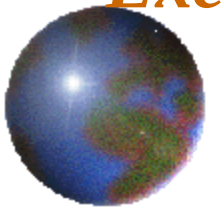
Modeling global wine markets to 2018:

Exchange rates, taste changes, and growth in China



Kym Anderson
Wine Economics Research Centre, University of Adelaide
and
Glyn Wittwer
Centre of Policy Studies, Monash University, Australia

AAWE Annual Conference
Stellenbosch, South Africa, 26-29 June 2013

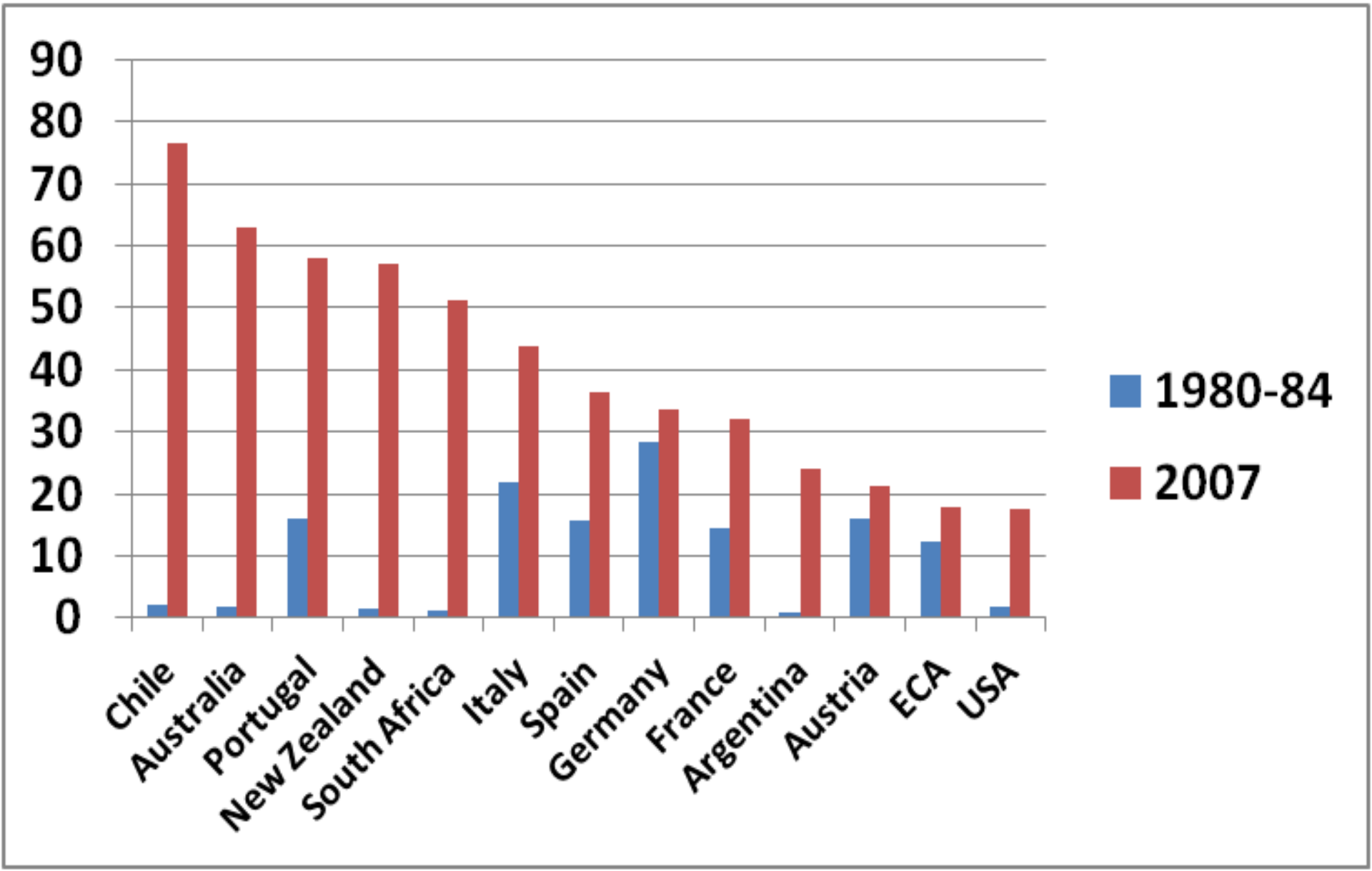
Outline

- Recent and prospective shocks to world's wine markets & int'l competitiveness
- Global wine markets model for estimating effects of economic shocks
- Model simulation results
  - Recent real exchange rate changes, 2007-2011
  - Prospective RER changes + other forces to 2018
- Implications for wine-exporting countries
  - ... using Australia as one example

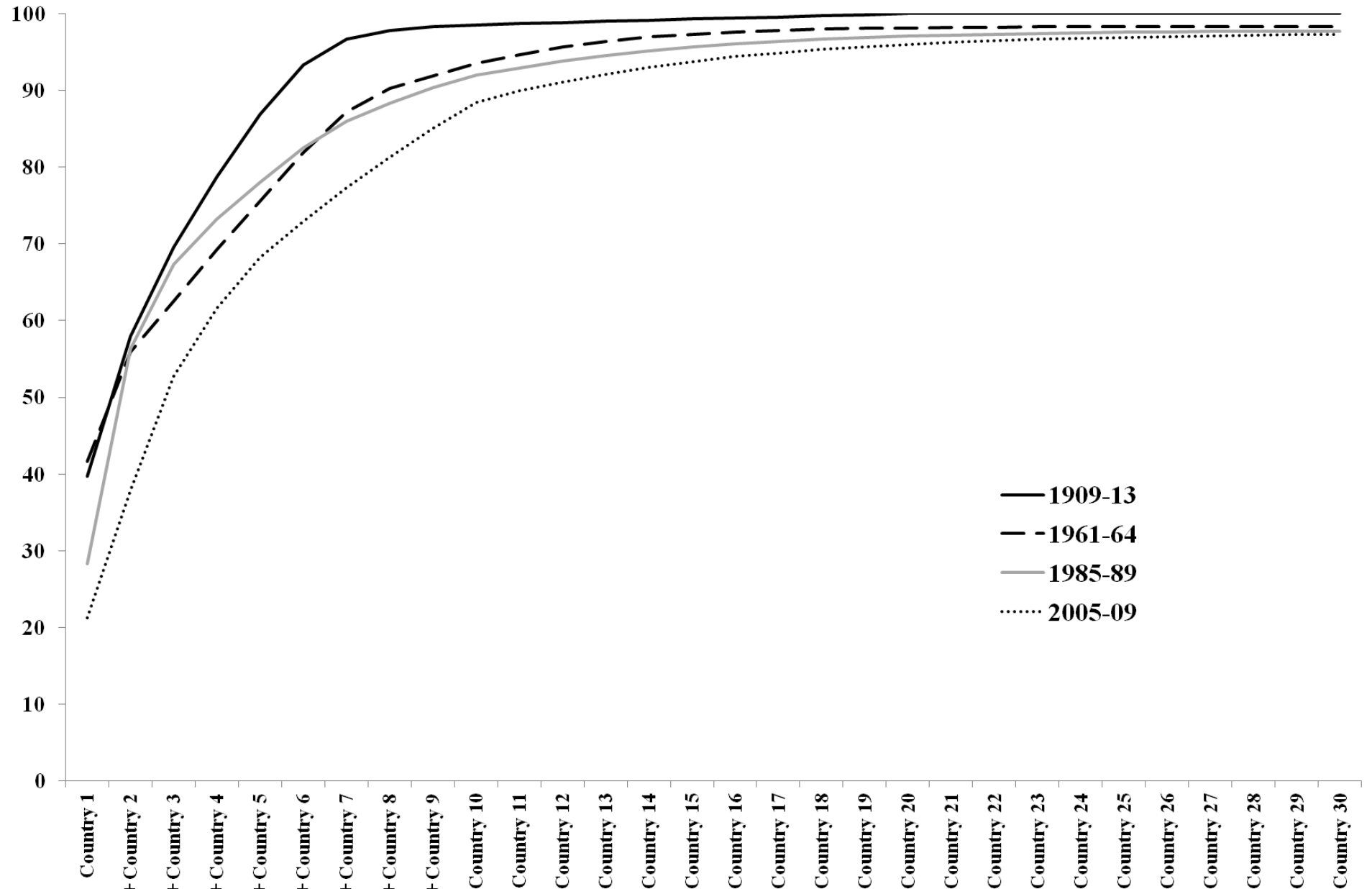
Globalization's influence on wine's tradeability
(hence producer exposure to global market shocks)

- Vignerons are far more exposed to shocks to world economy now than in 20th century
- Share of global wine prod'n exported was:
  - always <15% prior to 1990
    - Even in 1909-13 it was only 12%, or 7% if exports to France from its North African colonies are excluded
  - now >40%
    - **Old World** big 4: risen from 20% (1990) to 49%
    - **New World**: risen from 4% (1990) to 42%

Exports as % of wine production



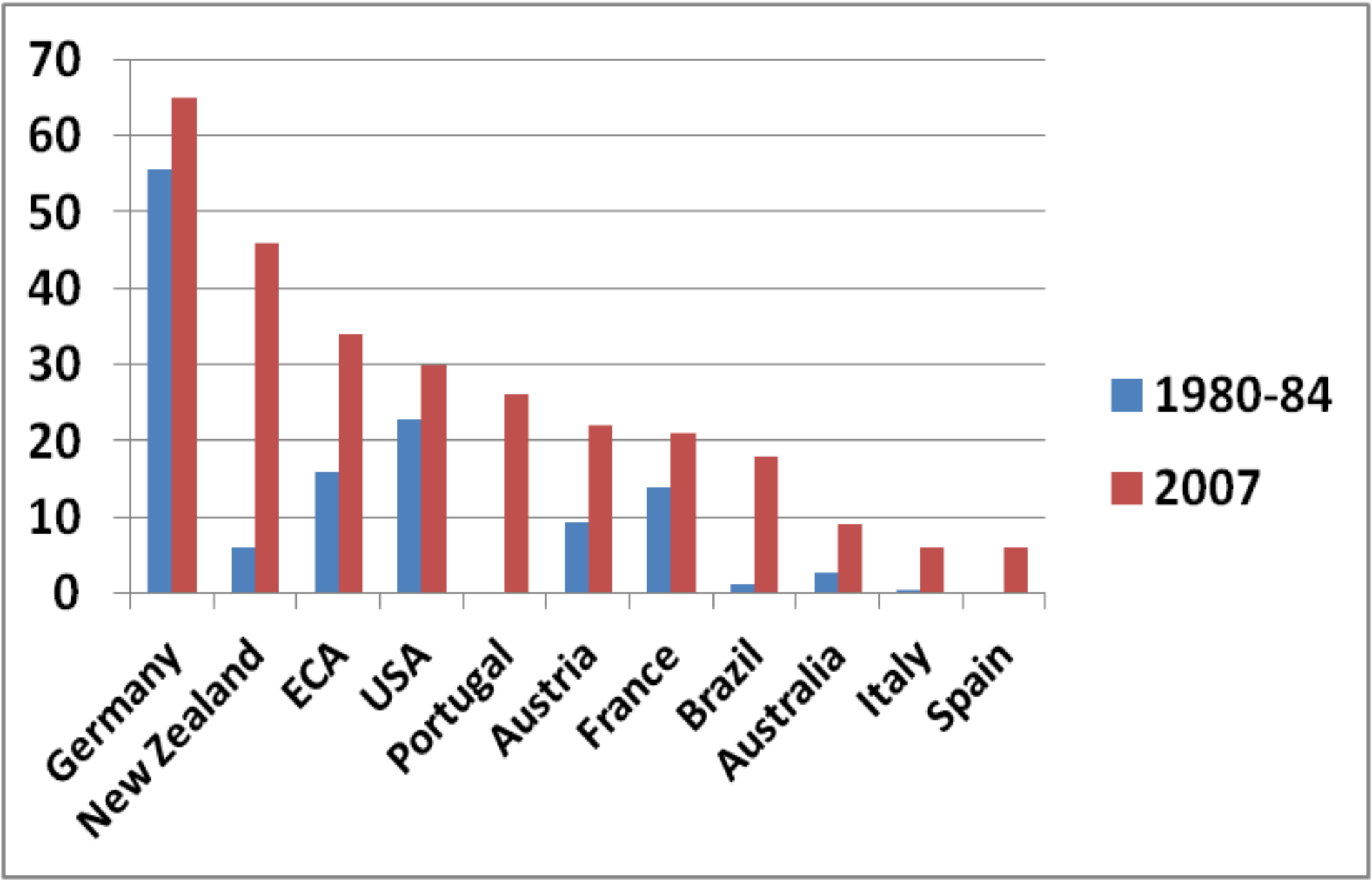
Cumulative share of global wine export vol. (%)



Globalization's influence on wine's tradeability (continued)

- Wine exporters are also exposed to import competition in home market

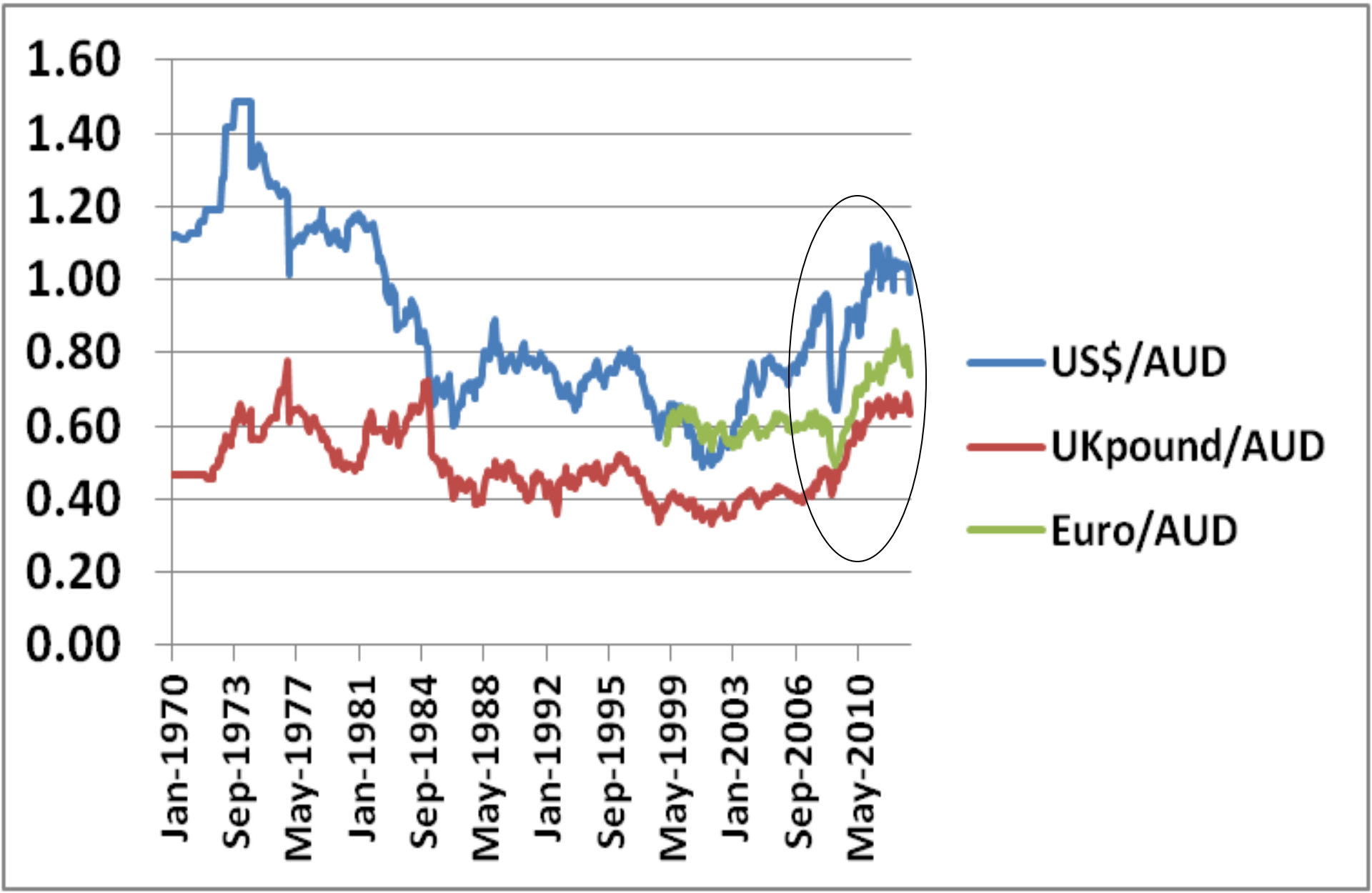
Imports as % of wine consumption



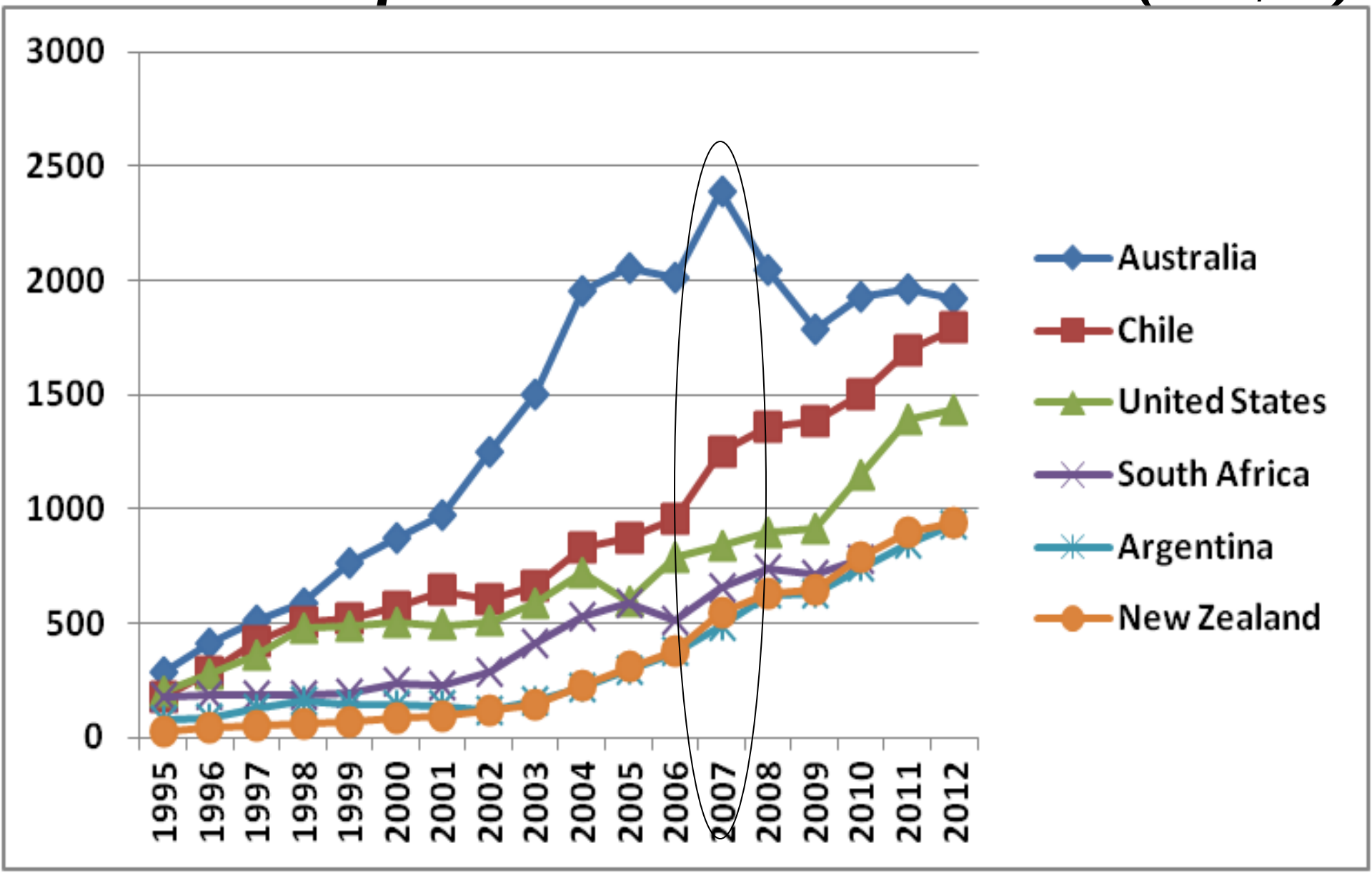
Global forces affecting wine exporters' sales and int'l competitiveness

- Real exchange rate changes
- Changes in tastes
- Growth in Chinese market
  - Will cons'm keep growing faster than domestic production?

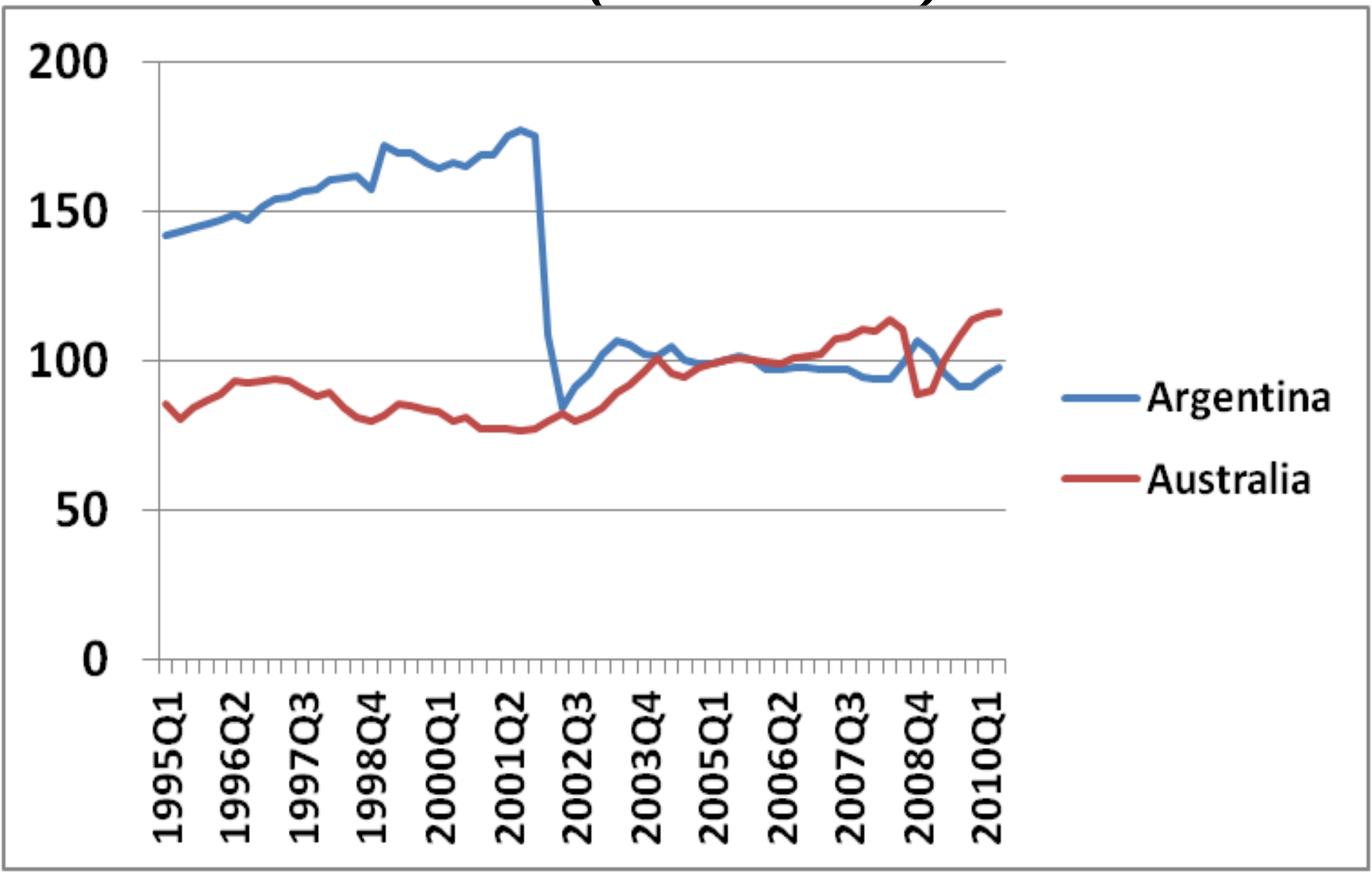
Australian dollar, nominal, 01/70 to 05/13



Gap between Aust & smaller New World wine exporters: halved since 2007 (US$m)

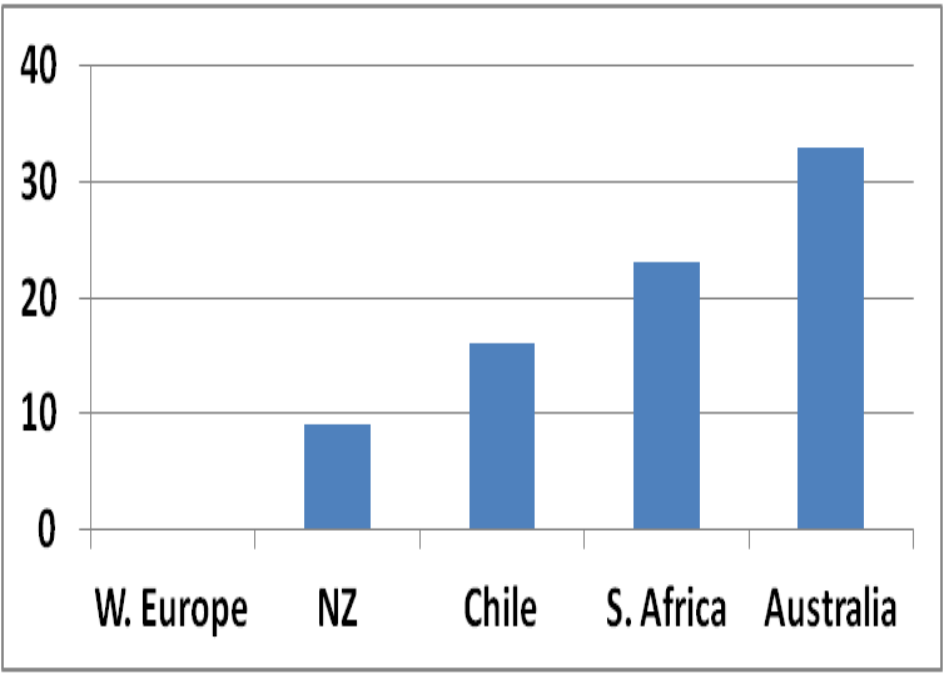


Real effective exchange rates, 1995-2010 (2005 = 100)

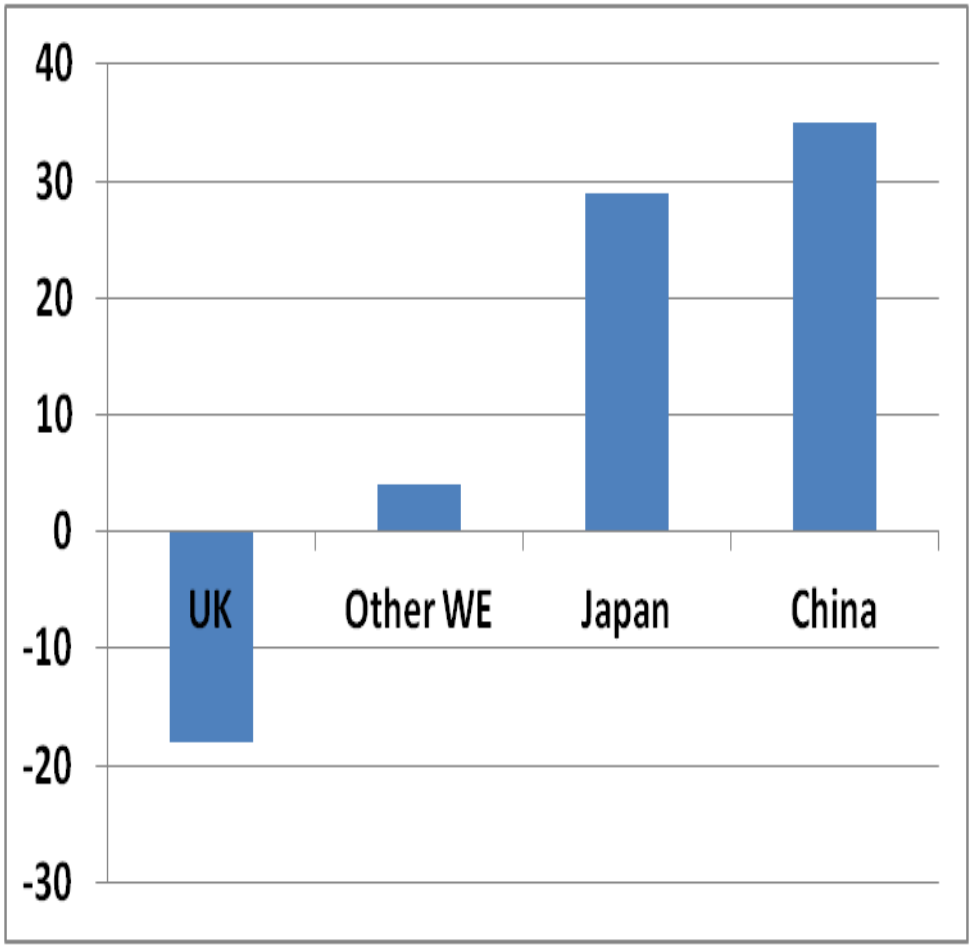


Real *exchange rate changes, 2007-2011*
(% appreciation relative to US$)

Wine exporters



Wine importers



Modelling questions

1. How much can **recent changes** in New World wine exporters' market shares be explained by RER changes?

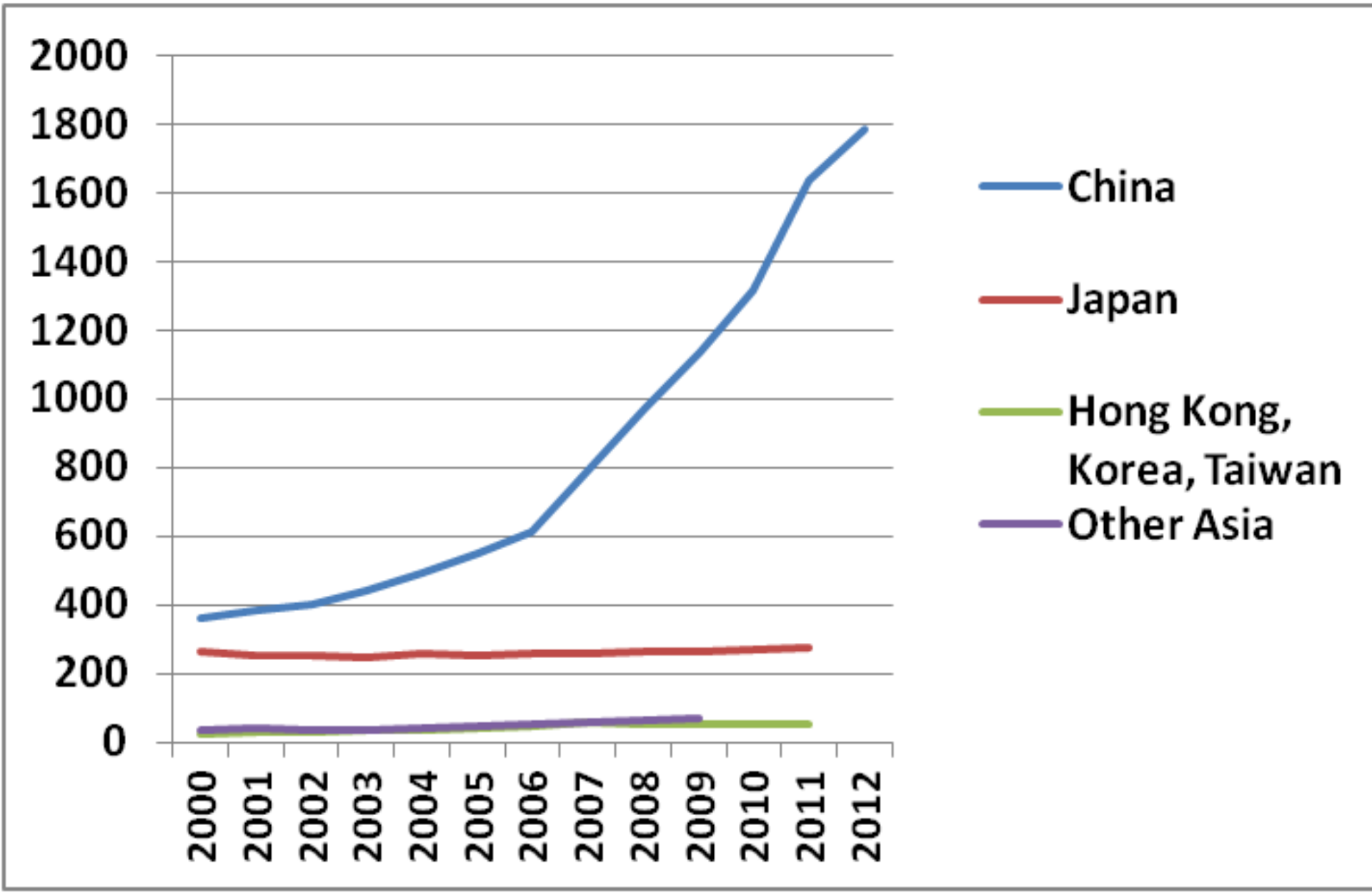
2. What role will RER changes play in altering competitiveness **over next five years**
   - ... given also the continuing drift away from non-premium wine demand and growth in emerging markets (**especially China**)?

Emerging Asia's shares of the global economy: 2007 and 2030

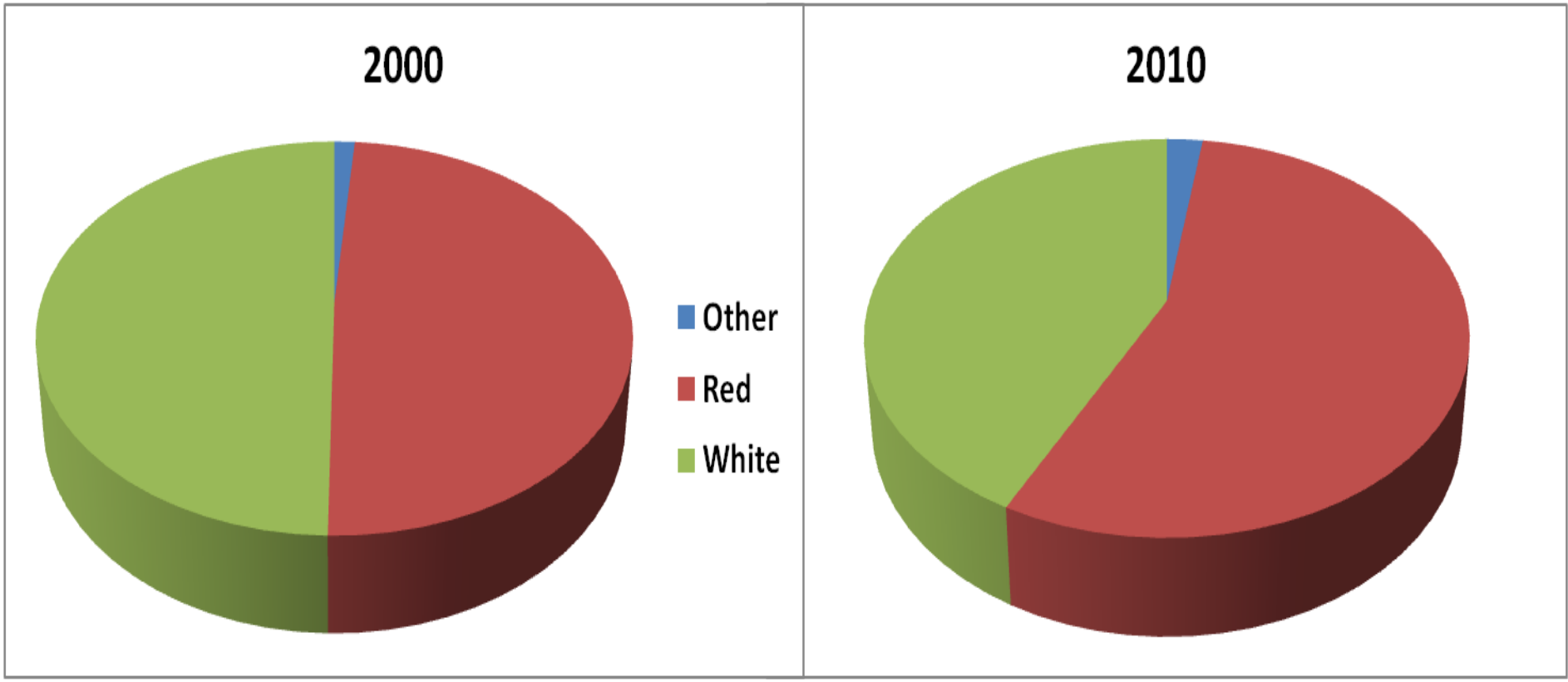
(Source: Anderson & Strutt, *Jou of Asian Econ*, Aug 2012)

	Share of global spending (%)		GDP per capita (rel. to world=1)	
	2007	2030	2007	2030
High-income countries	**80**	**59**	**4.0**	**3.5**
Developing Asia	**11**	**28**	**0.20**	**0.53**
of which **China**	**6**	**18**	**0.24**	**0.88**

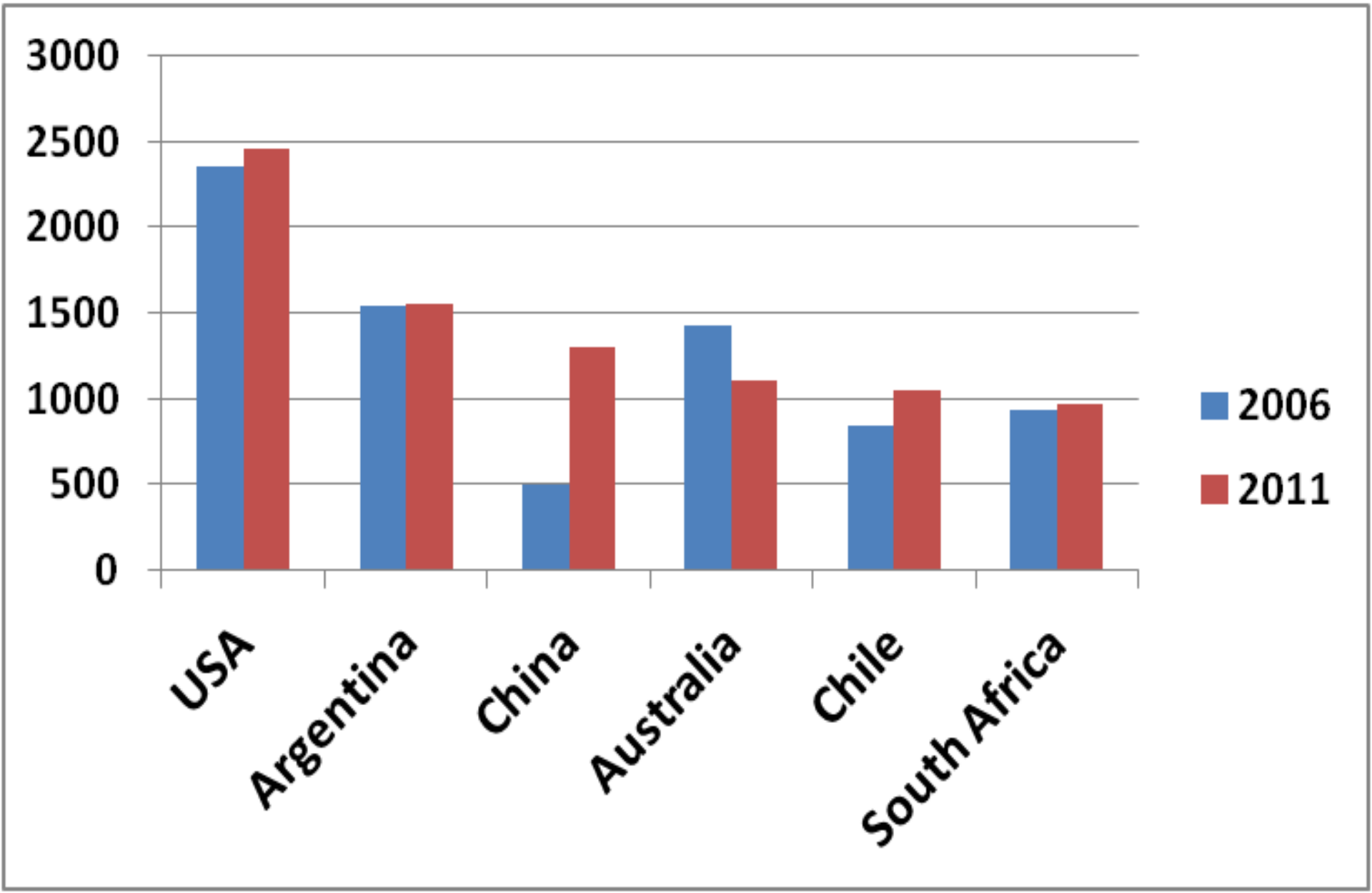
China dominates wine cons'm *growth in Asia (ML)*



Red and white shares of global winegrape area, 2000 and 2010

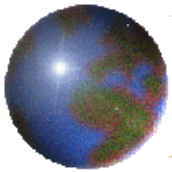


China & New World wine prod'n *(ML)*



Outline

- Recent and prospective shocks to world's wine markets & competitiveness
- Global wine markets model for estimating effects of economic shocks (briefly)
- Model simulation results
  - Recent real exchange rate changes, 2007-2011
  - Prospective RER changes + other forces to 2018
- Implications for wine-exporting countries



Model of world's wine markets

- Expansion & update of Wittwer, Berger & Anderson (*Econ Modelling, 2003)*
- 44 countries plus 7 aggregate regions
- 5 wine types, 2 winegrape types
- Calibrated to 2009; projected to 2018
- Revised to include real exchange rates
  - Changes in nominal rates adjusted for relative price changes (all relative to US)

Model's wine and grape types

- Model distinguishes between:
  - Non-premium still wine **(NP)**
  - Commercial premium still wine **(CP)**
  - Super premium still wine **(SP)**
  - Iconic still wine
  - Sparking wine
- Model separates winegrapes into:
  - Non-premium (used in NP & CP wines)
  - Premium (not used in NP wines)

Outline

- Recent and prospective shocks to world's wine markets & competitiveness
- Global wine markets model for estimating effects of economic shocks
- Model simulation results
  - Recent real exchange rate changes, 2007-2011
  - Prospective RER changes + other forces to 2018
- Implications for wine-exporting countries

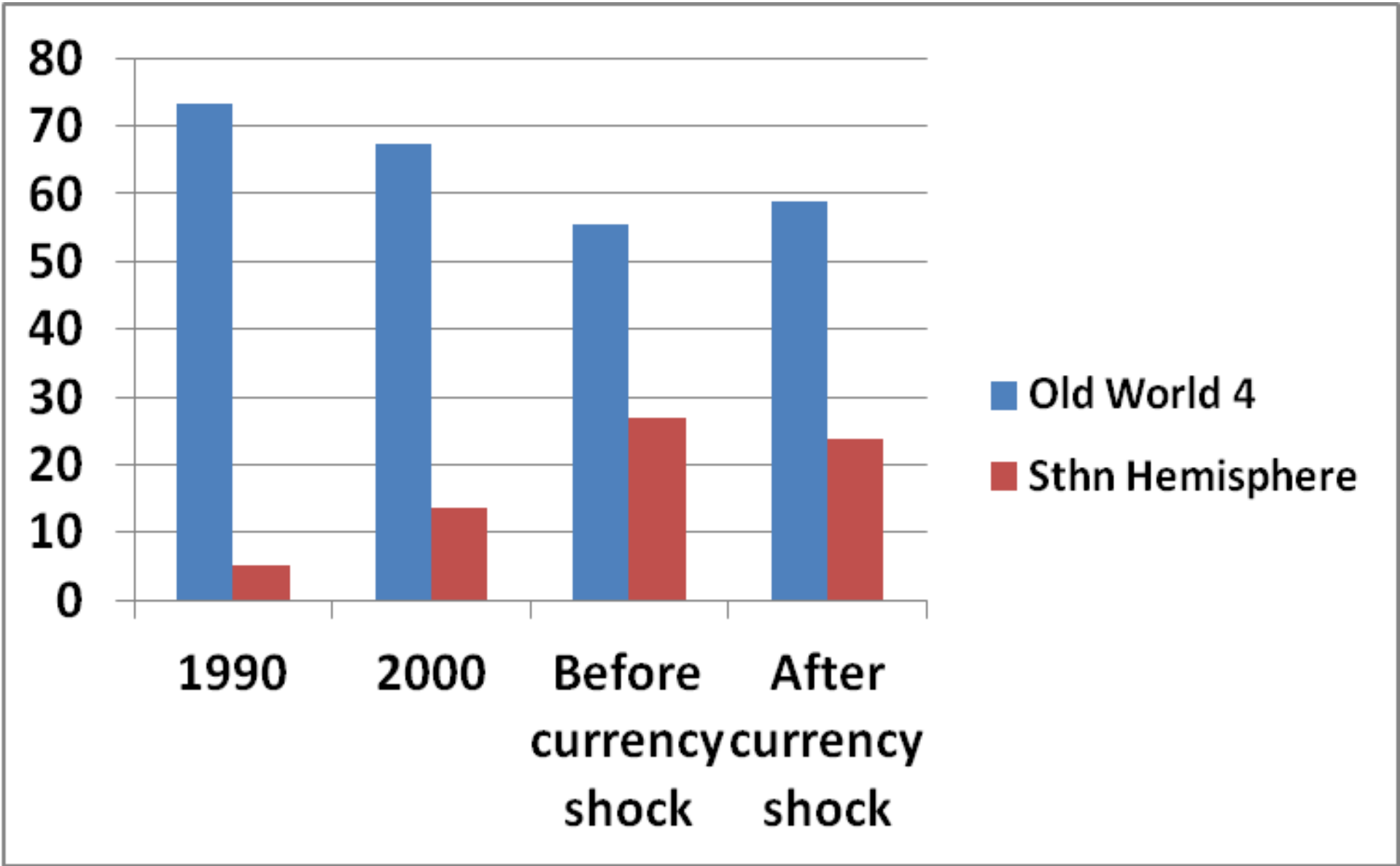
% changes in RERs and model-estimated impact on grape & wine prices, wine exporters, *2007-11*

	RER (real exchange rate)	Real local-currency producer price of:		
		Grapes	*Comm. premium wine*	*Super premium wine*
W. Europe	**0**	**5**	**7**	**5**
US	**0**	**4**	**8**	**3**
N Zealand	**9**	**-8**	**-5**	**-7**
Chile	**16**	**-13**	**-11**	**-13**
Australia	**33**	**-32**	**-31**	**-26**

Modelled outcome vs actual changes for Australia, 2007-11

- Value of Aust exports actually dropped from AUD 2.9m to 2.0m (a fall of AUD 0.9m) between 2007 and 2011
  - Modelled drop due to RER changes is almost the same (a fall of AUD 0.87m)

Only causes slight reversal in Sthn Hem's share (%) of global export vol.



Conclusions from 2007-11 RER sim

- RERs matter a lot to wine competitiveness
  => exporter benefits from currency hedging?

- RER changes in 2007-11 affected Australia more than any other wine exporter
  - ... and explained most of its export decline

- But RER changes only slightly reversed Sthn Hem's growing share of global wine exports

Outline

- Recent and prospective shocks to world's wine markets & competitiveness
- Global wine markets model for estimating effects of economic shocks
- Model simulation results
  - Recent real exchange rate changes, 2007-2011
  - Prospective RER changes + other forces to 2018
- Implications for wine-exporting countries

Projecting markets to 2018

- Model's baseline of 2009 first re-calibrated to 2011, including actual RER changes
- Then model is projected from 2011 to 2018, assuming:
  - Wine demand side:
    - WB income and UN pop'n growth rates
    - Taste swing away from non-premium wines
    - Taste swing toward premium wines, esp. in China
  - Grape and wine supply side:
    - Capital growth : 1.5%pa in China, 0% elsewhere
    - TFP growth: 1%pa in all countries
  - Exogenous changes in RERs: 2 different scenarios

Future real exchange rates

- Two scenarios, to provide a range:

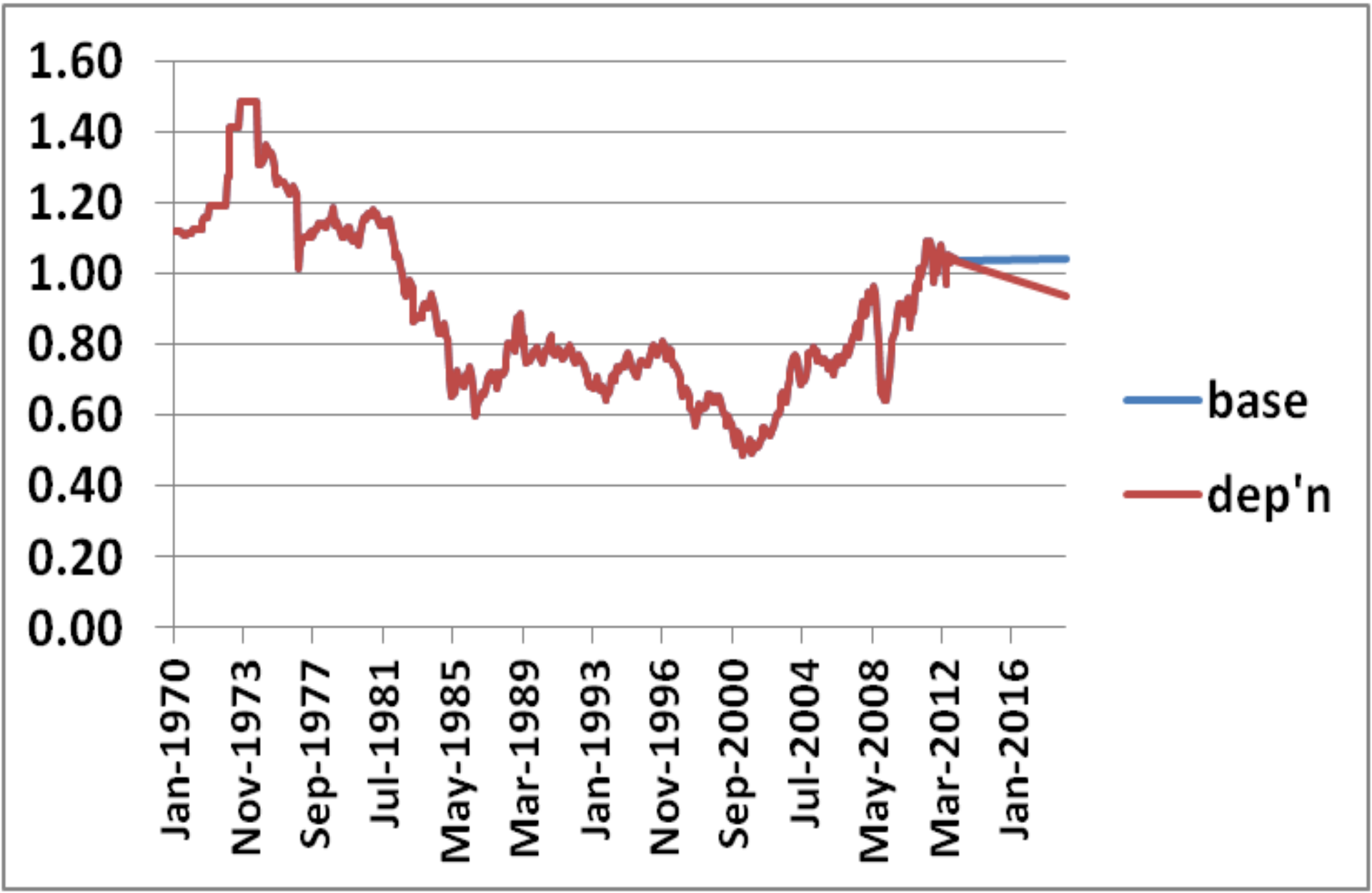
1. Base scenario: no changes in real exchange rates, 2011-2018

2. Dep'n scenario: real depreciation in Southern Hemisphere RERs, half-way back to 2009 rates

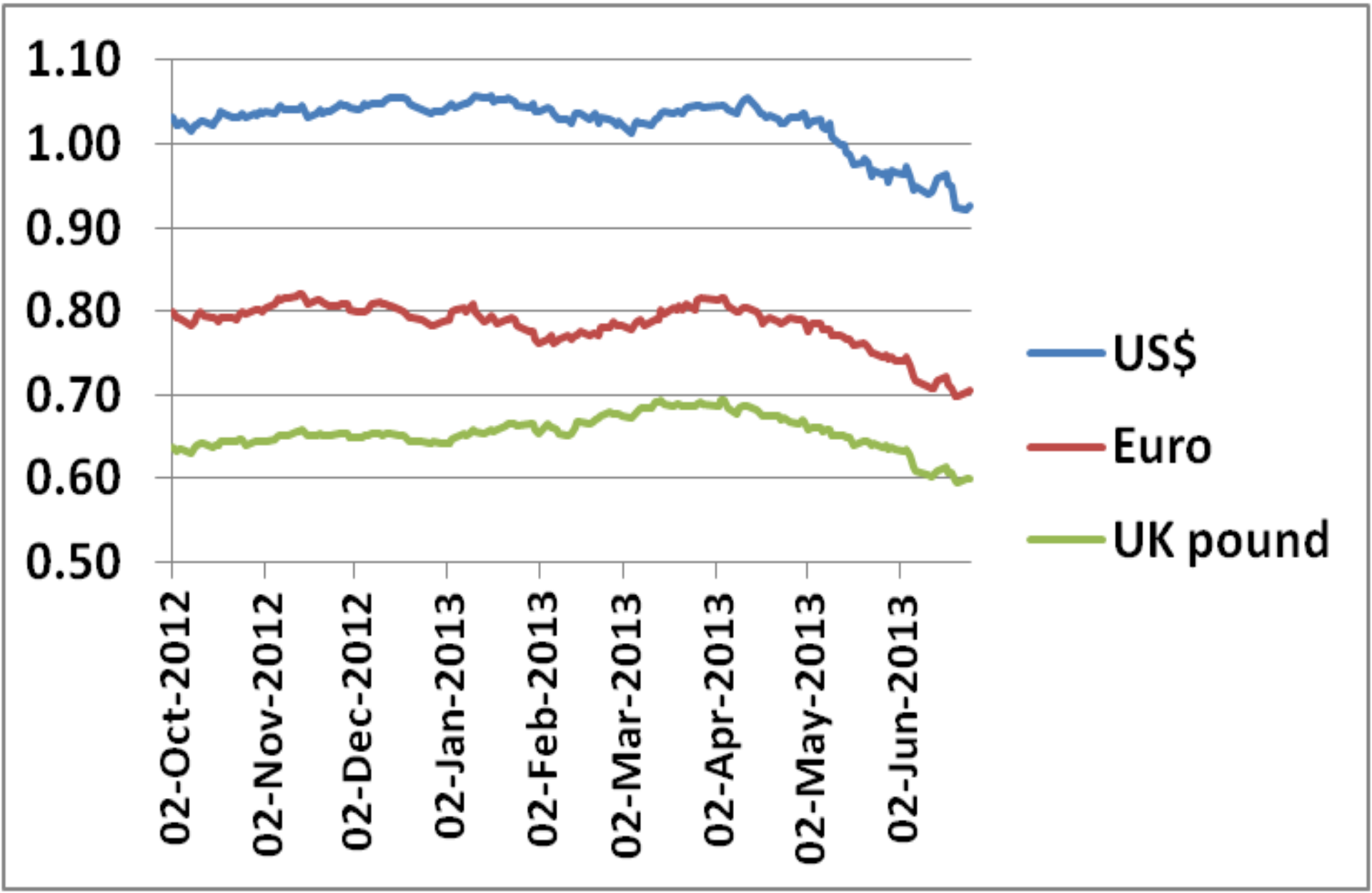
e.g., 18% real depreciation of AUD relative to US$ and Euro during 2011-18

-- modest compared with 2001-10 changes, and AUD is already halfway there in past 2 months

Nominal exchange rate: US$/AUD



Nominal AUD, 10/12 to 06/13



Base sim: changes in China, 2011-18

- 70% rise in total wine cons'm => per capita cons'm increases from 1.0 to 1.6 litres/year
  - Vinexpo says it was already 1.4 litres in 2012, so may be too conservative?
- China's wine production rises by 20%, 26% and 30% for NP, CP and SP wines
  - May also be too conservative?
- Hence large rise projected for China's wine imports (as also with less-conservative assms.)

Base sim: *% change in wine consumption volume, 2011-2018*

	NP	CP	SP	TOTAL
China	31	100	130	**70**
Russia	-13	5	50	**16**
Japan	-18	-4	28	**11**
Australia	-12	6	45	**9**
USA	-11	4	45	**9**
Other W Eur.	-16	-1	34	**1**
UK	-16	-1	32	**-2**

Base sim: *change in global exports, 2011-18*

	Volume (ML)		Value (2009 US$)	
Australia	19		415	
Other New World	750		3434	
Old World	134		341	
WORLD	**903** (9%)		**4172** (13%)	

Base sim: *change in global imports, 2011-18*

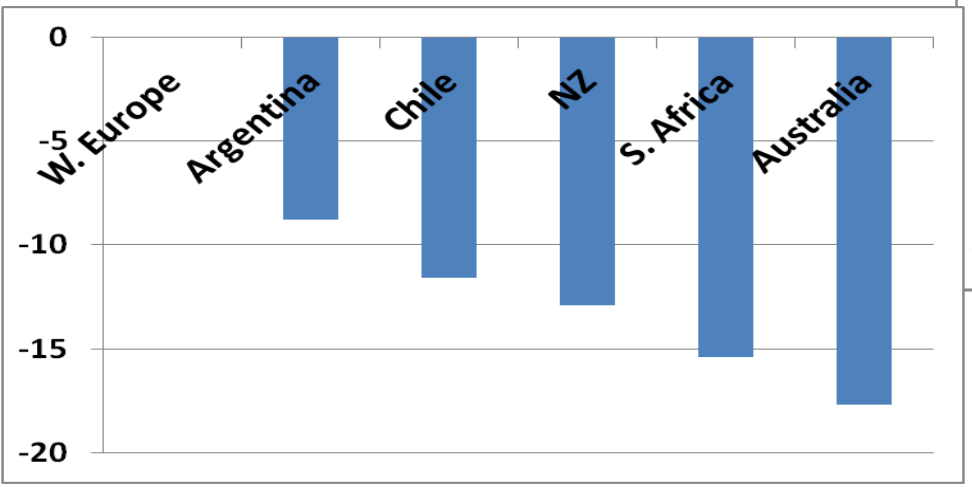
	Volume (ML)	Value (US$)
UK	-29	-39
USA	0	411
Other Eur	-82	492
China	708	2242
Other Asia	76	409
ROW	230	657
WORLD	**903**	**4172**

Base sim: *change in* direction *of French vs Aust exports, 2011-18*

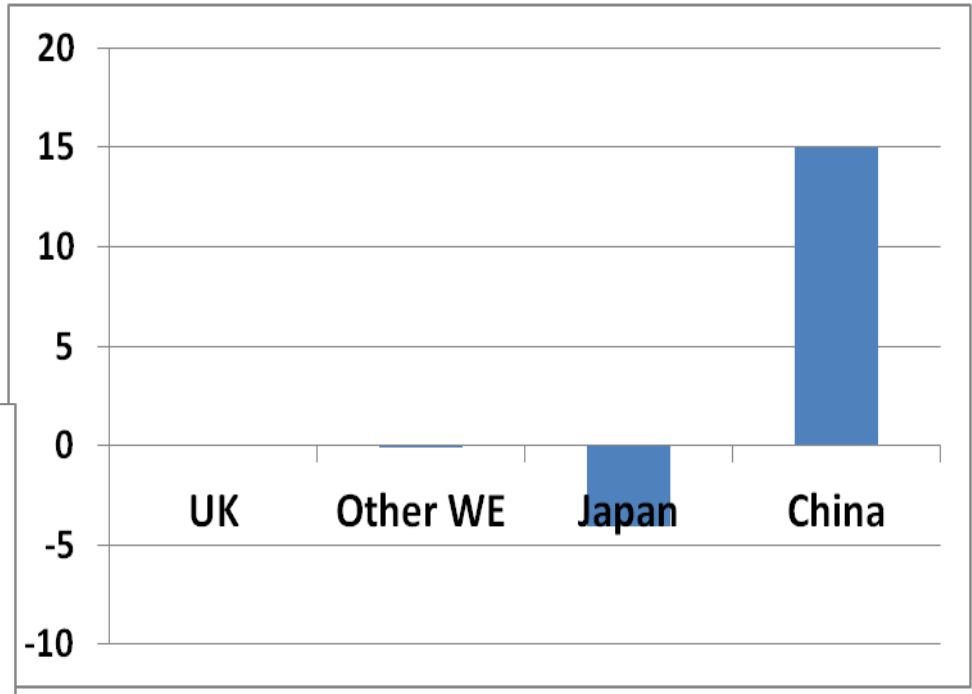
	French volume (ML)	Aust volume (ML)
UK	32	-36
Other Eur.	94	-20
USA	4	-41
China	204	118
Other Asia	53	2
TOTAL	**444**	**19**

Alternative *RER changes scenario, 2011-18*
(% currency change relative to US$)

Wine exporters



Wine importers



Base vs Dep'n sims

- Makes huge difference to Australia vs other New World
- Reduces growth in volume but raises growth in value of global wine exports

Base vs Dep'n sims: *change in global exports, 2011-18*

	Volume (ML)		Value (2009 US$)	
	Base	Dep'n	Base	Dep'n
Australia	19	383	415	1906
Other New World	750	43	3434	1545
Old World	134	204	341	996
WORLD	**903** (9%)	**630** (6%)	**4172** (13%)	**4447** (15%)

Base vs Dep'n sims

- Reduces volume but raises value of China's wine imports
  - But in both sims, China accounts for >50% value, and >70% volume, of global import growth

Base vs Dep'n sims: *change in global imports, 2011-18*

	Volume (ML)		Value (US$)	
	Base	Dep'n	Base	Dep'n
UK	-29	15	-39	31
USA	0	169	411	804
Other Eur	-82	-199	492	195
China	708	445	2242	2742
Other Asia	76	62	409	358
ROW	230	138	657	317
WORLD	**903**	**630**	**4172**	**4447**

Base vs Dep'n sims

- Australia stagnates if RERs don't change, but out-competes other New World exports if recent RER changes are reversed
  - and in both sims, by 2016 China eclipses both UK and US as a destination for Aust. wine exports

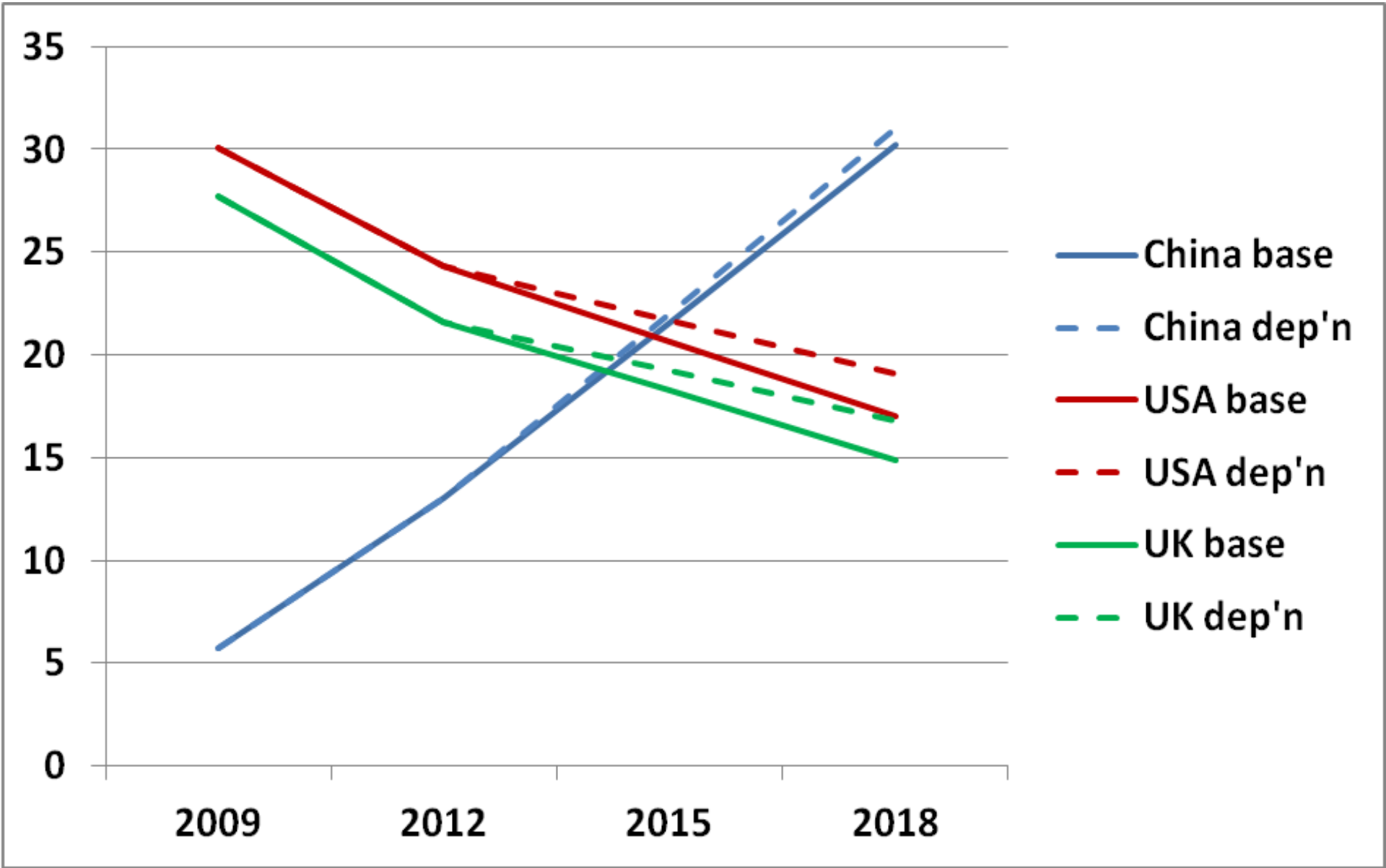
Base vs Dep'n sims:
% change in Aust producer prices and volumes, 2011-18 (2009 AUD)

	Price		**Prod'n vol.**	
	Base	Dep'n	Base	Dep'n
NP wine	17	43	-23	-8
CP wine	-7	14	21	63
SP wine	-14	4	62	81
NP grapes	*-6*	*15*	*17*	*31*
Prem. grapes	*-13*	*7*	*8*	*26*

Base vs Dep'n sims: *change in* direction *of Aust exports, 2011-18*

	Volume (ML)		**Value** (2009 US$)	
	Base	Dep'n	Base	Dep'n
UK	-36	82	-63	231
Other Eur.	-20	31	-4	132
USA	-41	94	-79	260
China	118	134	560	1044
Other Asia	2	15	13	105
TOTAL	**19** (3%)	**383** (55%)	**415** (22%)	**1906** (101%)

China's share in value of Aust wine exports, actual 2009 & 2012, and projected to 2018, %



Actual changes in Australian $ winegrape prices in 2013 vs 2012

- Increased 2% for whites, 13% for reds (which are preferred by Chinese)
- Increased 5% in warm irrigated regions, 19% in cool/temperate regions
  - And share of volume sold at <AUD300/t was 24% (c.f. 28% in 2012, 43% in 2011)

  => Going up-market where profits are greater

Conclusions from 2011-18 sims

- RERs will continue to matter a lot to wine competitiveness
- In both sims, China accounts for >50% value, and >70% volume, of global import growth

Thanks!

- kym.anderson@adelaide.edu.au
- glyn.wittwer@monash.edu

- Original model documented in:
  - Wittwer, G., N. Berger and K. Anderson (2003), 'A Model of the World's Wine Markets', *Economic Modelling* 20(3): 487-506.

- Historical data updated from compendium of global wine statistics, downloadable as a **free e-book** at *www.adelaide.edu.au/press/titles/global-wine* or **in Excel** at *www.adelaide.edu.au/wine-econ*