Greening the White Van

The sustainable distribution impact of the growth in internet shopping and home delivery

15 October 2007

Beveridge Associates Limited

imrg

imrg

Promoting excellence and innovation in e-Retail

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Welcome to imrg

IMRG is the leading industry body for global e-retailing.

IMRG represents a collaborative community with a common vision: to maximise the commercial potential of electronic shopping - from online, telephone and mobile commerce, to digital TV, home shopping and interactive kiosk applications.
IMRG members comprise hundreds of enterprises operating throughout the industry: retailers, who sell products and services direct, and suppliers that provide solutions and services to those retailers. Having served this rapidly-changing market since 1990, our experience helps members stay informed on commercial, legal and best practice issues, keep up to date with analysis of developments in the sector, and maximise the business opportunities within it.

What's New at imrg

The latest IMRG reports, events, statistics, releases and activities. This area allows you to view the latest updates at a glance.

IMRG e-Retail Sales Index Report March 2007	Industry Statistics	23/03/2007
February 2007 Monthly Review	Monthly Reviews	26/02/2007
IMRG Usability / Accessibility Workshop June 2007	Workshops	27/06/2007
IMRG Delivery Workshop July 2007	Workshops	04/07/2007
IMRG Interactive Marketing Workshop April 2007	Workshops	25/04/2007
Zendor: Almost Two-Thirds of Fashion Retailers do not have transactional website	Press Releases	23/03/2007
comScore: Worldwide internet audience has grown 10% in last year	Press Releases	06/03/2007
GAME Launches in Selfridges	Press Releases	07/03/2007
The spirit of Christmas - The secret of successful multi-channel retailing	White Papers	29/01/2007
VeriSign - How to Offer the Strongest SSL Encryption	White Papers	29/11/2006
A Guide to Affiliate Marketing - Commission Junction	White Papers	31/10/2006

Latest Retail News

IMRG's team of researchers are continuously searching for the latest news stories and reports relating to developments in e-
future reference

Members

Home Delivery Network
Buyagift
Wheesh
Google
Carphone Warehouse
dabs.com
TUI UK

IMRG Membership Handbook

E-RETAIL 2007: IMRG Annual Report

Coverage

- **History and growth of home shopping**
- **Future growth**
- **Sustainability impact of rise in home delivery**
  - **Online vs conventional retailing- which is greener?**
  - **Research summary**
  - **What positive actions are being taken now?**
  - **Where are the untapped opportunities?**
- **Summary**

+ *What do <u>you</u> think? / What are <u>you</u> doing?*

green audit

carbon footprint

carbon-neutral

Chelsea tractor

Home delivery is nothing new

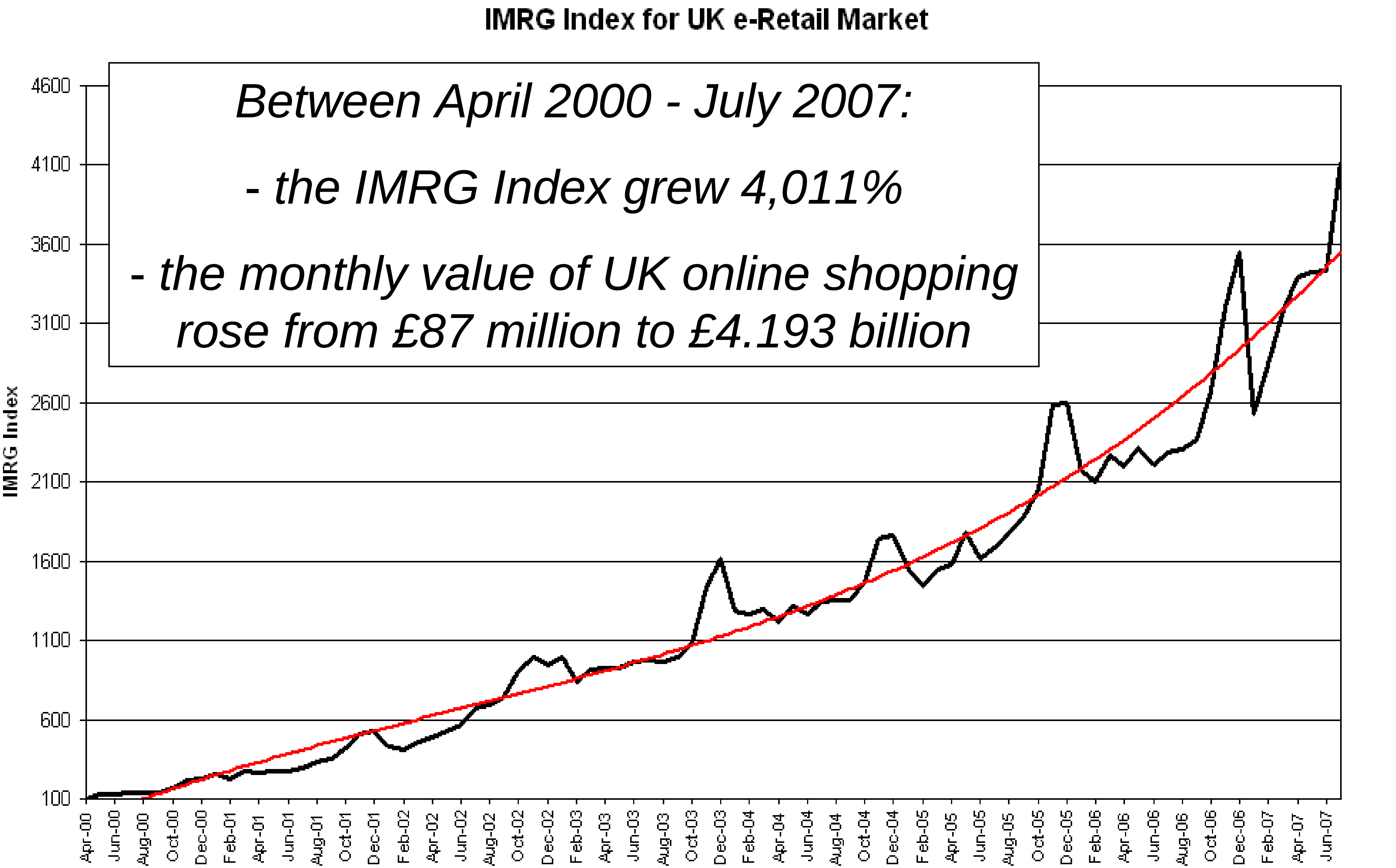
Local
Food delivery
(always)

Catalogue
shopping
(19thC)

TV
Shopping
(1980s)

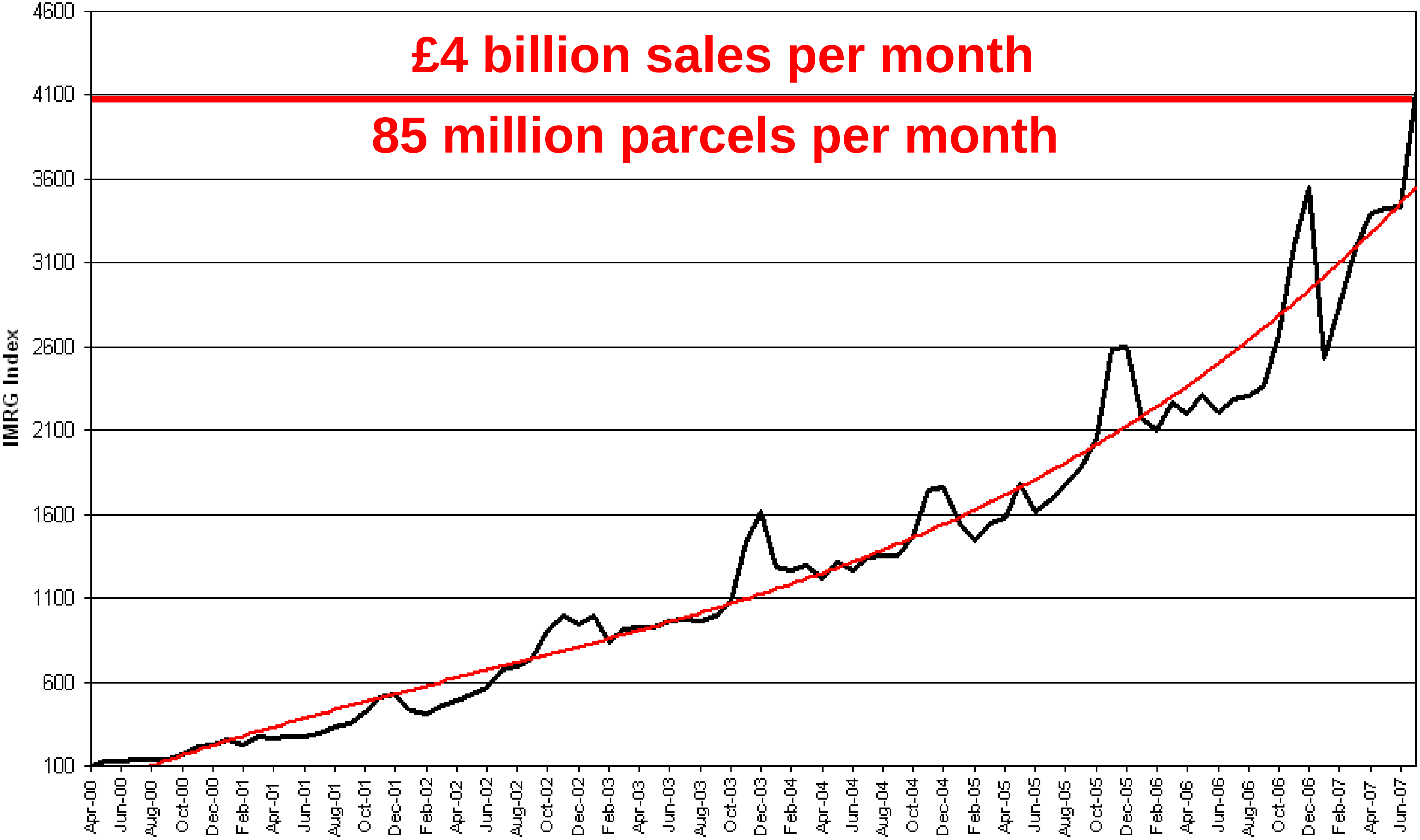
Internet
1994

Some numbers around online home delivery

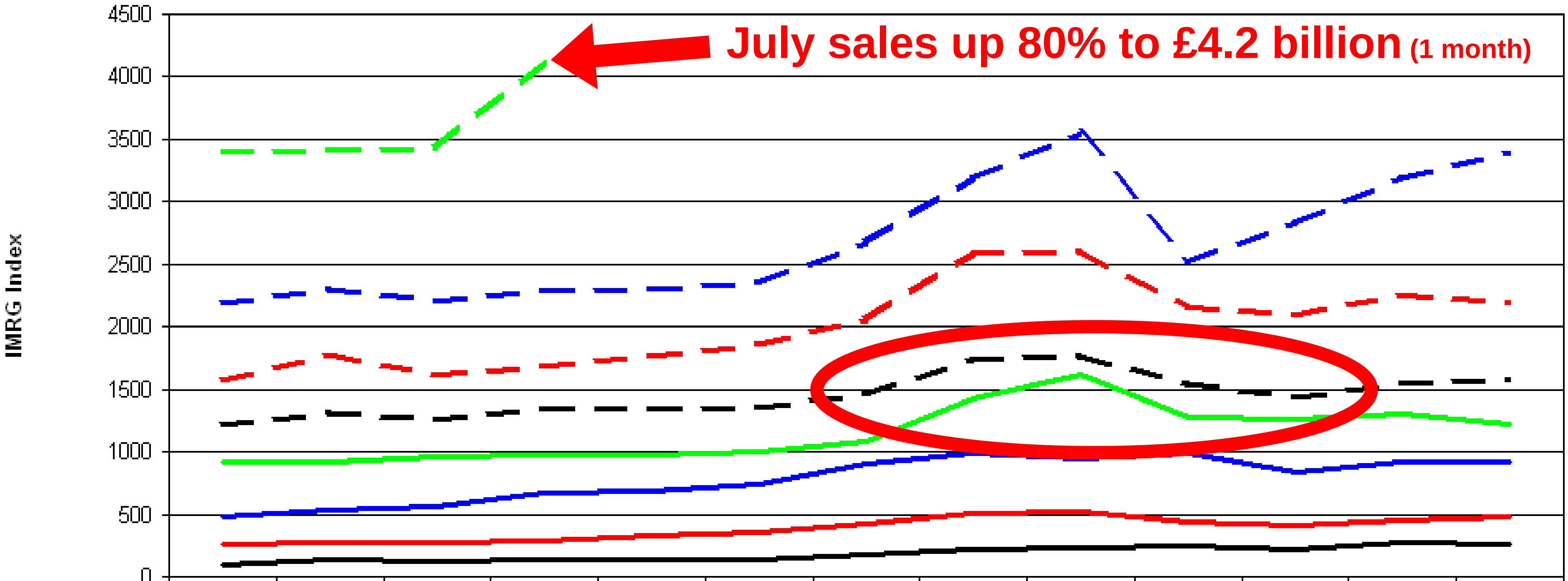


IMRG Index for UK e-Retail Market

July 2007



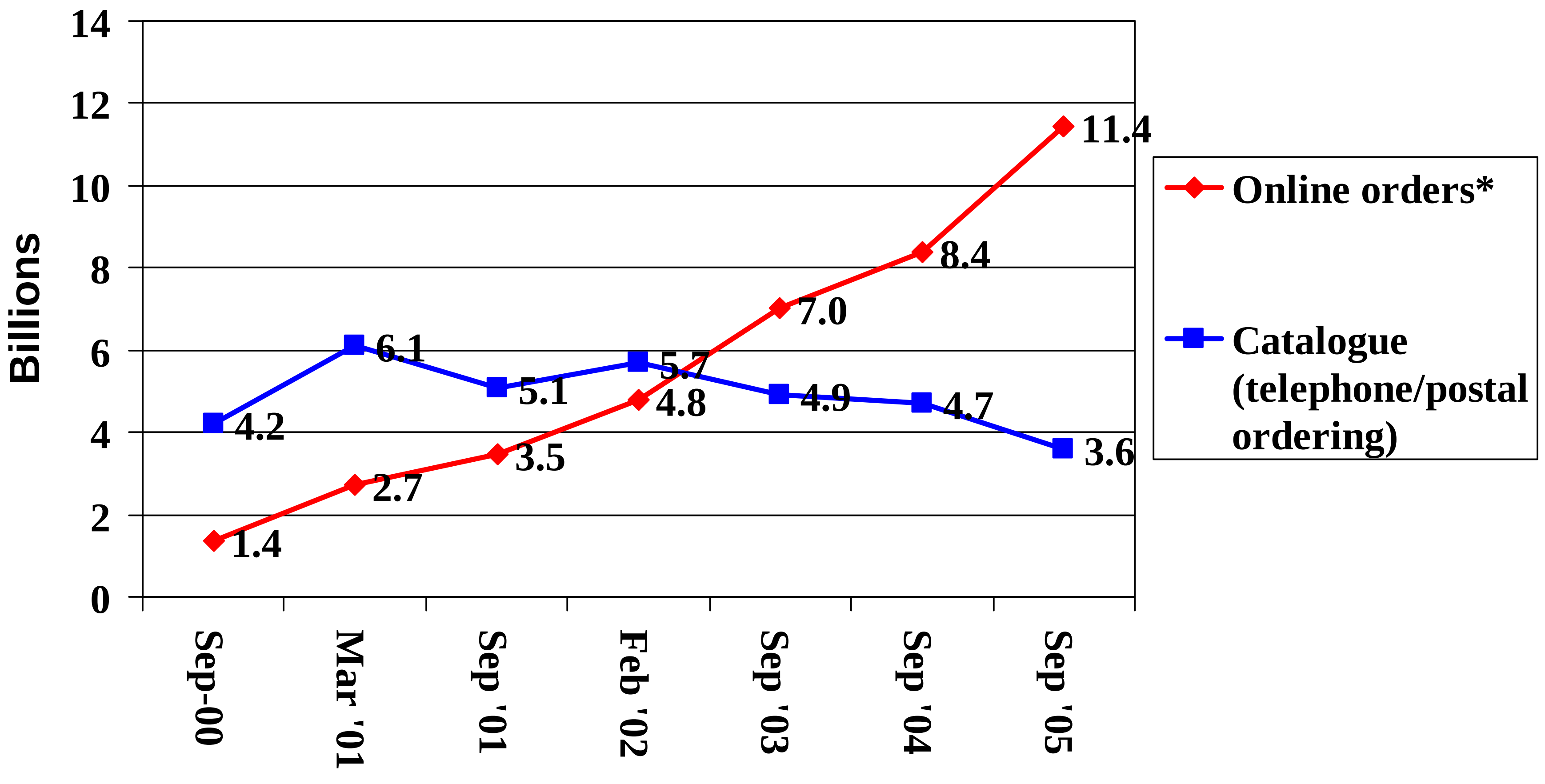
IMRG Index - Year-On-Year Comparison



	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
2007/8	3396.941159	3421.632256	3430.187278	4110.802886									
2006/7	2199.696456	2311.513414	2211.370701	2284.599382	2306.142005	2362.676826	2675.269163	3196.457267	3553.319849	2525.536774	2836.800703	3194.09245	3396.941159
2005/6	1578.934997	1785.435672	1612.253253	1686.851165	1771.076755	1866.562349	2053.395417	2590.053575	2601.940322	2168.315172	2105.306448	2266.974298	2199.696456
2004/5	1221.581851	1316.682353	1264.473726	1345.849199	1351.262074	1354.792838	1469.768825	1744.419936	1765.753212	1549.685916	1438.83284	1547.915229	1578.934997
2003/4	921.7888461	921.9720677	966.9324008	978.5547484	969.6643985	996.7571421	1086.191009	1433.077482	1614.223383	1281.597399	1269.04408	1298.293297	1221.581851
2002/3	485.0580575	531.491045	562.5885554	669.9342837	690.3348258	742.3942086	901.8789039	992.8495843	942.1466182	992.595233	838.696221	919	921.7888461
2001/2	262	276.5428048	273	291.1375952	336.0141828	356.9979465	422.1637404	509.2103043	526.1165003	434.8603367	415.8261507	459.1629735	485.0580575
2000/1	100	133.3049328	129.1284582	140.6860036	134.4882613	143.3657024	172.0784499	215.0135698	230.3833231	252	224.2983514	274	262

Market value by purchase channel

... online continues to outstrip catalogue at point of purchase

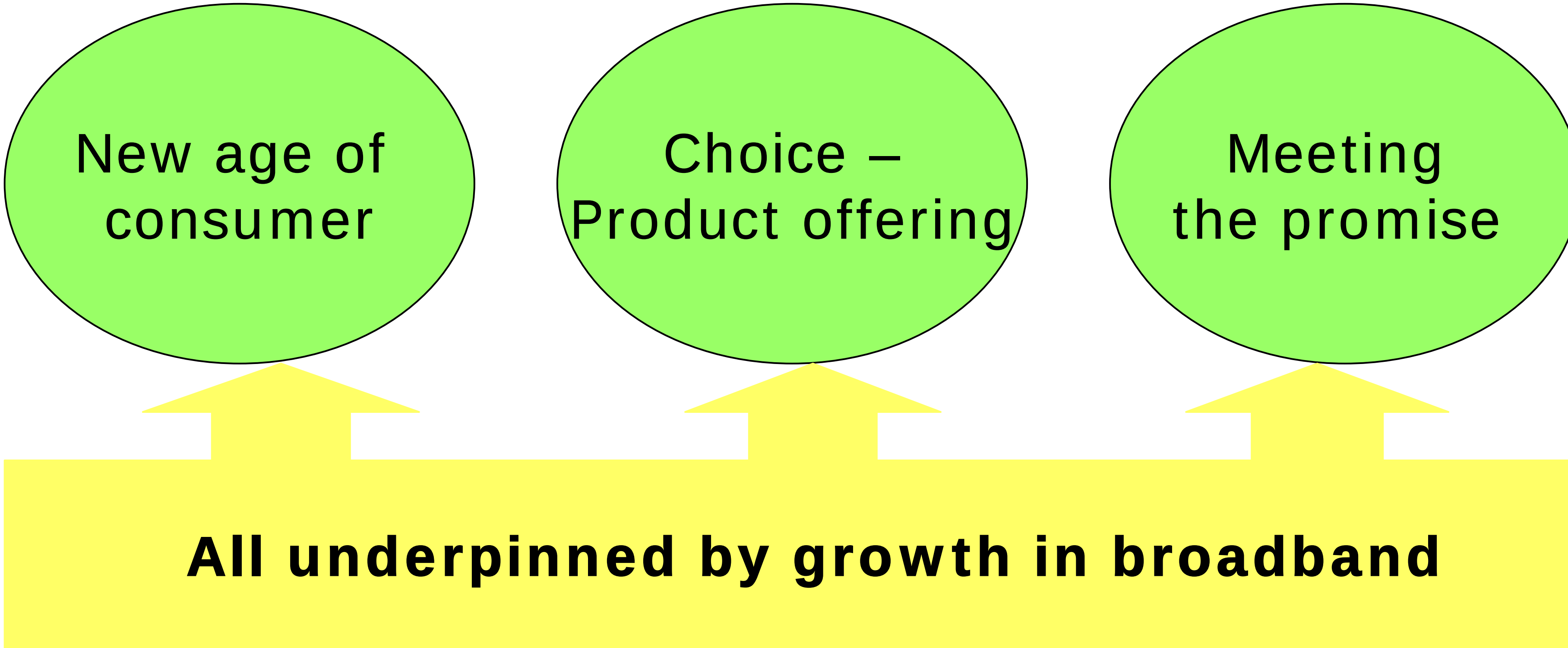


The numbers projected forwards

- Some 860 million orders will be delivered in the UK in 2007, as a result of online/catalogue shopping

- This volume is set to double/treble within the next few years

What is fuelling this home shopping growth?



Looked at another way

A store in every postcode every day

Any time,
any place,
any how

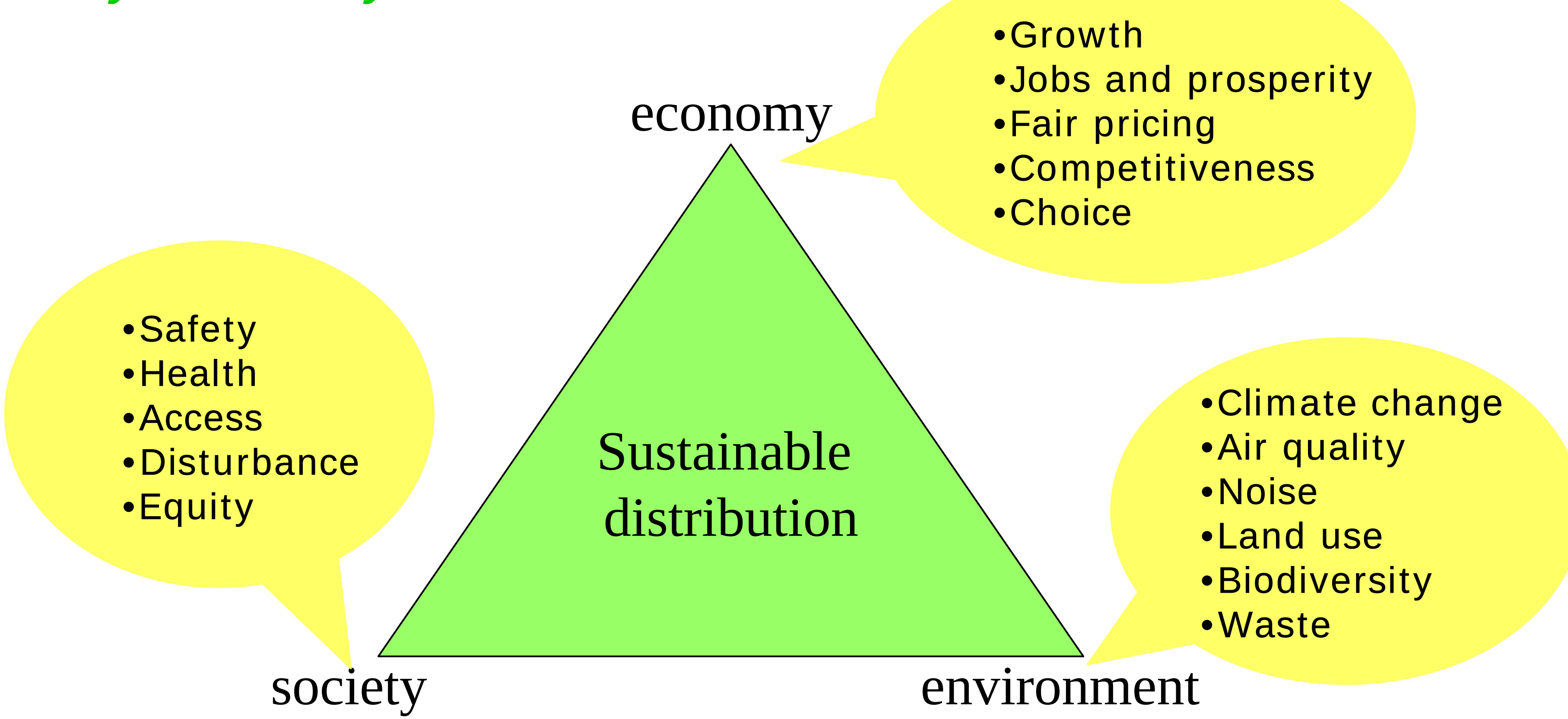
The delivery challenge is around

- Service
- Convenience
- Experience
- Cost

So what is the sustainable distribution impact of the growth in internet shopping and home delivery?

Sustainable Development

‘Ensure development does not compromise the future needs of society, economy and the environment’



Triple bottom line principle

ocado.com

15 for 1 offer

Each Ocado van takes up to 15 cars off the road.

Every time you see one of our vans, think of it as 15 people not going to the supermarket. So that's 15 cars parked up at home, rather than pumping out nasties into the atmosphere. And all of our vans run on environmentally friendly biodiesel. If that's not green enough, we can also tell you when we're delivering to someone in your neighbourhood, so if you want to you can choose a 'green van' time slot, which helps make our journey even shorter. We also deliver directly from a purpose-built fulfilment centre, rather than from a supermarket. If everyone shopped this way we would eliminate the carbon emissions from traditional stores, remove heavy goods vehicles from urban areas and free up precious land.

Our customers trust us to do their shopping every bit as carefully as they do themselves. We carefully pick Waitrose groceries, we pack them properly and we drop them off in your kitchen. Maybe that's why we have been voted Online Retailer of the Year by The Grocer. So if you haven't tried us yet, why don't you give us a go this week and we'll give you **15% off your first order.*** Just use **VOU4555229** at checkout.

Isn't it time you demanded more?

Ocado – Online Retailer of the Year 2007.

*Order for delivery before 22/07/07. Order must be over £80. Max reward £15. Terms and conditions apply - see **Ocado.com** for details.

The Ocado claim of Reductions in Traffic Levels– true or false?

- Ocado video

Are vans displacing large amounts of shopping-related car travel?
Or are other trips substituted?

Why do we need to compare the carbon footprints?

- Claims and counter-claims about relative environmental impacts
- Major retailers have launched environmental initiatives

TESCO YOUR M&S ASDA part of the WAL*MART family

- Increased consumer interest in climate change and carbon
- Drive to introduce carbon labelling of products:
  – *different labels for online and shop-based sales?*
- Carbon auditing of distribution channels is a pre-requisite for emissions reporting
  - *at corporate (and consumer?) levels*

The debate – is home delivery supply chain more or less green than high street / out-of-town?

Green Logistics is a four year EPSRC-funded research project into the sustainability of logistics systems and supply chain.

University of Westminster

HERIOT WATT UNIVERSITY

University of Southampton

CARDIFF UNIVERSITY PRIFYSGOL CAERDYDD

LANCASTER UNIVERSITY

UNIVERSITY OF LEEDS

Green Logistics: topics being investigated

HERIOT WATT UNIVERSITY

Forecasting business as usual trends

Calibration of vehicle routing packages with vehicle telematics data

Optimising reverse logistics at local level

Adapting supply chain tools to minimise environmental impact

Development of carbon auditing methodology for supply chains

Impact of online freight procurement on vehicle utilisation

Econometric modelling of freight modal shift

Cost – benefit analysis of delivery rescheduling to off-peak periods

Comparison of the carbon footprints of online and conventional retail supply chains

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Scope of the Research Project

Activities:

- Freight transport (lorries and vans)
- Personal transport between home and shop (car and public transport)
- Warehousing
- Conventional retail operation
- Product return

Links in the supply chain

5 Products Groups

Groceries

Books

Clothing

Small electrical appliances

Large electrical appliances

5 Distribution Options

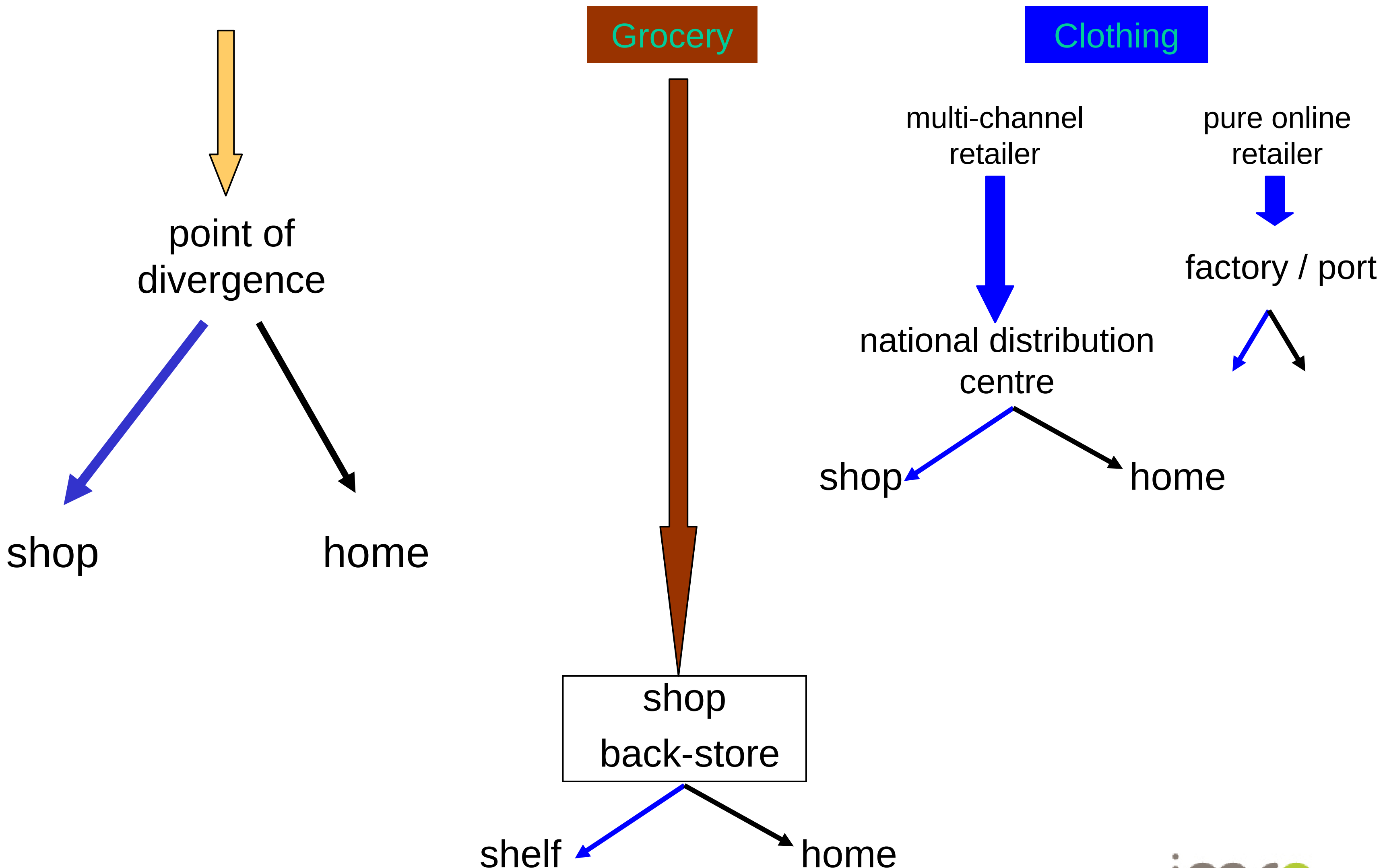
conventional

- Purchase in shop / Transport to home
- Purchase in shop / Home delivery

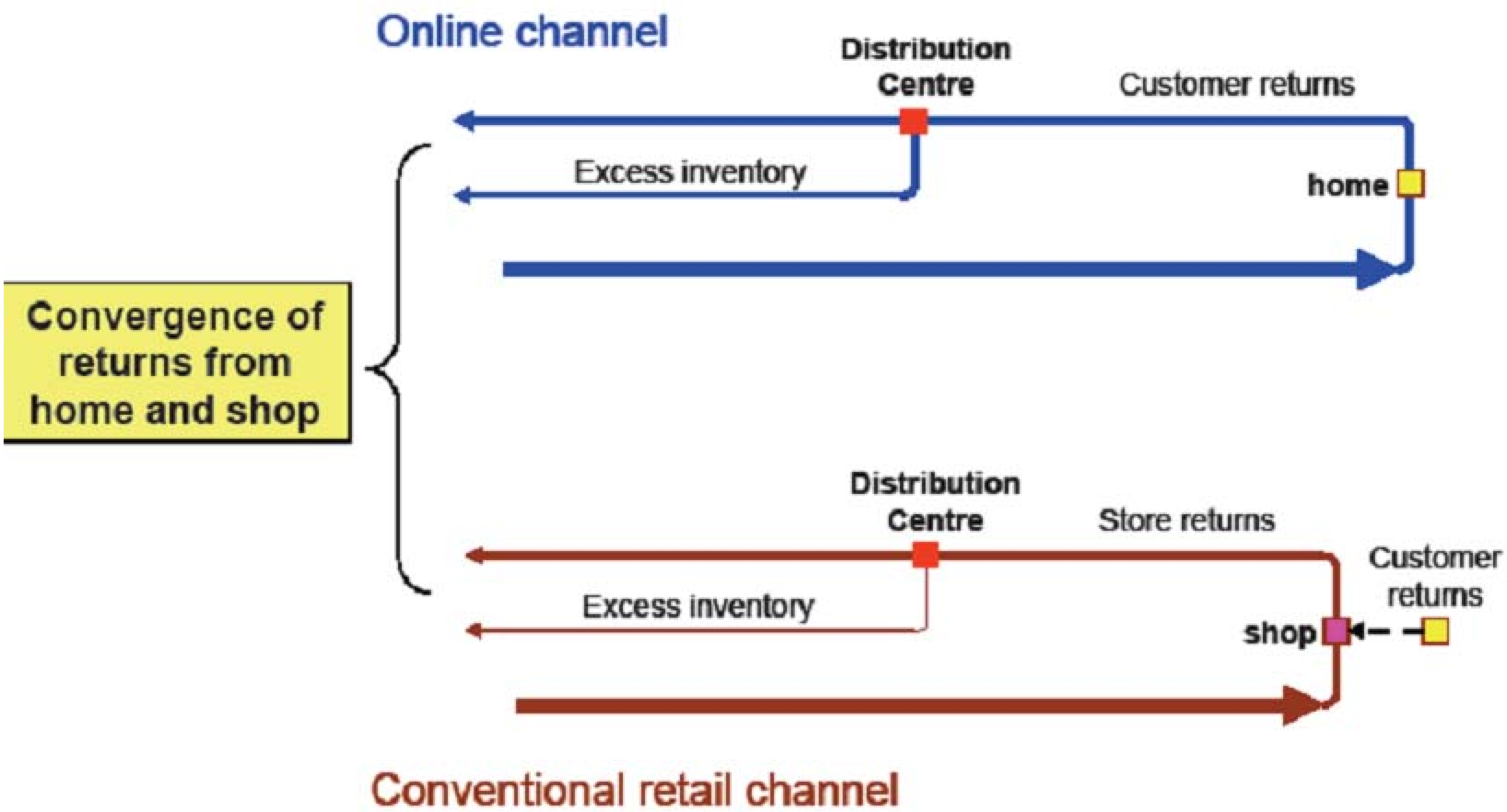
online

- Purchase online / Home delivery
- Purchase online / Collection from shop
- Purchase online / Collect from other location

The Supply Chain Links



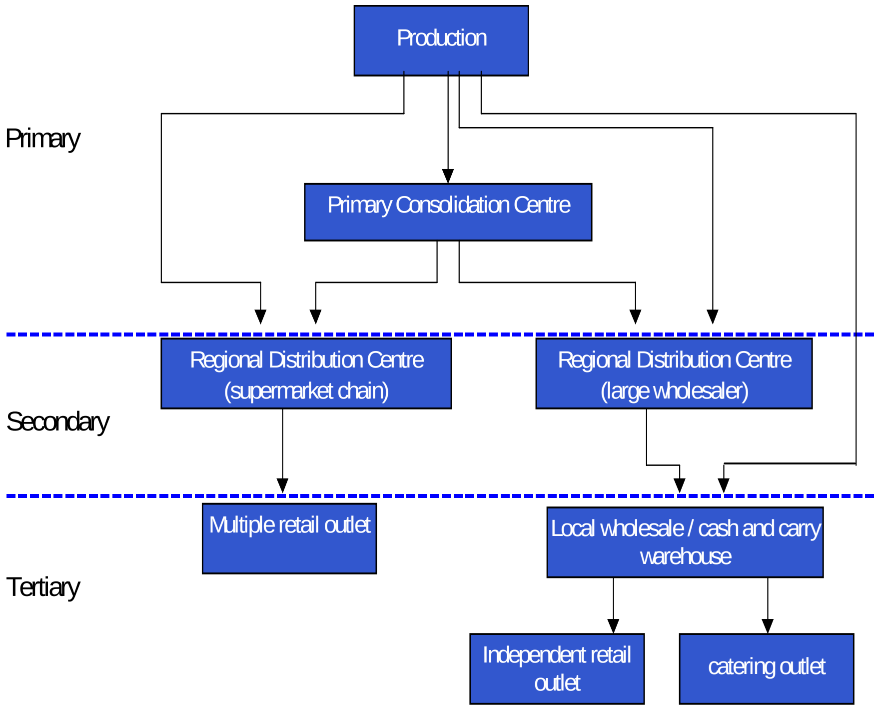
Return Flow of Product



Different Channel Structures for Conventional and Online Retailing

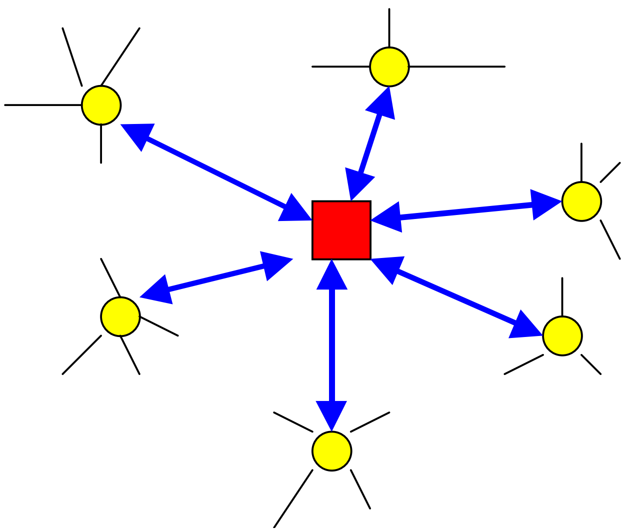
conventional retailing

traditional echelon structure

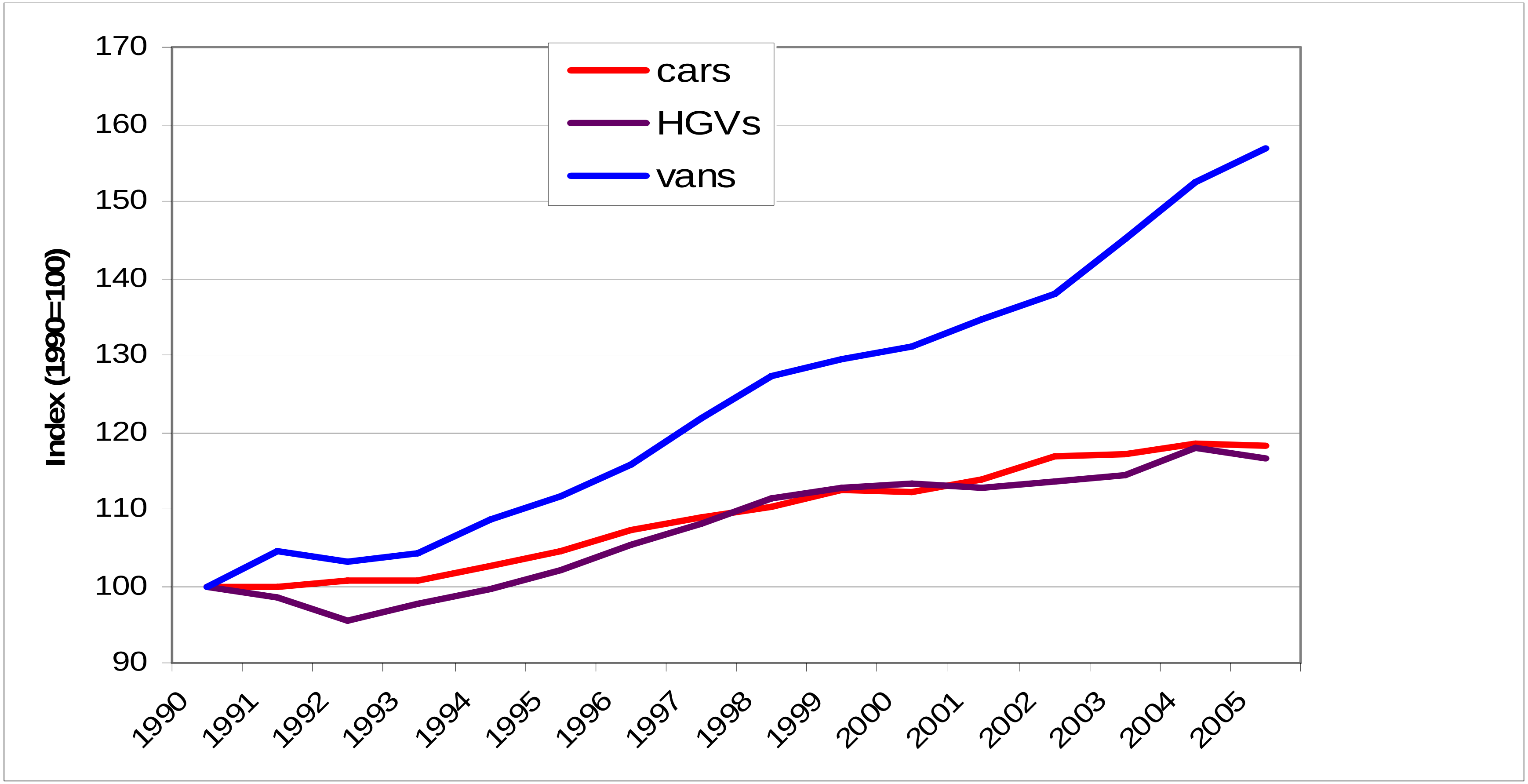


online retailing

hub-spoke parcel network



Road Traffic Growth in the UK 1990-2005



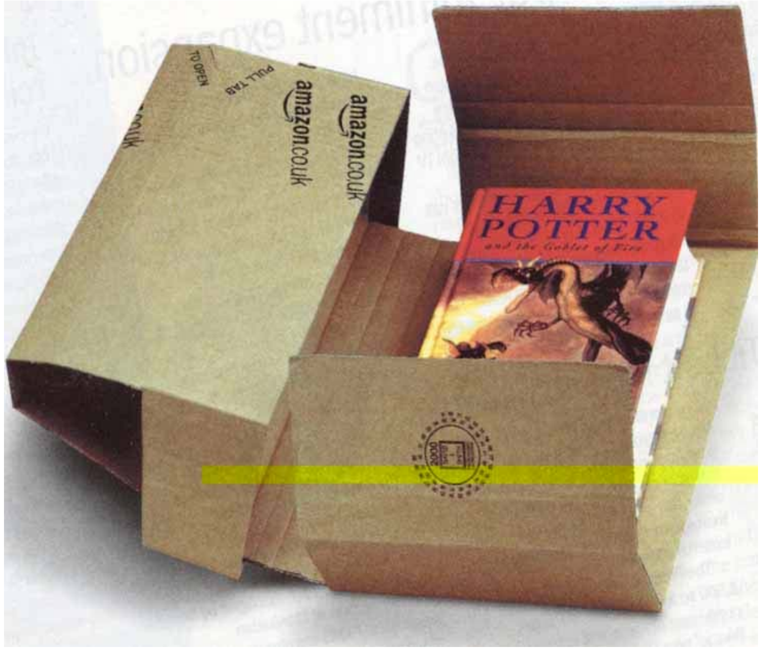
Source: Department for Transport

Home delivery and van types

Product type	Typical order size	Main delivery vehicle types
Groceries	c 60 items	temp controlled vans
Clothing	2 items	postman(walk; bike); van for rural parcel carrier (Van) home delivery courier (private car)
Books and entertainment	2-3 items	postman(walk; bike); van for rural
Non-clothing	3 items	parcel carrier
Larger goods	1 item , or set	2 man delivery specialist
Wines	1-2 cases	parcel delivery van
electronics	c 2 items	postman(walk; bike) parcel carrier (Van)

Direct Distribution of Non-food Items

Increased logistics effort by Fedex to deliver Harry Potter books to US homes on date of publication



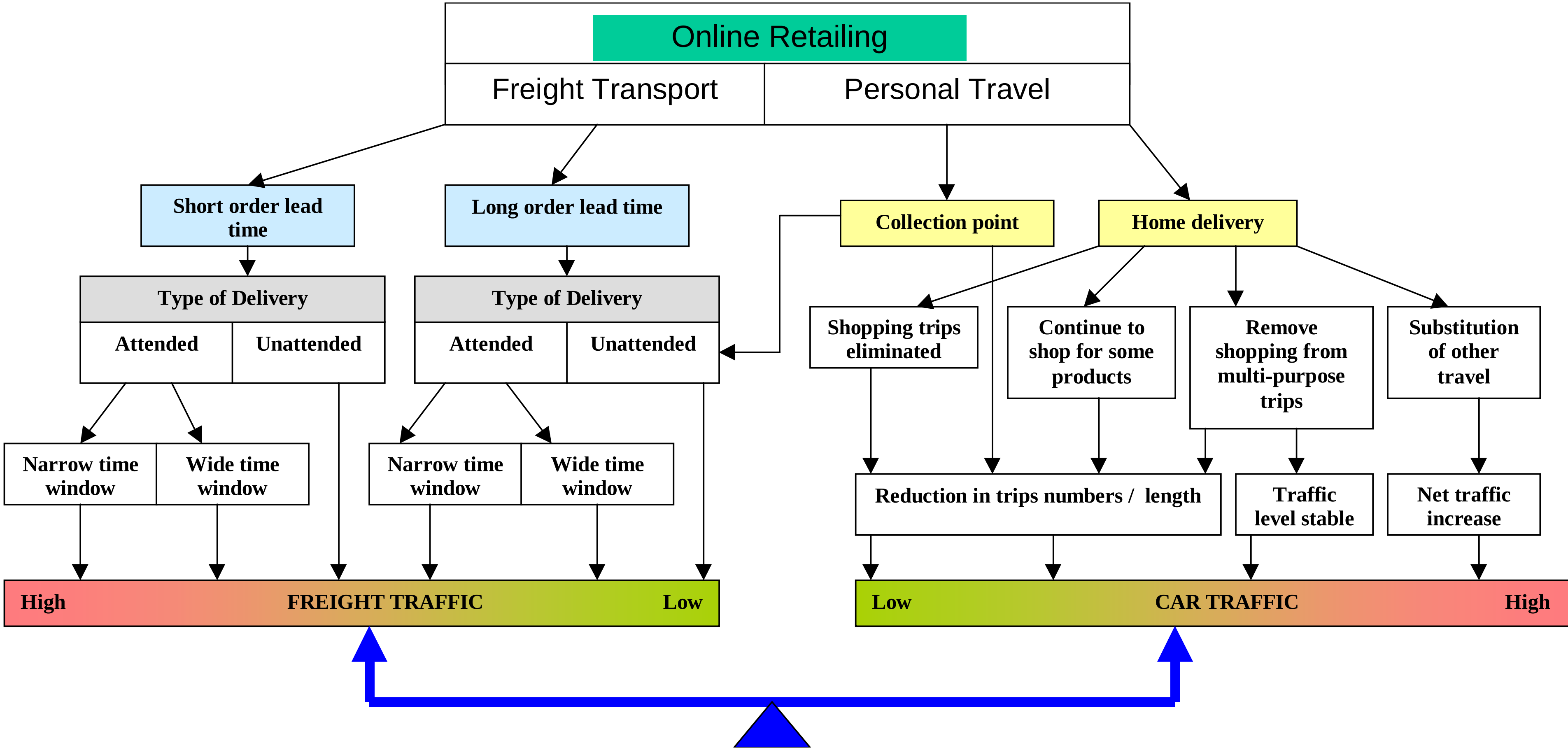
The 'Harry Potter' effect:
greater use of parcel carriers
channelled through hub-satellite networks
lower vehicle load factors
greater volume of packaging (forward and reverse channels)

***********The 'Dark Side' of E-commerce**********

Impact on Local Traffic Levels

- Degree of load consolidation:
  - pooling of vehicle fleets: outsourcing home delivery
  - scheduling of orders (*automated replenishment?)*
- Volume of return flow:
  - 20-40% returns from home delivery
  - return loading or separate trips
- Proportion of failed deliveries / repeat trips:
- Level of trip substitution:
  - continuing need to shop for fresh produce
  - shopping trips replaced by leisure travel

Impact of Online Retailing on Traffic Levels



Carbon emission reduction:
- what is being done *now*?

Area	Measure	Example
Vehicles	Alternative fuels	Bio-fuel and electric vehicles increasingly in test/being used
	Lower emissions	In line with legislation
	Double deck trailers	Mileage reduction
	Vehicle design	Spoilers etc to improve fuel consumption
		"driving clean"
Driver training	Fuel reduction	
	Accident reduction	
Measurement and reporting	Measures formulated and quantified	CSR report within corporate governance
		Continuous improvement activity

The Don-Bur “teardrop” trailer for M&S

+ 16% cubic capacity

-10% fuel consumption

-20% less carbon emissions

And what are the untapped opportunities?

Area	Current	Potential	Examples
Reduce 1st time delivery failures	Range of 3-30+%, average c 18%	***could be <5%***	Enable shoppers to add appropriate helpful information at point of order
			Reduce current over-reliance on POD requirement
			Embrace alternative delivery approaches
			Improved address matching to PAF file
Reduce overall failed deliveries	c 1%	***Could be <0.25%***	Improved communication channels with shoppers eg sms to replace "carded" deliveries
Reduce returns	3-35%	***Could be reduced by 25% at least***	Improve outbound packing accuracy
			Improve website clarity on product and service etc etc

could reduce total home deliveries by c 10-18%

IMRG stance

IDIS (Internet delivery is Safe)is the e-retail industry programme aligning home delivery and internet shopping. The IDIS charters operate as subsets and extensions of the ISIS trust scheme.

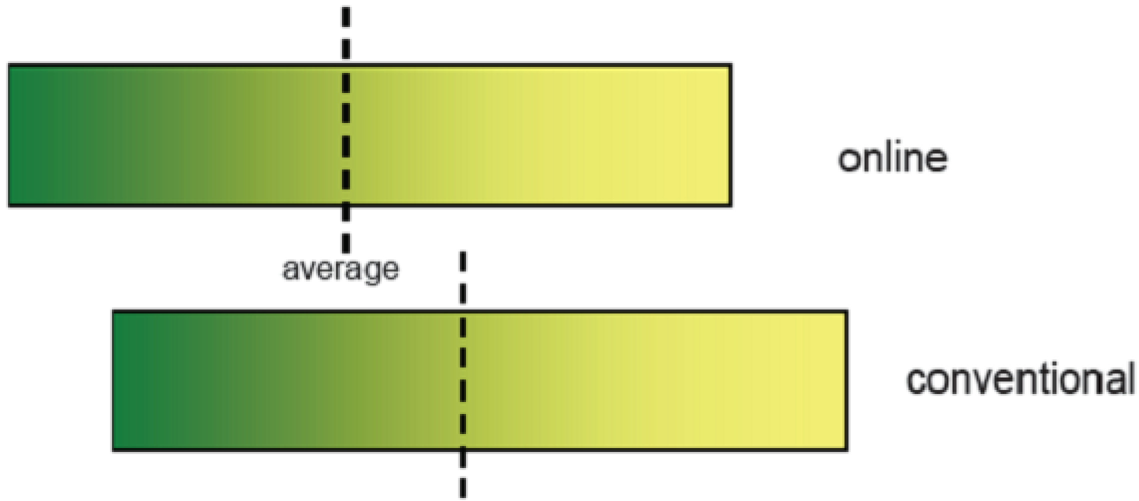
IDIS STRATEGIC VISION

ENABLING ONLINE SHOPPERS TO MAKE INFORMED DELIVERY CHOICES THROUGH TRANSPARENCY OF OPTIONS, LIMITATIONS, BENEFITS, AND THEIR ASSOCIATED COSTS

Summary

- Home delivery growth is c 40% pa, and this rapid growth will continue till c2010, when growth rates will decelerate, towards 10-20% pa
- The drive for cost reduction will give some sustainability benefits anyway
- Companies will continue to improve sustainability performance , as they focus on "do good, not harm"
- Technology developments will enable further sustainability benefits
- The green logistics research will establish common ways of measuring impact, and consumers will be made aware of this
- Armed with some information, consumers will make their choices
- When combined with the "operational" opportunities, ***home delivery growth could well have a positive impact on carbon emissions, despite the overall increase in delivery numbers***

Shades of Green in the Retail Market?



Any environmental advantage likely to be conditional on:

- vehicle load factors
- % of failed deliveries
- level of product returns
- energy efficiency of warehouses and shops
- structure of the supply chain
- personal travel behaviour

Something to think about:

❖How many of you are green-focussed in your businesses?

❖What is driving that?

❖Do green initiatives save money or cost money?

❖Is green focus becoming the catalyst for cost saving, and changing consumer behaviour in a justifiable way?

Something to help:

Can any multi-channel retailers help us with data?
6th November a.m. in London

THANK YOU

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