



A Global Viewpoint: Tomorrow's Auto Industry

Competitive Dynamics in a Evolving Markets

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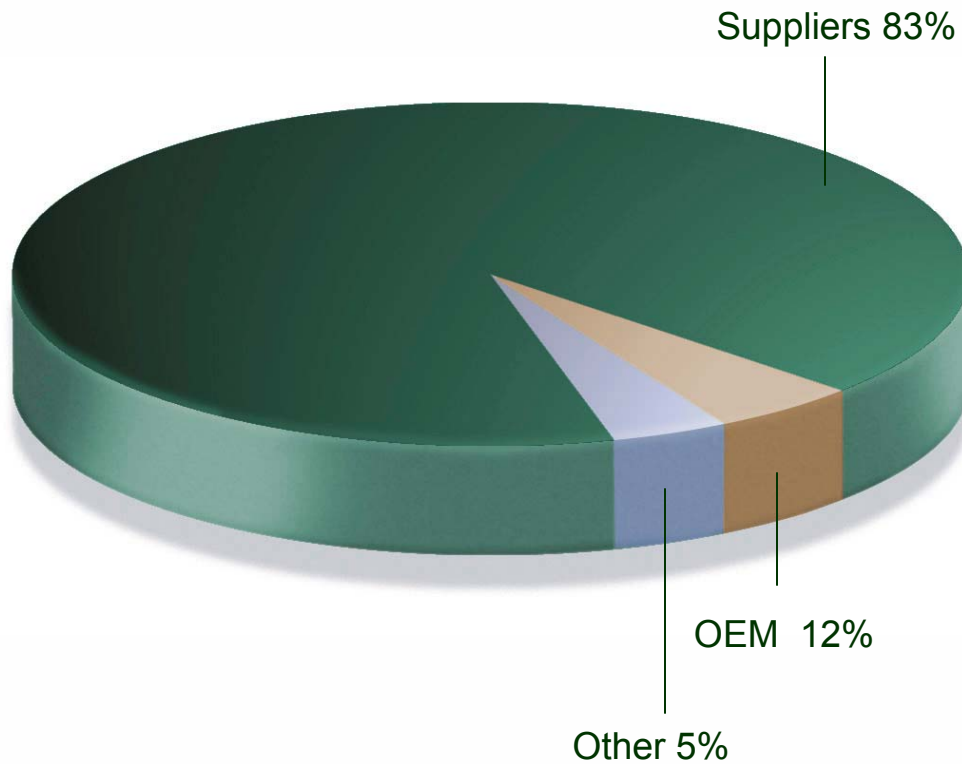
Federal Reserve Bank of Chicago – 19th Annual Economic Outlook Symposium
2 December 2005

AUTOMOTIVE FOCUS

Client Base



Over 420 clients



top 100 global suppliers



CSM Clients

top 12 OEMs



CSM Clients

A COUPLE CAVEATS ...



- *Extraneous events will occur (weather, lawlessness, earthquakes, questionable people in power, rogue union presidents etc.)*
- *Forecast what the analysis depicts will occur, not what you want to occur*
- *Apparently, not every vehicle reaches the OEM's lofty planning volumes over the entire cycle*
- *Humans will always converge to a steady state*
- *Common sense doesn't always prevail*

Don't Shoot The Messenger

PRESENTATION OUTLINE



- **Global Industry Dynamics**
- **Auto Ownership Basics**
- **Global Outlook**
- **Extending to 2015**
- **What About North America?**
- **Summary**

GLOBAL DYNAMICS

Converging or Expanding?



- Converging
 - ◆ Trade tariffs and barriers decline
 - ◆ Liberalization has improved by 16% in the last 10 years
 - ◆ New bilateral and multilateral agreements (SAFTA, CAFTA)
 - ◆ Emission and safety standards
 - ◆ Kyoto implementation integrates the outliers
 - ◆ Global consumer attitudes converge
 - ◆ Internet usage explodes and emerging middle class adopts Western desires
 - ◆ OEMs seek greater rationalization
 - ◆ Vehicle platform count of top 95% of all OEMs by volume declines by 22% - powertrain platforms follow suit

GLOBAL DYNAMICS

Converging or Expanding?



- Expanding

- ◆ Volume per platform expands by 52% - approaching 500,000 units by 2011 from 2005
- ◆ Volume per nameplate rises 53% as 'global nameplates' reach more locations
- ◆ Number of countries reaching 80% of global output rises to 14 by 2015 from 10 in 1998
- ◆ Improved platform flexibility and scalability enables for more efficient integration of new body styles, hybrid powertrain solutions and easier homologation to new markets
- ◆ Currency shifts demand expansion of the production footprint to drive arbitrage opportunities

GLOBAL DYNAMICS

The Pressure Is On



- More flexibility – more considerations
 - ◆ Protect for hybrid alternatives, LHD and RHD, FWD/AWD or RWD/AWD
 - ◆ Shorter life cycles (cadences) in most sectors drives the necessity for quick, more robust launches
- Not all new markets are created equal
 - ◆ China and Russia's market breadth is more dynamic than Brazil or India, which concentrate on the smallest vehicles
 - ◆ Regional trade blocks drive further rationalization – lower volume of 'kit' production – EU, ASEAN, Mercosur
- Development considerations
 - ◆ Livelier product cycles (more minor revisions through the lifecycle)
 - ◆ Fewer 'all-news', more majors, more extensive enhancements

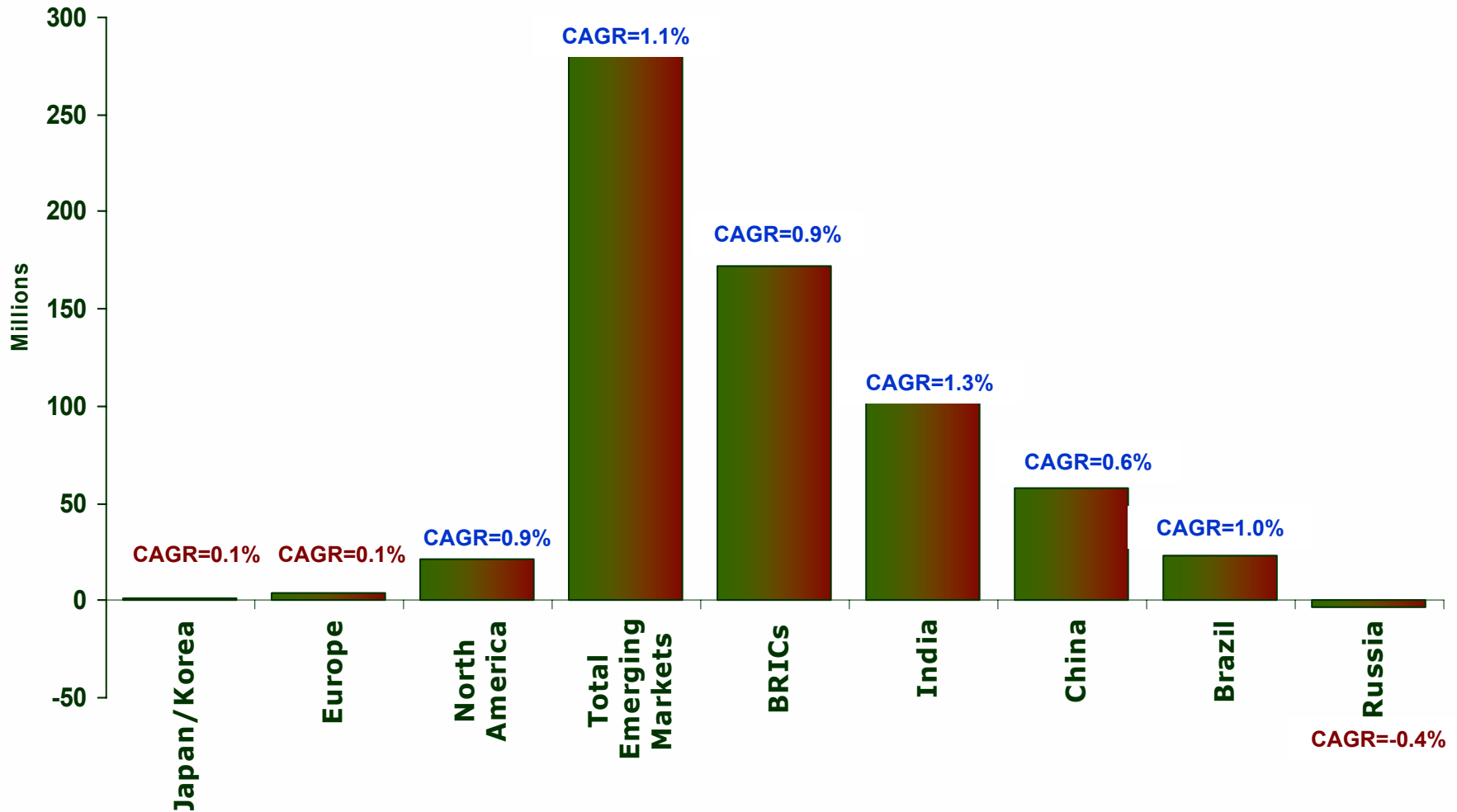
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GLOBAL POPULATION ACTIVITY

Regional Population Growth 2004 - 2011

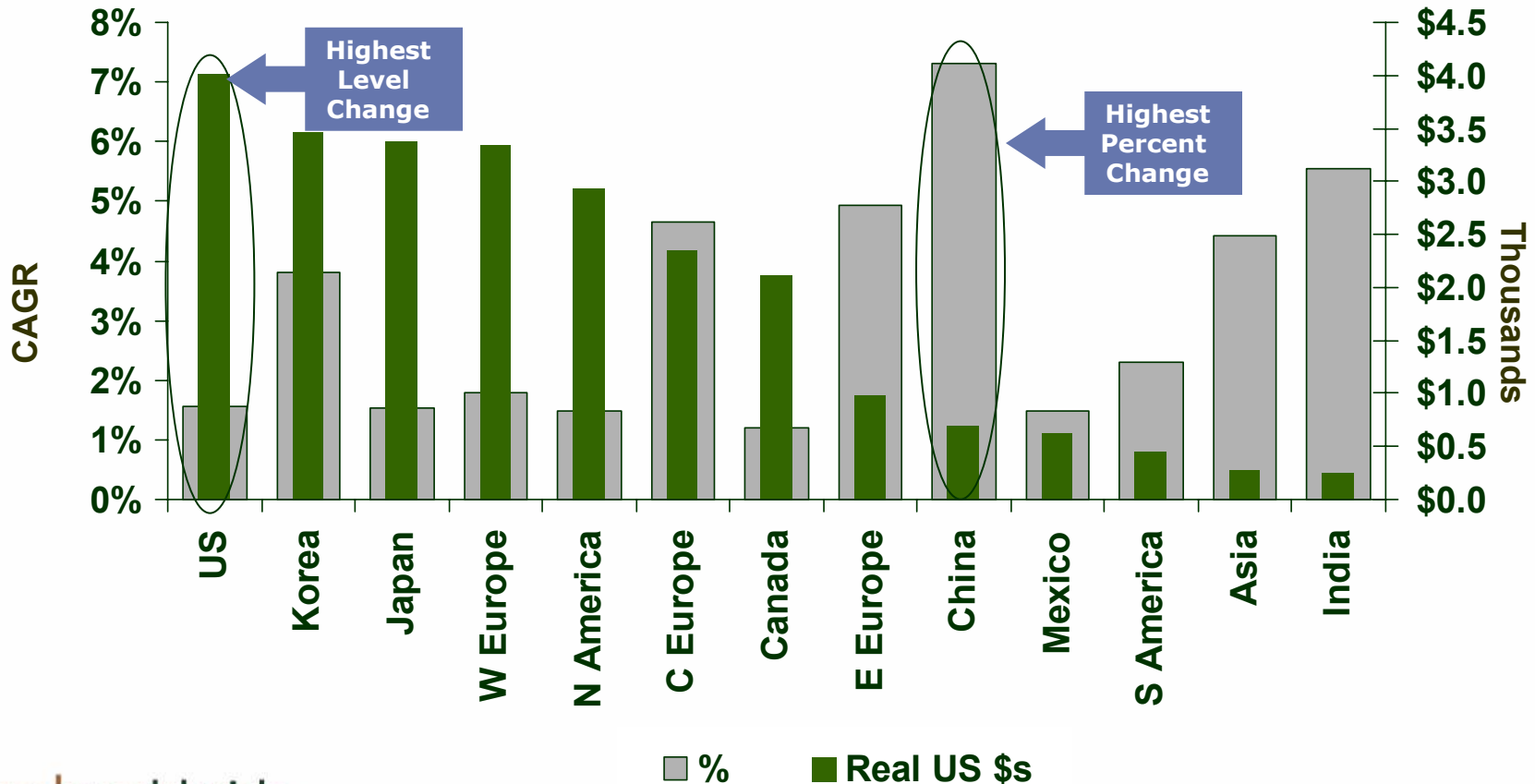


GLOBAL INCOME GROWTH



The change in incomes shows that size does matter. Despite superior percent changes in income, China cannot compare in terms of level change with more developed markets.

GDP per Capita 2005-2011 Changes



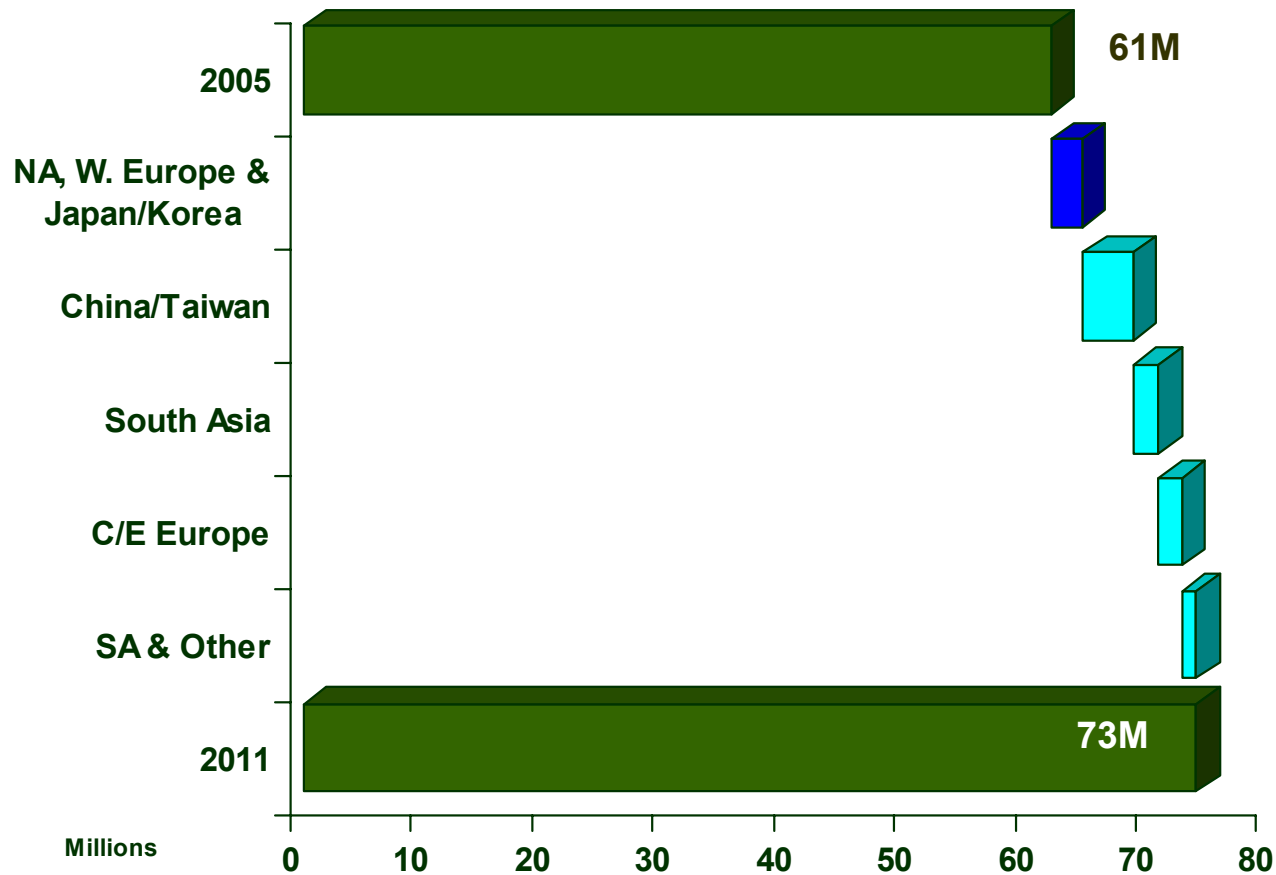
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GLOBAL LIGHT VEHICLE PRODUCTION

Emphasis on New Markets

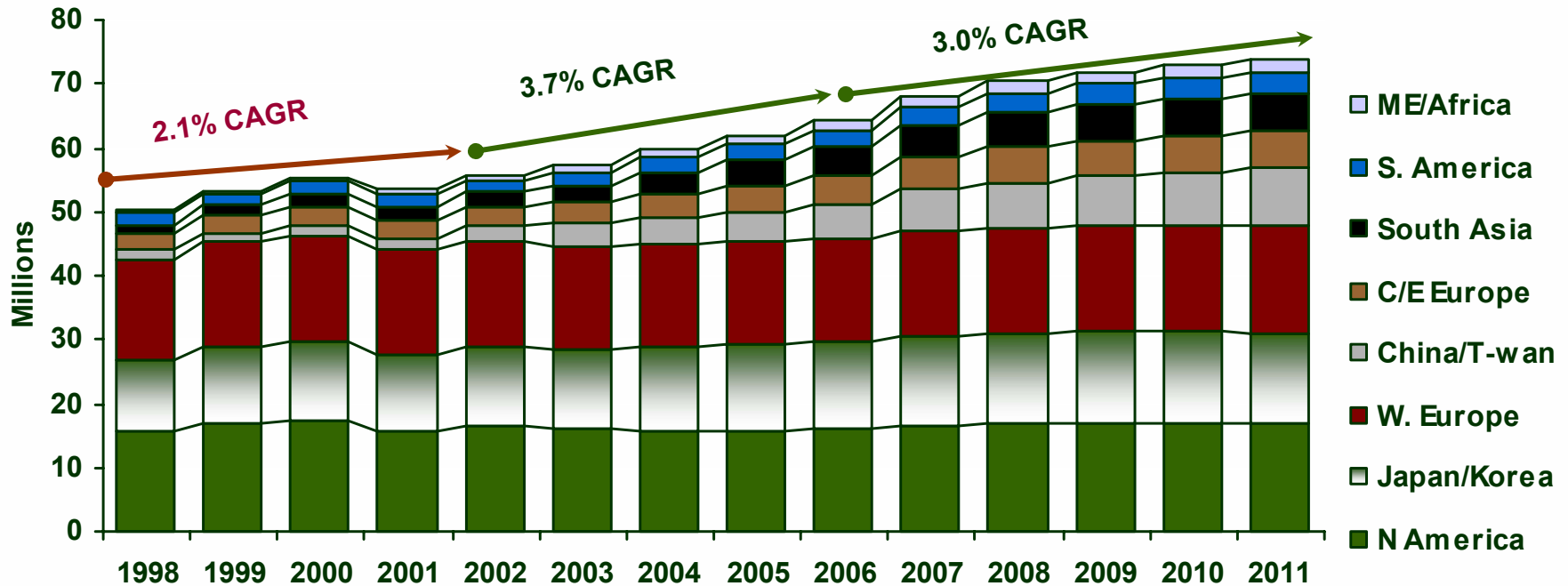


Expansion to New Markets

- Consideration of domestic and regional markets with global platforms
- Core segments first – niche or splinter efforts wait
- New global structure is built to be more interdependent

GLOBAL PRODUCTION

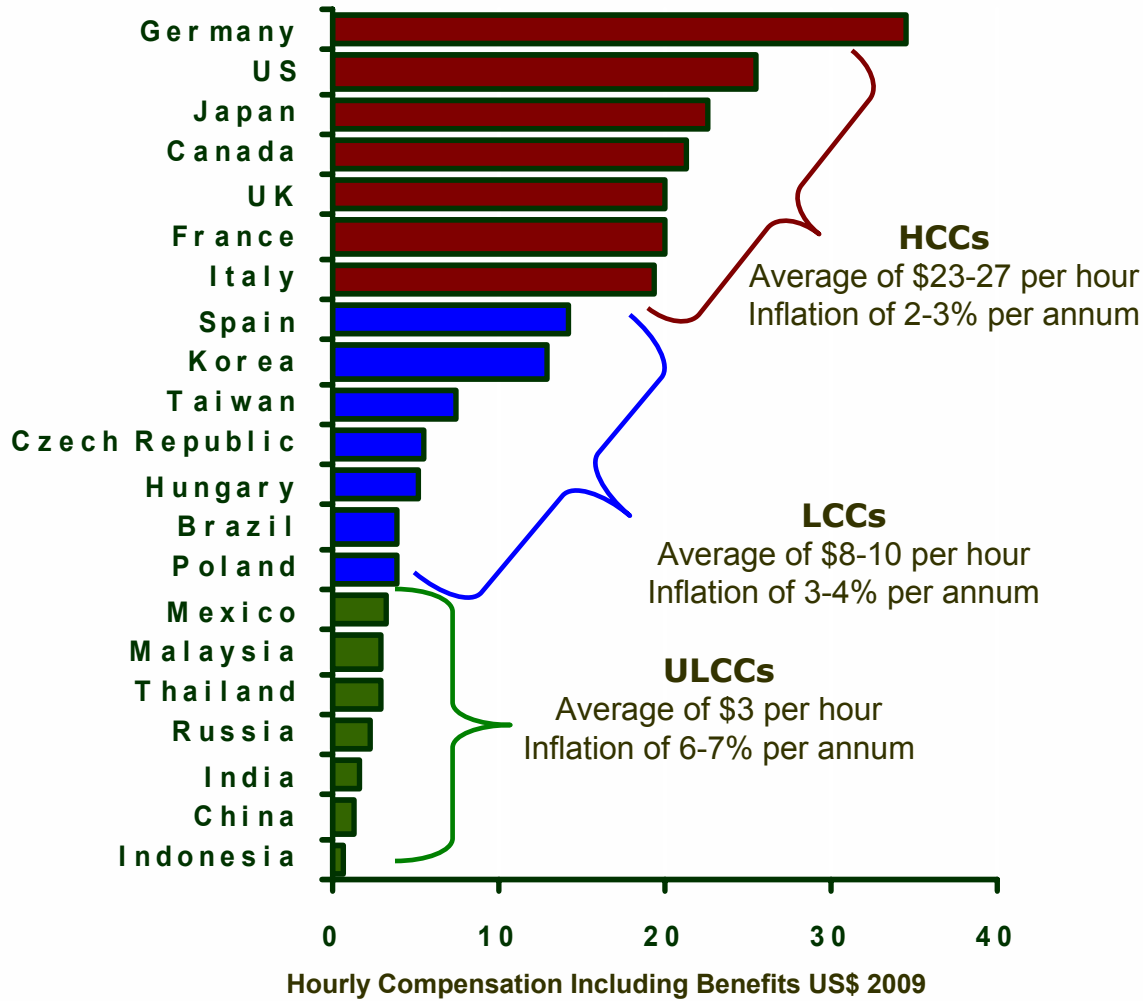
A Shift Towards Lower Cost/Higher Growth Markets



- The industry enters a new stage of utilizing new capacity in Emerging Markets
- Mature markets will grow more slowly as production is displaced
- Demand diversification in non-mass markets (domestic vs. export) allows for more sustainable demand

THE LABOR COST SHIFT

Growth of Sourcing from ULCCs and LCCs

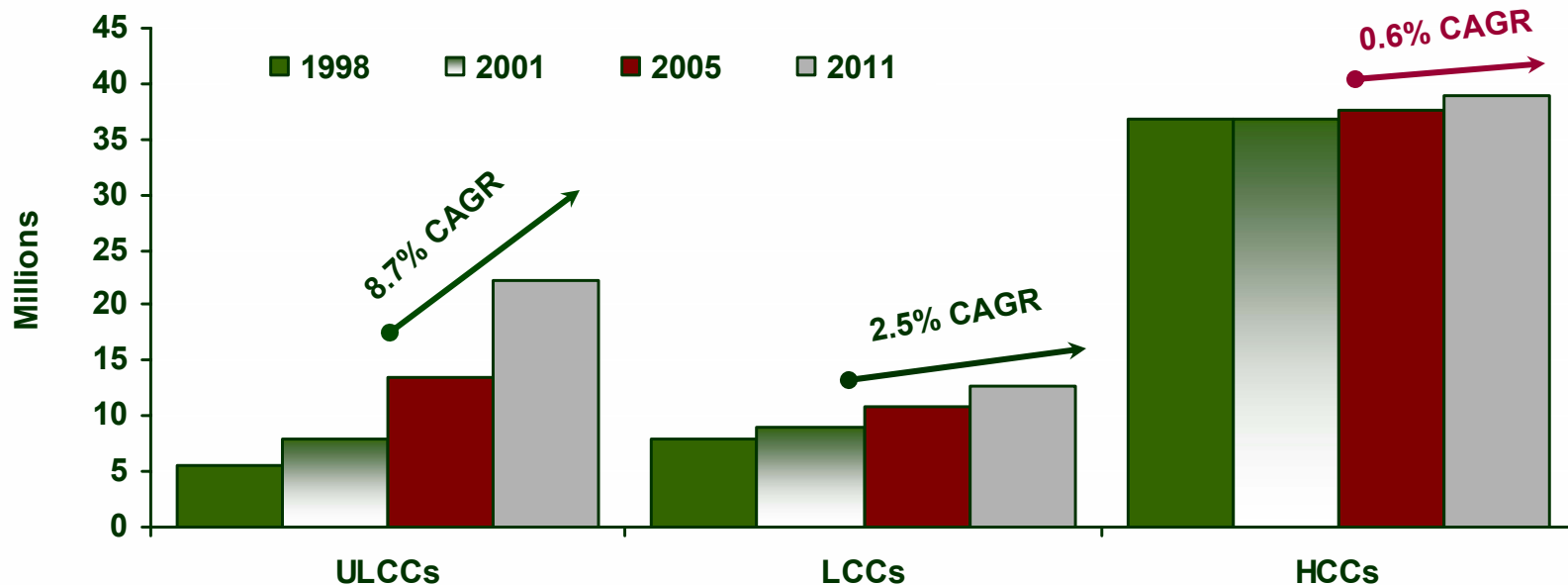


- Global platform rationalization enables for a shift to Ultra-Low Cost Countries (**ULCCs**)
- Several OEMs looking to 'escape' competitive High Cost Countries (**HCCs**)
- A number of situations where Low Cost Countries (**LCCs**) will lead the charge into export markets

Source: Boston Consulting Group, EIU, S&P, other sources

GLOBAL PRODUCTION

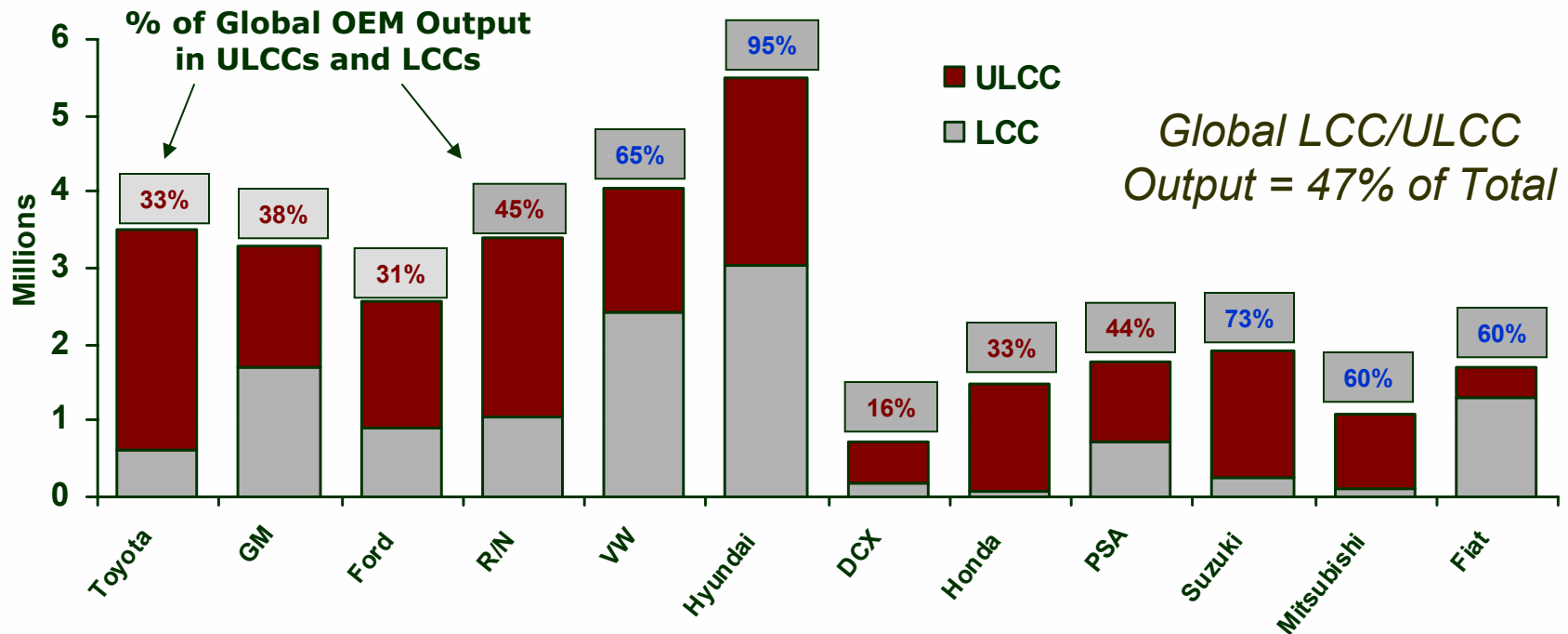
A Shift Towards Lower Cost/Higher Growth Markets



- **HCCs under severe pressure to restructure manufacturing operations to increase productivity and lower overall costs. Big Five Europe, Japan and US/Canada are noteworthy**
- **Key LCC markets such as South Korea and Czech Republic grow as export sources**
- **BRICs emphasis on domestic and export markets underscore the new global strategy**

GLOBAL PRODUCTION

Focusing Resources on ULCCs and LCCs in 2011



- Using ULCC and LCC sourcing to address growing domestic markets and close-proximity, developed markets
- NA Big 3 and Japan Big 3 improve positions, though the Japan Big 3 more quickly
- European OEMs a mixed bag – difficult to shutter HCC European capacity in France, Germany, Italy and the UK in lieu of C/E Europe, South Africa or Turkey
- Strategic global expansion underway

THE COUNTRY PRODUCTION RACE

More Players – Greater Rationalization

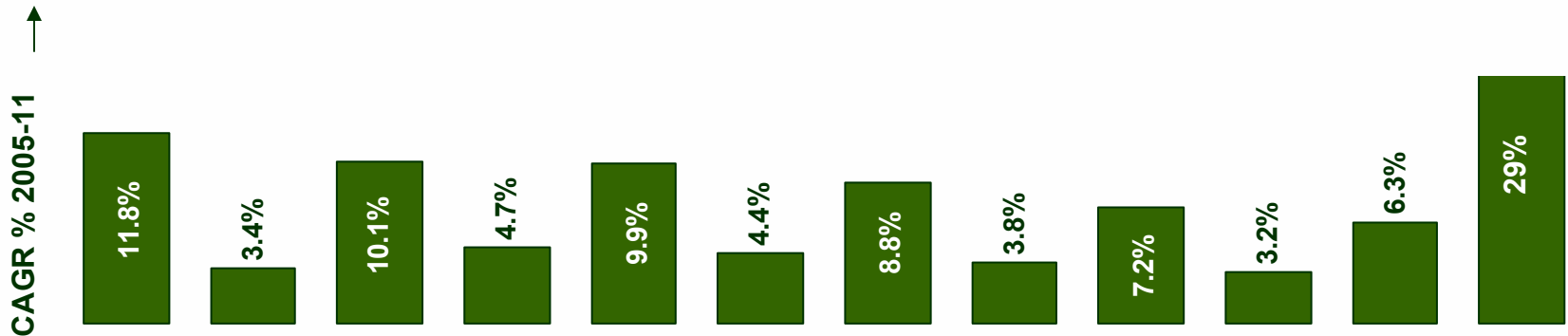
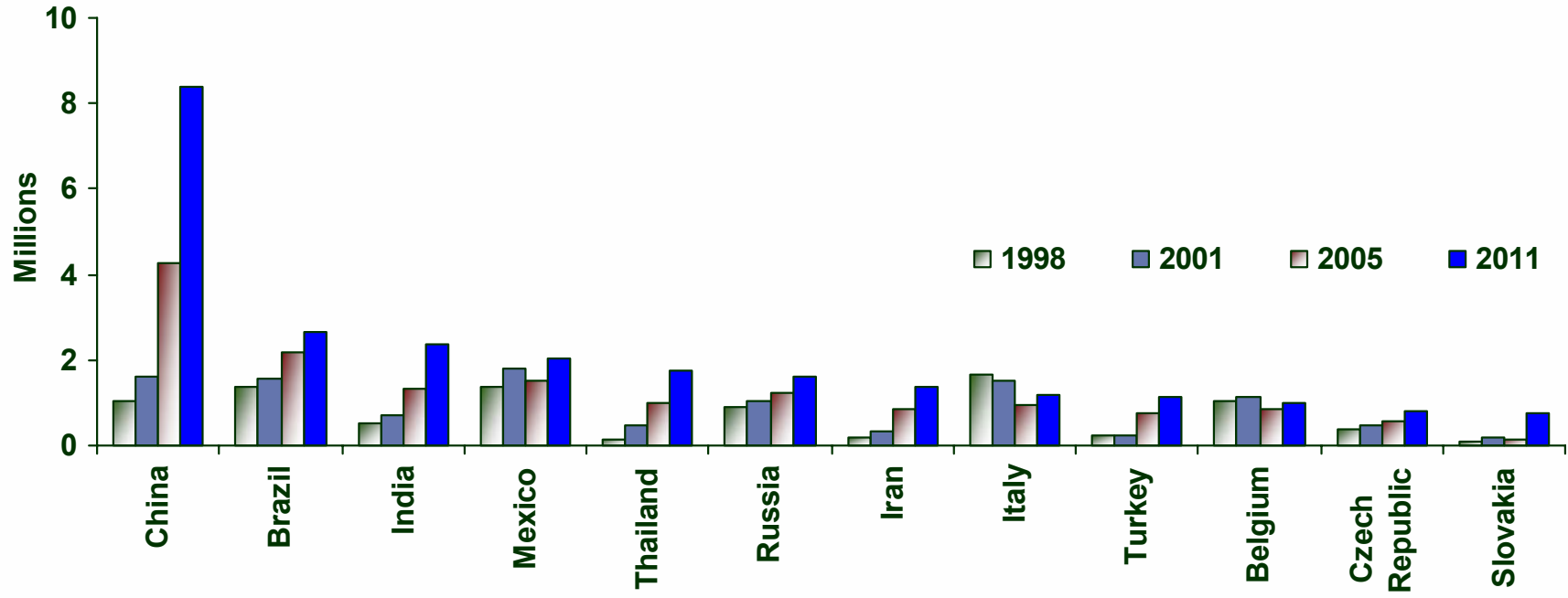


	1997	2001	2005	2008	2011
1	US	US	US	US	US
2	Japan	Japan	Japan	Japan	Japan
3	Germany	Germany	Germany	China	<u>China</u>
4	S. Korea	France	China	Germany	Germany
5	France	S. Korea	France	France	S. Korea
6	Canada	Spain	S. Korea	S. Korea	France
7	Spain	Canada	Spain	Spain	Spain
8	UK	Mexico	Canada	Canada	<u>Brazil</u>
9	Brazil	UK	Brazil	Brazil	Canada
10	Italy (80%)	China	UK	Mexico	Mexico
11	Mexico	Brazil	Mexico	UK	<u>India</u>
12	Belgium	Italy	India	India	UK
13	Russia	Belgium	Russia	Russia	Thailand
14	China	Russia	Thailand	Italy	Iran
15	India	India	Italy	Thailand	<u>Russia</u>

- Production is stratified over a greater number of countries as OEMs search for new markets
- Three more countries account for the top 80% of production
- Suppliers are forced to stretch their net works further
- *The battle to land new automotive investment is as fierce as ever ...*

GLOBAL PRODUCTION

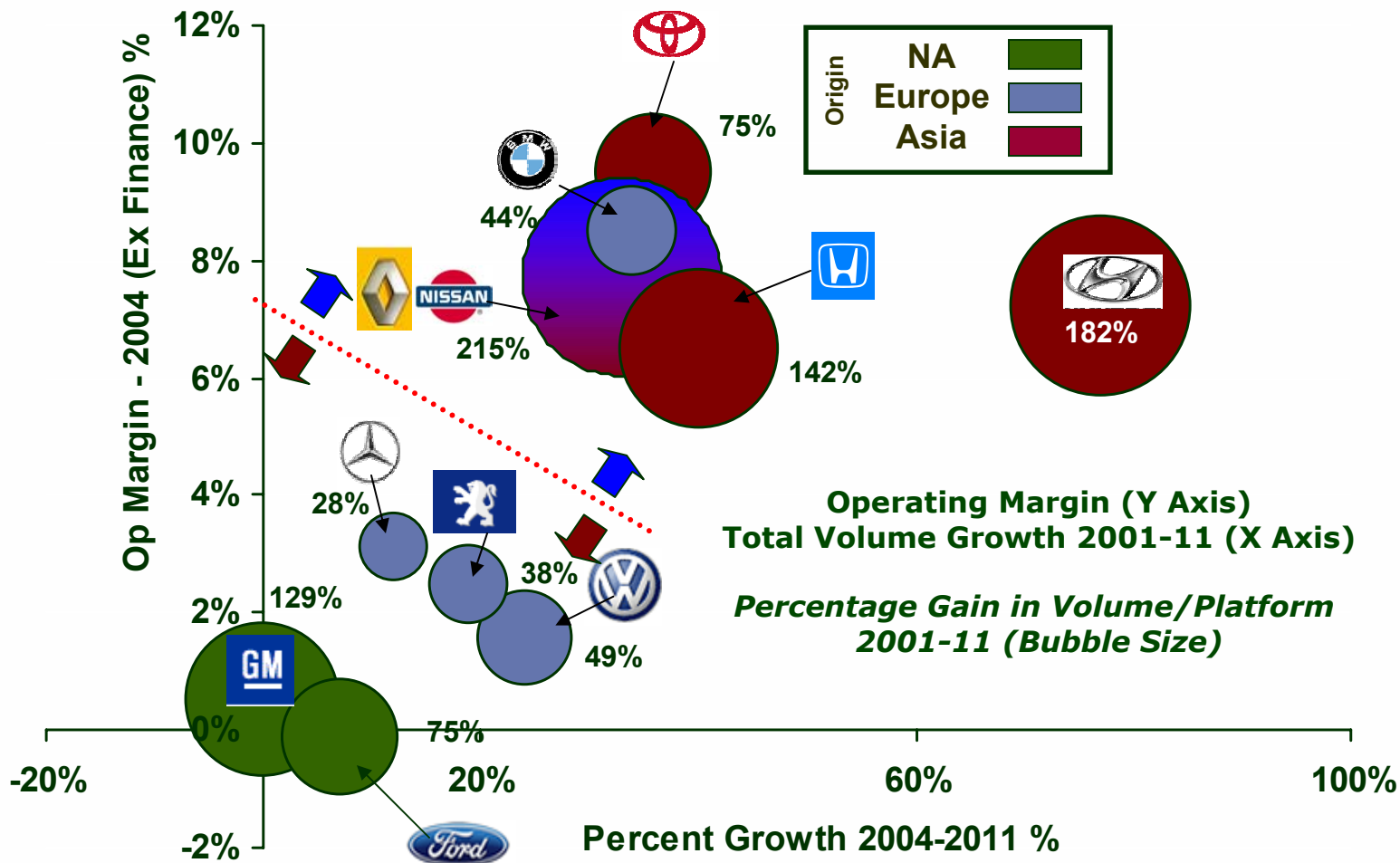
Rise of New Production Destinations



Global CAGR% = 3.0%

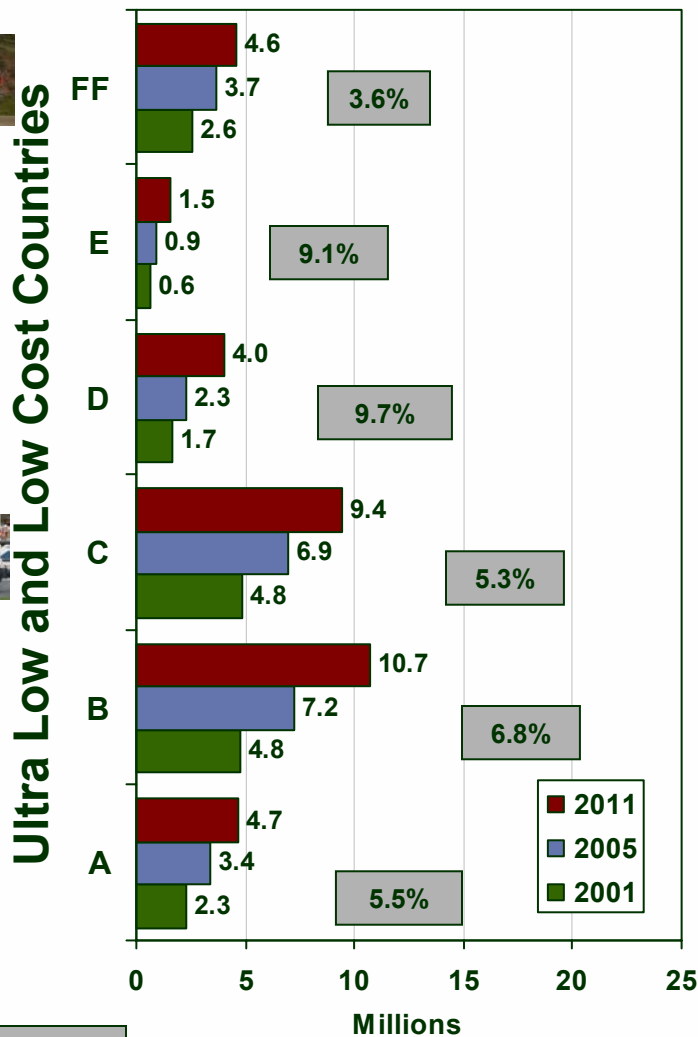
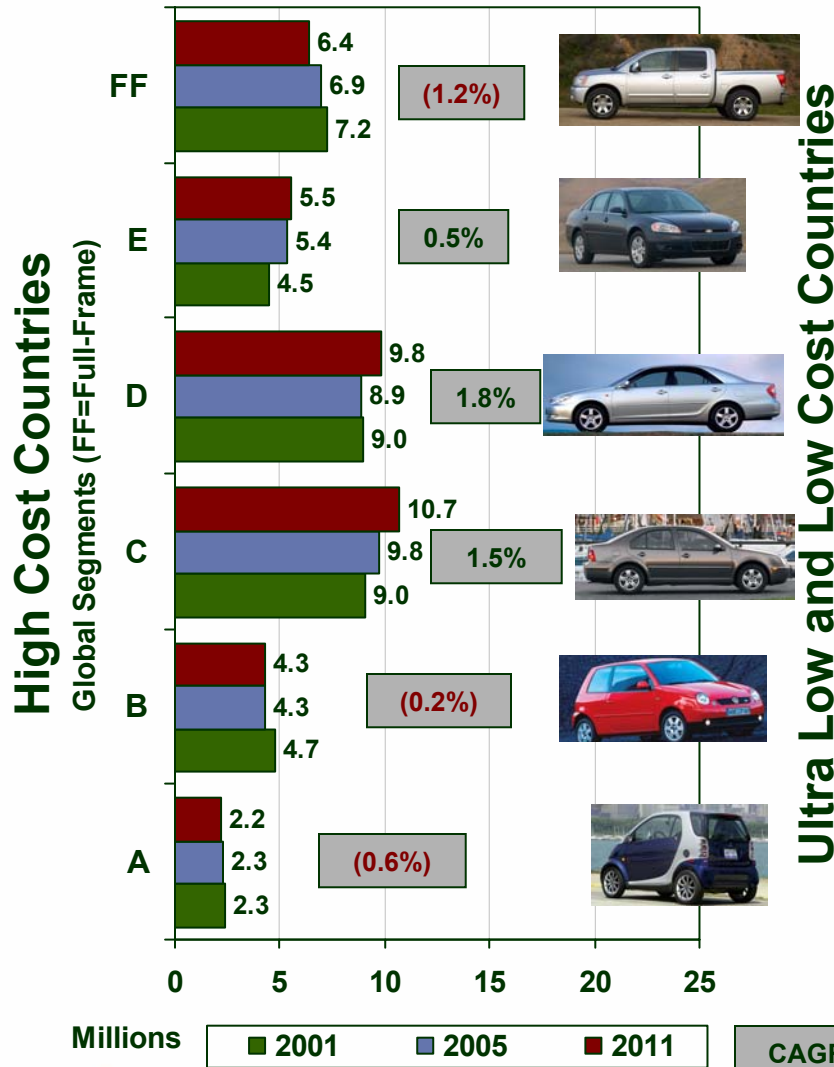
PRODUCTION GROWTH VS. OP MARGIN

Regional Differences Become Apparent



GLOBAL PRODUCTION

By Global Segment and Labor Cost

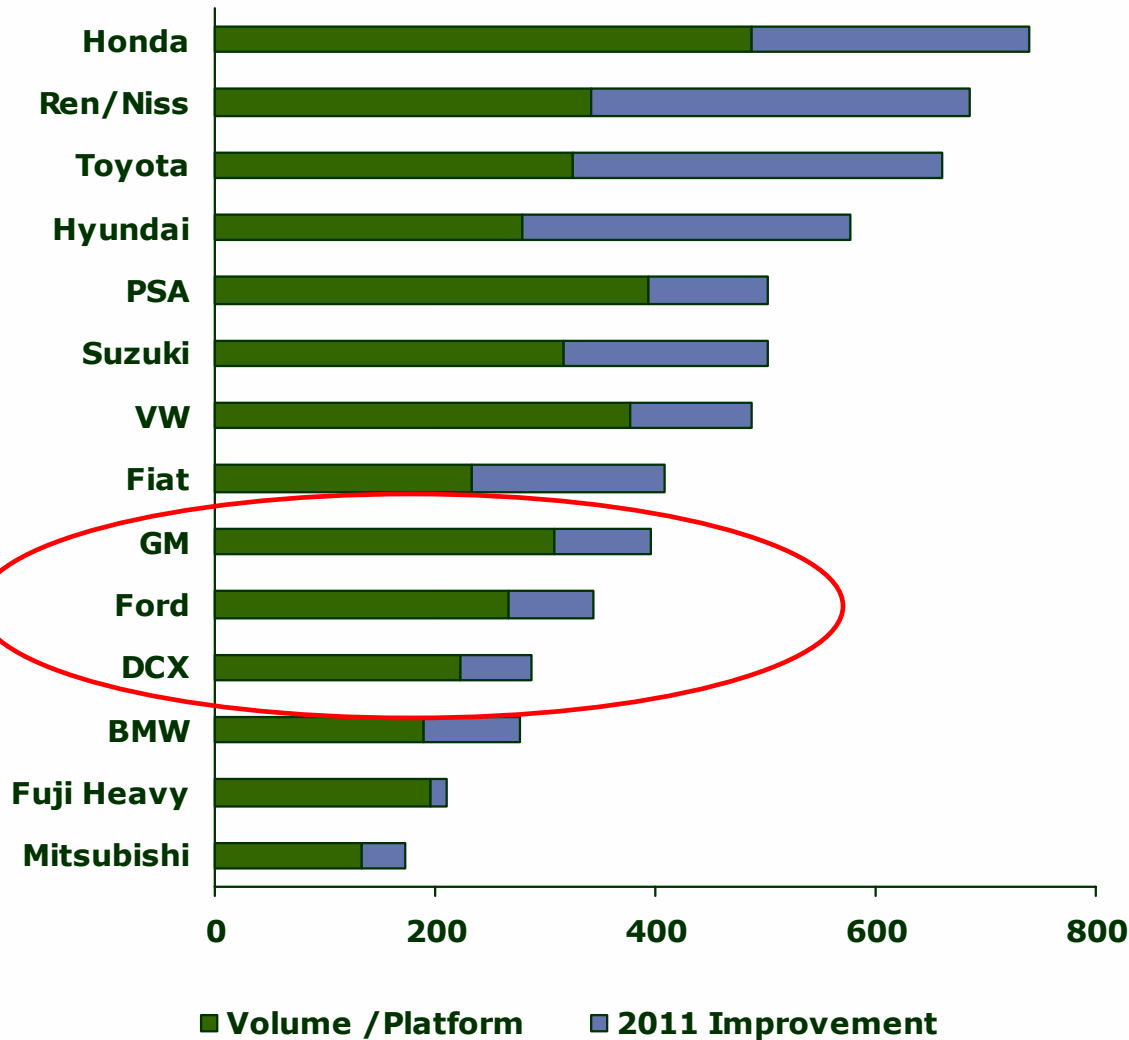


ULCC & LCC

Global Segment	2005-2011 Growth in Millions	Share of Growth
FF	0.8	8%
E	0.6	6%
D	1.7	17%
C	2.5	24%
B	3.5	33%
A	1.3	12%

A EFFICIENCY CONTEST EMERGES

Volume Per Platform Improves – For Some ...



	Improvement Due to Lower Platform Count	Improvement Due to Volume Gains
Honda	14.3%	85.7%
Ren/Niss	11.1%	88.9%
Toyota	7.1%	92.9%
Hyundai	38.9%	61.1%
PSA	38.5%	61.5%
Suzuki	22.2%	77.8%
VW	21.4%	78.6%
Fiat	23.1%	76.9%
GM	17.2%	82.8%
Ford	0.0%	100.0%
DCX	15.8%	84.2%
BMW	0.0%	100.0%
Fuji Heavy	14.3%	85.7%
Mitsubishi	28.6%	71.4%

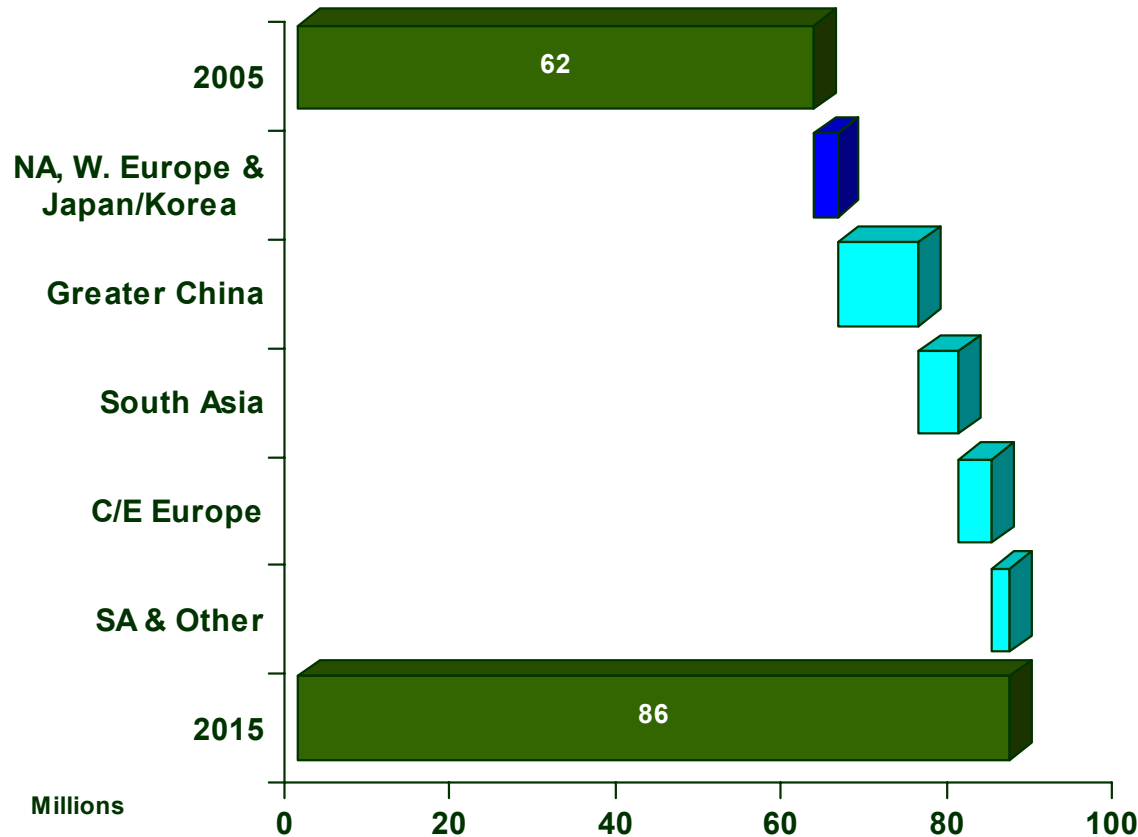
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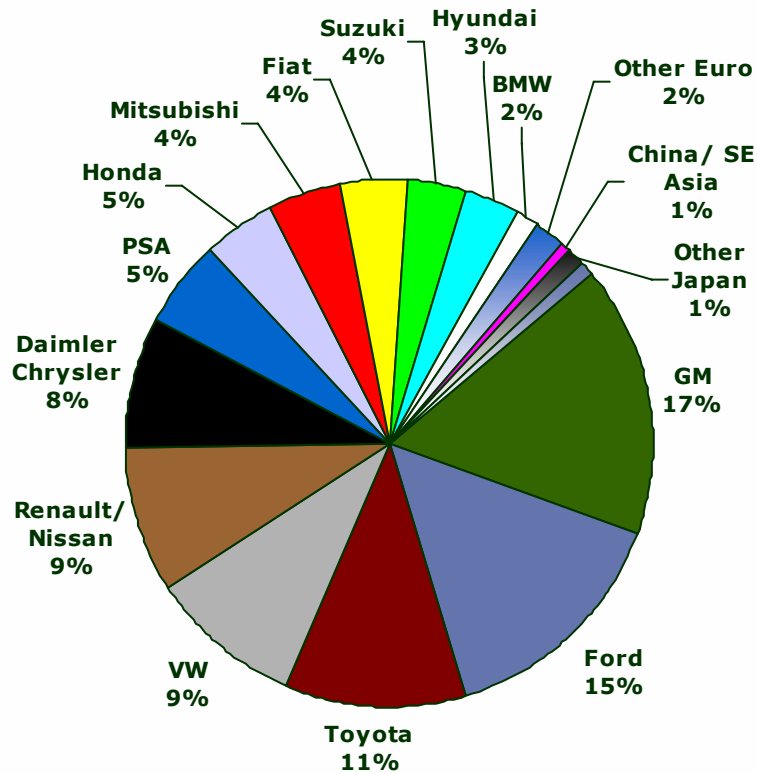
GLOBAL LIGHT VEHICLE PRODUCTION

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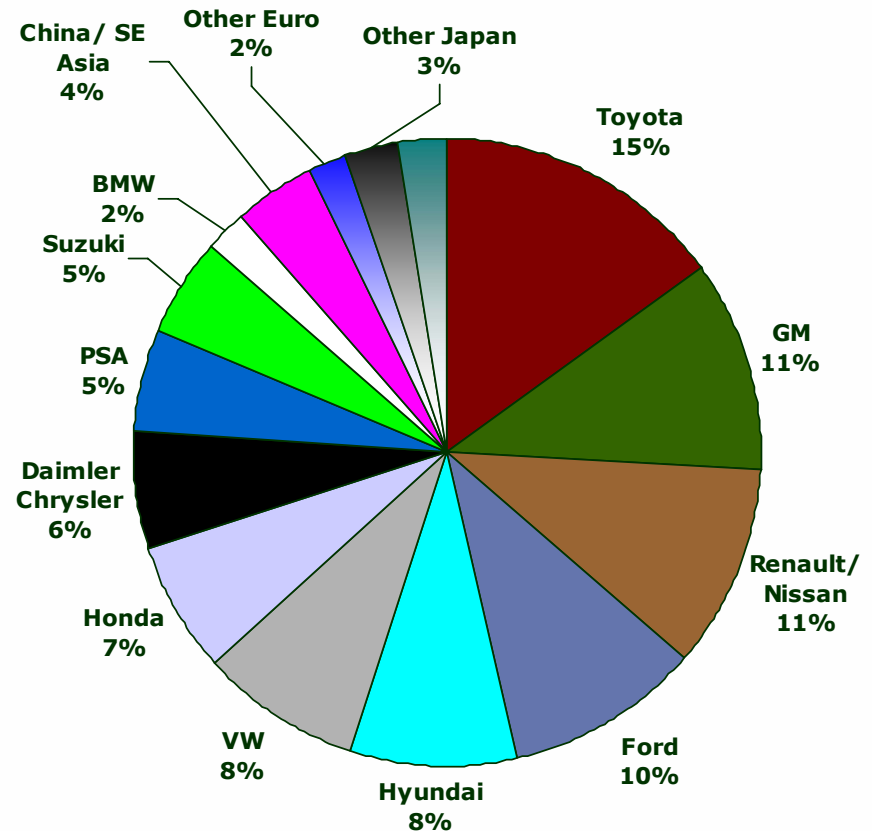


- **Global expansion centred on serving requirements in emerging sales markets**
- **Only after the turn of the decade will appreciable exports start from China, India & Thailand to NA**
- **New global structure is built to be more interdependent**

GLOBAL LIGHT VEHICLE PRODUCTION BY OEM



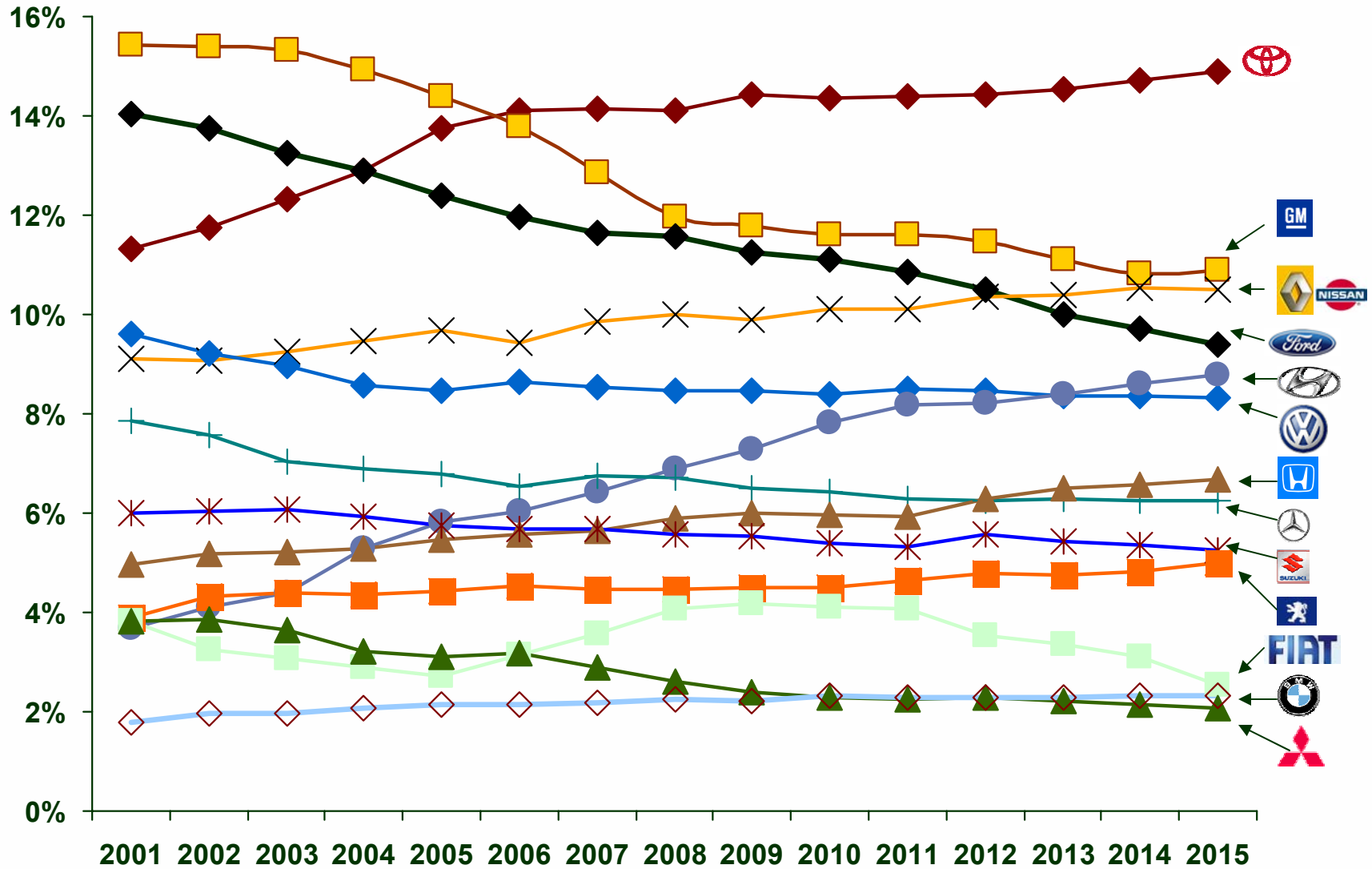
**2000 LV Production
55.7 Million Units**



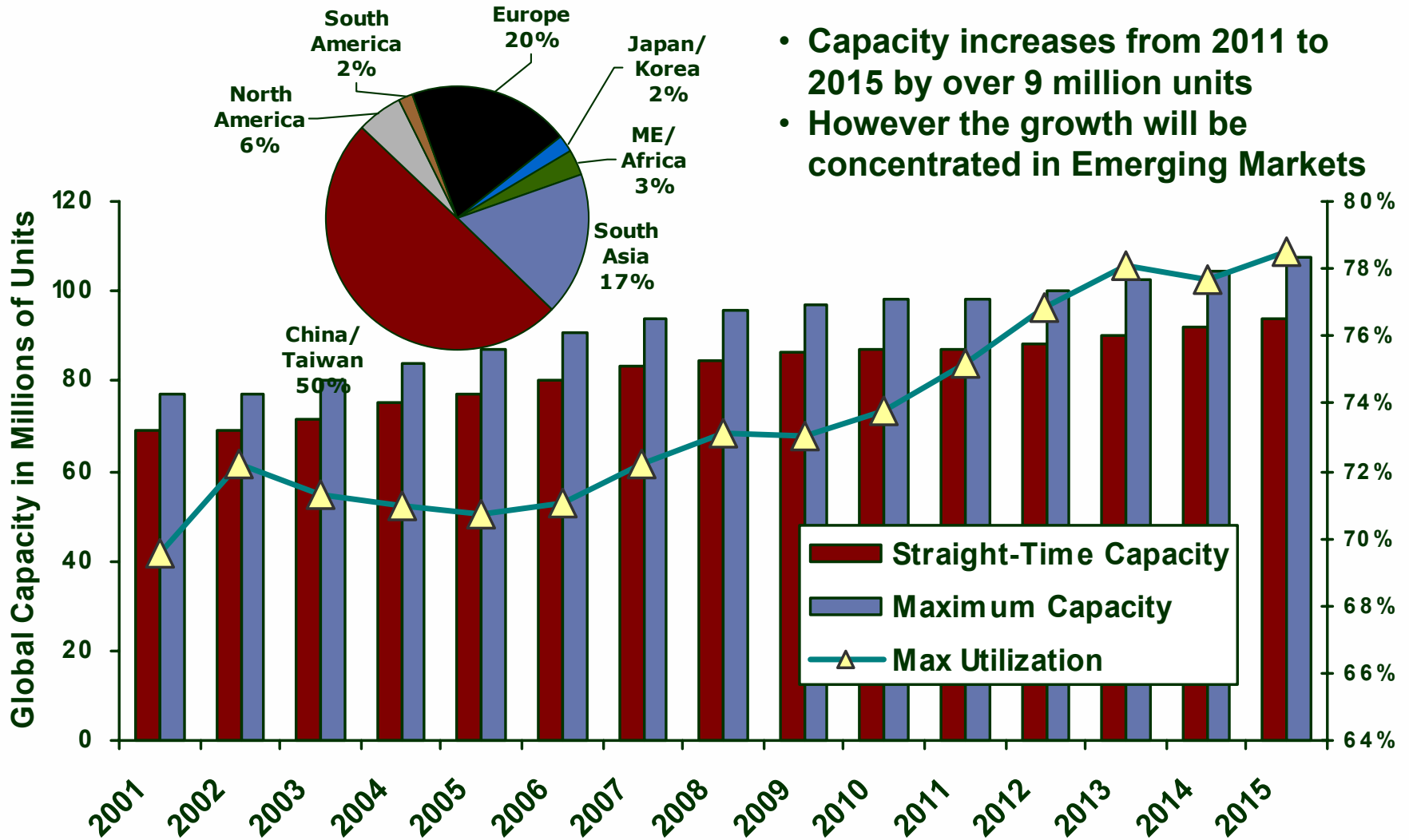
**2015 LV Production
84.2 Million Units**

GLOBAL PRODUCTION MARKETSHARE

Growth of the Asian 4



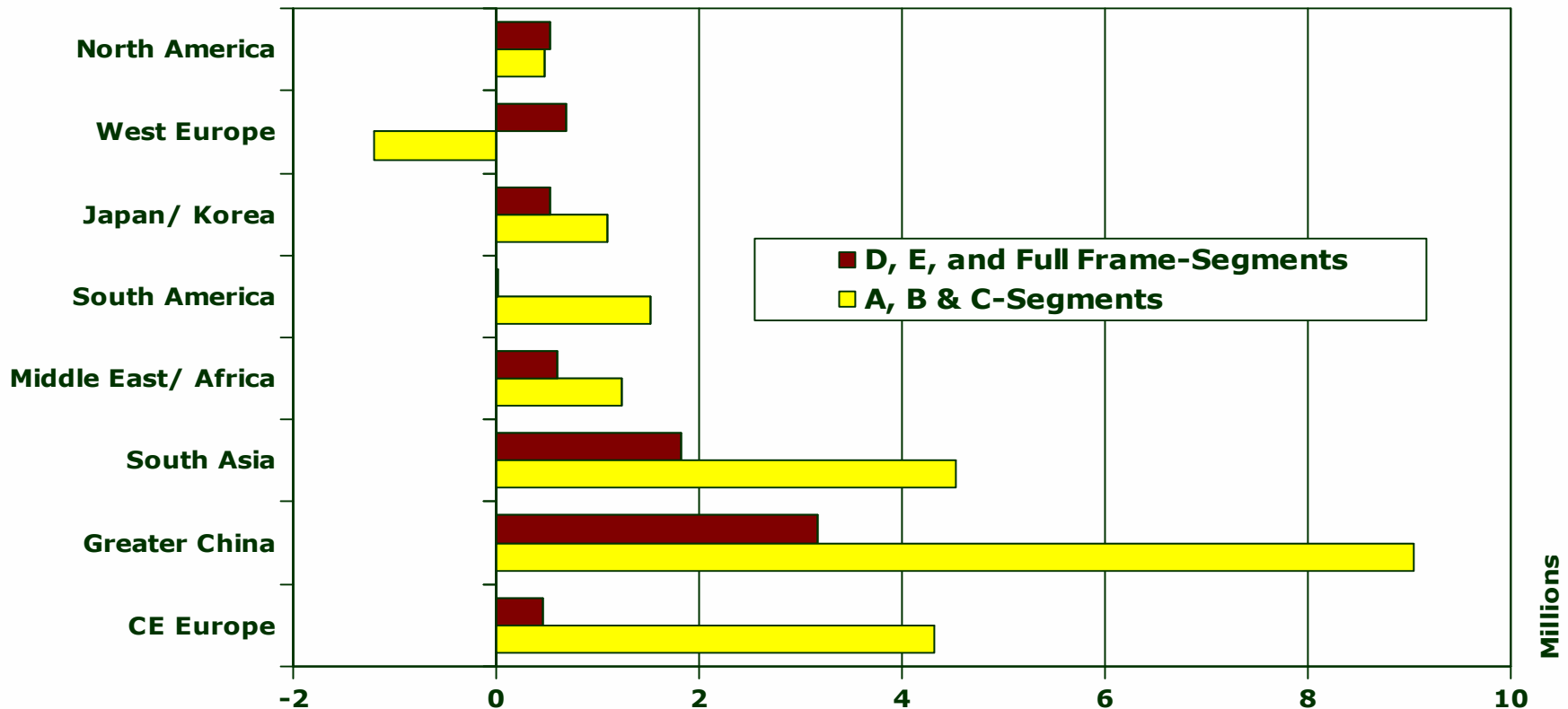
INDUSTRY CAPACITY ISSUES



- Capacity increases from 2011 to 2015 by over 9 million units
- However the growth will be concentrated in Emerging Markets

REGIONAL GROWTH BY GLOBAL SEGMENT

2000-2015

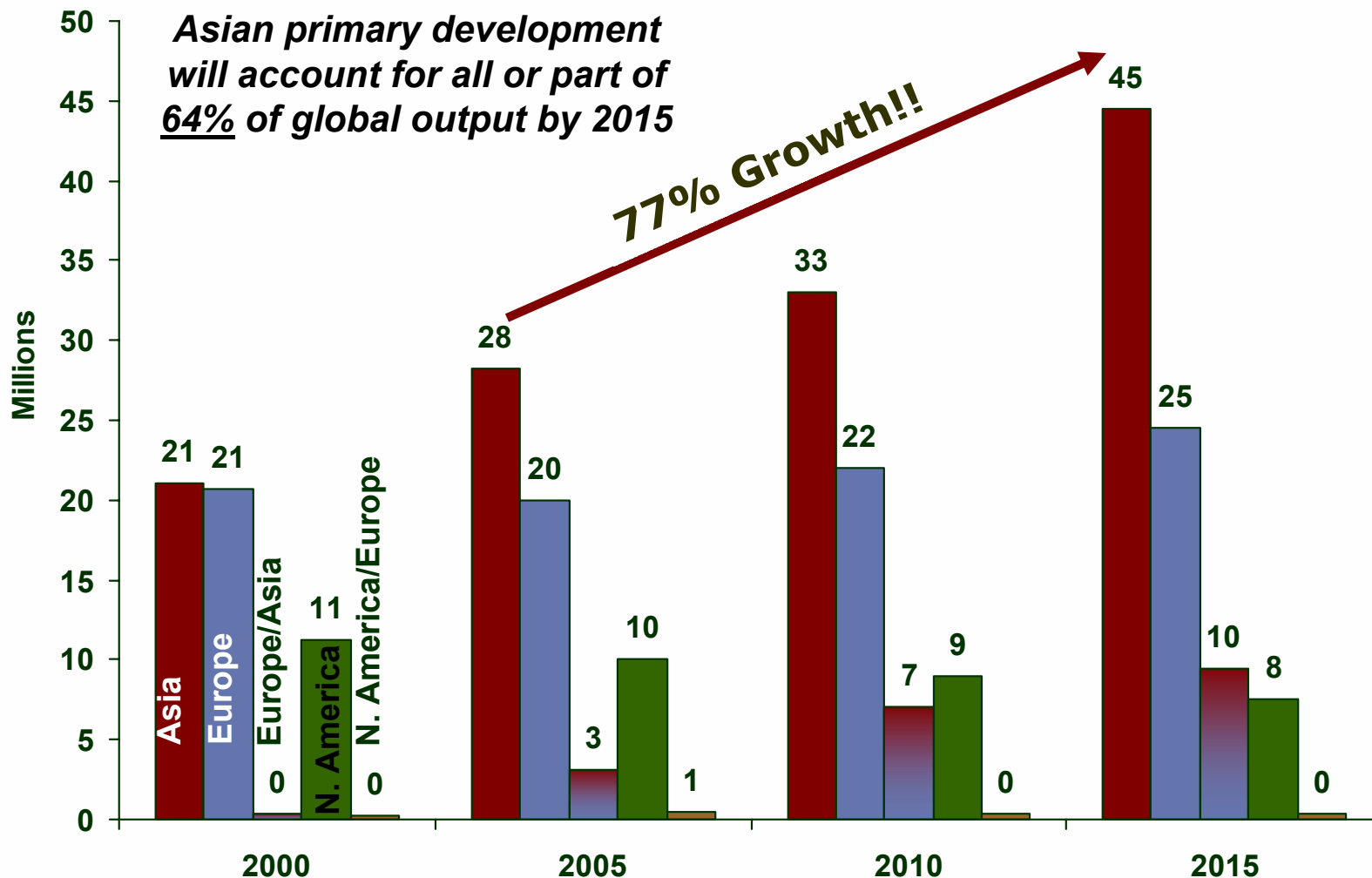


- As developing vehicle markets grow, the increases are predominantly in smaller, lower content, reduced value-added A, B and C segments
- Mature markets concentrate on larger, D, E and Full-Frame offerings which demand higher value added, increased supplier integration and technology solutions for differentiation

Developed with CSM Worldwide

PRIMARY PLATFORM DEVELOPMENT

Increasingly Asian-Focused



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North America: A Market In Flux



- Demographics will save the day in terms of volume for the next decade
- Several structural industry issues need to be addressed – long overdue
- Suppliers need to grasp the trends and shift focus towards a future of shifting production share, better diversification to new customers and focus on technologies/global leverage as a differentiator
- Most vehicle platforms will be global in breadth going forward – there is no turning back the clock
- Those that master the changes in vehicle mix, content and OEM expectations can prevail

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SUMMARY



Wading Through The Global Waters

- Suppliers touting product/process technology advantages with global capabilities working on the right mix of programs early in the development process will survive
- Global platforms are a fact of life – giving way to high-volume platforms and increased inter-platform component commonality
- Technology entry points are fewer though harbour greater volume opportunities across a more countries
- Increasingly Asia-focused world (production, development, sourcing decisions etc.) – Adapt to it
- *Who Do We Work With?*
 - **Escaping** OEMs look abroad for 'easier' markets but have higher risk
 - **Expanding** OEMs use their success and rationalization strategies to bolster both home and incremental markets

csm | worldwide

automotive
market
foresight



Thank You

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