,901	43,850	16,767	64,604	52,842
Automotriz	-926	-857	-3,079	-4,594	-2,215	-4,777	-4,534	-7,345	-10,784
Total	-1,133	1,006	-197	9,762	34,686	39,073	12,233	57,259	42,058

Fuente: elaboración propia con base en CCS 2009.

CONCLUSIONS (1)

MEXICO:

- Mature domestic market, with slow growth (dependend on total GDP)
- Limitations in the autoparts sector/massive imports?
Dependend on OEMs and exports
- In general: little R&D in all segments, few sectorial policies
- Several decades of integration in North America
- Since 1994: increasing share in US-market; main exporter in 2009
- Massive tariff benefits in NAFTA region and FTAs in Latin America and EU
- Experience: logistics, supply chain, autoparts-automobile-distribution-after sales market ...
- US: Culture, time-zone, ...

CONCLUSIONS (2)

- CHINA
 - Local and brand firms: Chery, Geely, Great Wall, BYD ...
 - In addition to SAICS: since 2007 significant M&A process, also internal?
 - New sources of energy and EV? BYD
 - Massive investments and R&D (quality and results?)
 - Relatively high growth in productivity compared to other countries (DRC 2010)
 - Huge domestic market and demand
 - Ecological and international/political limitations?
 - Very competitive domestic market
 - Most important global project for technological upgrading?
 - Foreign trade, small so far, but in 2011/2012 ...

PROPOSALS (1)

- Need to analyze the FAW-Grupo Salinas joint venture, paradigmatic for México-China relationship in AAC:
 - FAW: not sufficiently prepared (supplier system, ...)
 - Grupo Salinas: long term commitment and knowledge on market?
 - Secretaría de Economía: no sufficient annual evaluation and duty free permissions?
 - Discuss the case in detail for future joint ventures between México and China

PROPOSALS (1)

- In depth 10-digit project on effective exports of AAC from Mexico to China
- Why has this cooperation process been so slow and ineffective?
- Explicit topic in Binational Commission China –México
- Formulation of a short, medium and long-term agenda in AAC
- If AAC critical for China-Mexico relationship in the short and medium run, which sector will show some initiative (such as this Dialogue)?
- 2 concrete projects on the effective potential among both countries in AAC: see proposals at Binational Commission (2010)

PROPOSALS (2)

- Actions among public, private and academic sectors
- Effective “strategic partnership” and long term cooperation in AAC
- Private and public sectors: short, medium and long term agenda in the AAC?
- ProMéxico: training of Mexican business for the Chinese AAC and better informed delegations to China and future Dialogues
- Secretaría de Economía: commit to law and Decree of 2010 annual (!) evaluation and debate on its further limitations? (explicitly for Indian and Chinese firms?)
- Education: increase exchange –students, engineers, MBAs, etc.- in the AAC, for example IPN/UNAM/ITESM and Tongjii University (SRE and SEP, as a priority for scholarships?)

Options and Potential for Cooperation Between China and Mexico in the AAC

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Mexico City, August 19th**



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