

European bicycle market analysis 2015

Advocacy means sales

European Cyclists' Federation

Edited by: Alexander Scholz

Contributions from: Kevin Mayne, Elina Baltatzi

Contact: office@ecf.com

25.08.2016

This report is a “snapshot” of the comparison between countries in the 2015 which ECF is releasing to inform the ECF Cycling Industry Club’s “Advocacy Summit” at Eurobike on 1st September 2016. This data will inform our discussions on the importance of advocacy at the national and international level. Thanks to CONEBI for permission to duplicate content from their annual reports of the European bicycle market, the reports are the main data resource for this report.



ECF gratefully acknowledges financial support from the European Commission.

The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

1. About the ECF Cycling Industry Club (CIC).....	3
2. Main findings of this report	4
3. Introduction	6
4. European bicycle market analysis 2015.....	8
4.1. Bicycle sales.....	8
4.2. E-bike sales	12
4.3. Average bicycle price	14
4.4. Average bicycle expenditure per capita	17
4.5. Sales development.....	19
4.6. Upcoming bicycle markets.....	21

Cycling Advocacy means sales

ECF Analysis of the CONEBI “EU Bicycle Market Report 2016”

1. About the ECF Cycling Industry Club (CIC)

The Cycling Industry Club is the means for companies in the cycling industry to have an advocacy voice in Europe, extending their reach and influence. By supporting ECF’s Cycling Industry Club those companies are putting cycling at the heart of the public policy debate.

Companies that join add their weight to the collective strength of other businesses who are working to increase cycling. Every Euro is an investment in growing cycling which is good for everyone’s business.

- Helping governments and cities create better places to ride, which gets more people riding.
- More people riding means more people buying bikes and equipment—and that’s good for business.
- Putting cycling’s innovators onto the global new technology agenda, following our success giving international recognition to bike sharing, e-bikes and cargo bikes.
- Supporting job creation. Having put the “Cycling Economy” into international policy, now ECF’s “Green Jobs” initiative is campaigning to create over 400,000 new cycling jobs.

2. Main findings of this report

First developed in 2012 the ECF methodology of comparing bicycle sales data in the EU on a per country and per capita basis continues to highlight significant differences in market performance that are not provided in other published reports.

The analysis creates an important intelligence for the bicycle industry about market trends but also to cycling advocates in providing correlations between cycling conditions on the ground and the state of the cycling market. This supports the core purposes of the Cycling Industry Club.

Overall the report confirms the pattern that the share of population cycling daily for transport purposes continues to be the main determinant of strong cycling market conditions in the EU. There are clear correlations between cycling mode share and high sales of bikes, high unit prices and high per capita expenditure by country.

The report on the 2015 market also provides new intelligence on the impact of cycling conditions on the current and potential markets for e-bikes and the potential for growth in the overall market when the public sector invests in cycling infrastructure and promotion.

2015 highlights:

1. The trend for mode share and sales to be linked is most important for determining market strength in main cycling markets across and is irrespective of other factors such as the tradition of sports cycling. This has been consistent since our first report in 2012.
2. In particular the relationship between cycling conditions and the market shows in the data for “average expenditure per capita on new bicycles” where the values for the world foremost cycling transport countries (the Netherlands and Denmark) are more than double any other country in Europe. If the 5 largest markets in the EU got to even 50% of the Dutch/Danish levels of expenditure this would add about 5 billion to the EU market, a huge return on investment for efforts to bring similar infrastructure to other countries.
3. This correlation is also very strong in sales of e-bikes. It is clear that e-bikes sales per country are following mode share, not any other factor like relative wealth or hilliness of countries. ECF warns that lack of good underlying cycling conditions such as infrastructure may place a cap on e-bikes sales in potential markets like the UK, France and Italy.
4. Of the few countries with a low mode share the UK is the one that most beats the trend in terms of unit sales per capita. This suggests that other public sector policies such as fiscal incentives for bike purchases can also form part of advocacy to increase sales.
5. Fiscal policy could also be important in other ways. Growth in average unit price per bicycle is not consistent. Countries with relatively lower average earnings/GDP but higher mode shares show some unit price increase, but not as clearly as in richer countries. For example separating the so called “former eastern bloc” shows that there is very little difference in pricing across the whole group, all at the bottom end of EU prices. This has policy and market implications, the possibility of significant price development and

introduction of new technologies such as cargo bikes and electrification could be very challenging without alternative financing means.

This year's report adds some year to year trends for the first time. Key findings from this data are:

1. The bicycle market in Europe has fared much better than the car industry in the period since the start of the 2008 recession despite the huge public subsidies given to the automotive sector. ECF believes that one of the factors in this trend is the alternative support given to cycling by investments in infrastructure.
2. This trend is even stronger when comparing e-bikes and e-cars where e-bikes are the leading form of personalised electro-mobility in the EU by a huge margin.
3. Average unit prices per bike have also been maintained and increased during the same period which is a very healthy market sign. Mature markets tend to reduce average prices over time, especially during a recession. The strength of prices can be related to introduction of new technologies such as cargo bikes and e-bikes in some countries but to maintain overall price increases over this challenging time frame suggests that there is still underlying consumer demand across the whole of the EU 28, this is not artificially induced demand by discounting.
4. Comparisons of the growth trend by country show that the top six European growing markets are widely spread across the whole continent from Sweden to Romania. ECF believes this supports one of the strategies of the ECF Cycling Industry Club from 2011 to 2016 which is to ensure that advocacy is developed right across the EU. Mode share and market growth can be achieved across the EU, hence the reason for investing in advocacy development in 15 emerging national advocacy organisations since 2012. These results also provide important intelligence for ECF's advocacy to encourage the use of EU funds for growing cycling in all EU countries, growth can be measured in commercial terms as well as in cycle use.

3. Introduction

One of the most valuable data resources for ECF's advocacy at the EU level is the annual market survey by CONEBI, the European bicycle industry body.

Since 2012 we have used it as a basis for additional analysis which part of our "health check" on the state of cycling across multiple countries and as a valuable source of intelligence for our colleagues on the ECF Cycling Industry Club and to our national members working for the promotion of cycling in every EU member state.

CONEBI data has been a valuable contributor to ECF's development of the "Cycling Economy" as a lobby tool and to ECF's Cycling Barometer, the only data analysis to compare cycling in the EU across 5 distinct metrics and check the "state of cycling" across 28 countries.

This report is a "snapshot" of the comparison between countries in the 2015 which we are releasing quickly to inform the ECF Cycling Industry Club's "Advocacy Summit" at Eurobike on 1st September 2016 where the data will inform our discussions on the importance of advocacy at the national and international level.

Key measures

The unique aspect of ECF's analysis is to take the sales figures provided by CONEBI and compare them with other indicators to try and establish some underlying trends in the data.

The main measures we compare include:

- **Number of units sold per head of population, both for bikes and e-bikes.** This gives a real "state of the market" indication and identifies the strength of markets in smaller countries that can be overlooked if reporting just concentrates on the larger countries.
- **The average unit price per bike.** This is supplied by CONEBI, we use it as a comparator because it could give an impression of the "value" ascribed to cycling by consumers and indicate where there are high added value machine such as e-bikes and cargo bikes pushing up unit prices. It also guides our work on the need for national schemes to support bicycle sales through tax incentives and fiscal measures, as bicycle prices increase this could become increasingly important, especially in low income countries.
- **Mode share.** There is still a significant challenge getting consistent data across the EU on the amount of daily transport cycling per country, but the EU statistical service Eurobarometer does publish regular reports based on citizen surveys which give a close approximation. In 2012 ECF made its first comparison between mode share and bicycle sales which provided previously unidentified new insight for the bicycle industry on the importance of urban cycling on market health, and especially pricing.
- **E-bike sales growth vs e-car sales.** This year we include additional analysis on the long term trends in pedelec sales, especially compared to e-car sales because we recognise that we have a lobby challenge to show the EU and member state governments that e-bikes are the most important form of personalised electric mobility in the EU.

Additional sources

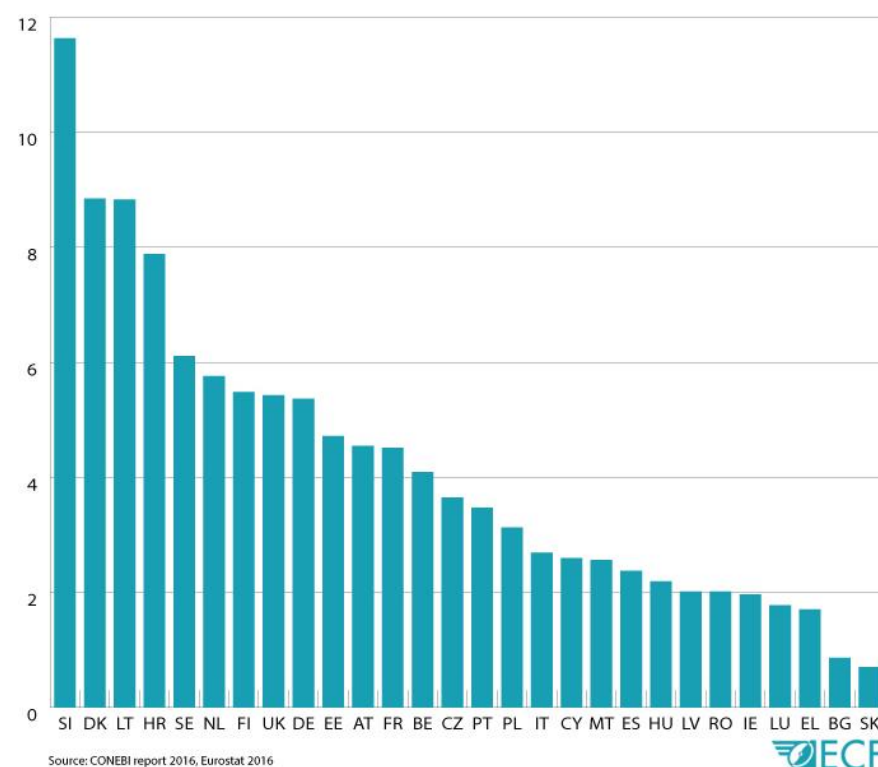
As well as the CONEBI data we cross check our assumptions and understanding with background checks from our members and networks. In particular we are grateful for the regular “market reports” for individual countries which are published on the web site of [Bike Europe](#), the European bicycle industry publication and media partner of the ECF Cycling Industry Club.

4. European bicycle market analysis 2015

4.1. Bicycle sales

This first test gives a general overview of the state of the bicycle market by country. However it also confirms some known challenges with the quality of the data. For a number of years Slovenia has topped the table with the most bike sales per head according to CONEBI data. In recent years the addition of Croatia to the EU has seen it enter the table in a high position.

Figure 1: Bicycle unit sales per 100 inhabitants 2015



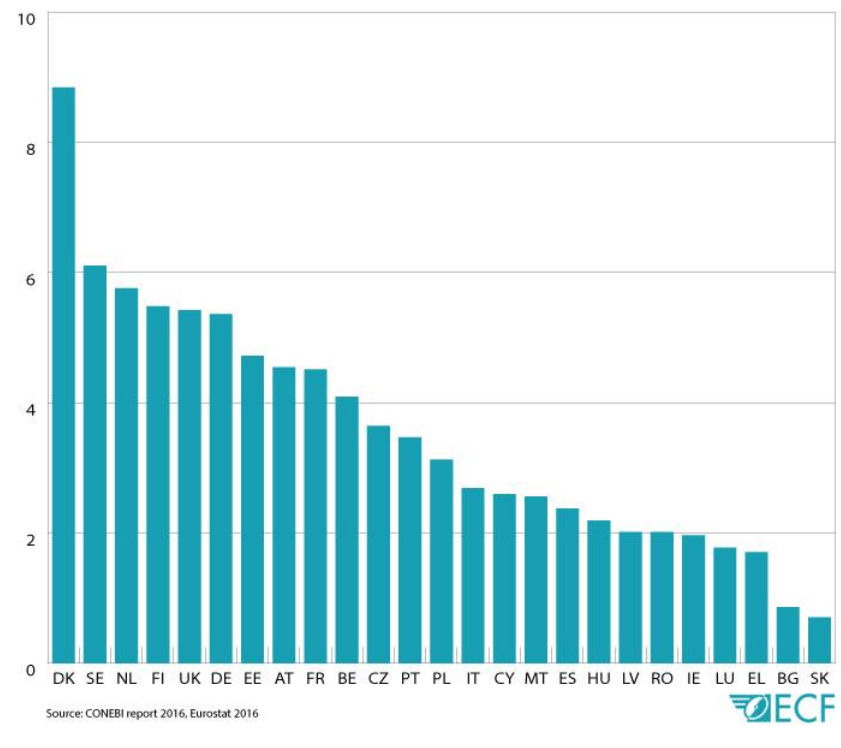
However we know from trade reports that the figures for Slovenia and Croatia are overstated because the figures include significant onward shipments to other countries.¹

It is also believed that there are similar flaws in the data for Lithuania which is a manufacturing base for exports around the EU. Therefore for consistency we have excluded the data from our graphics.

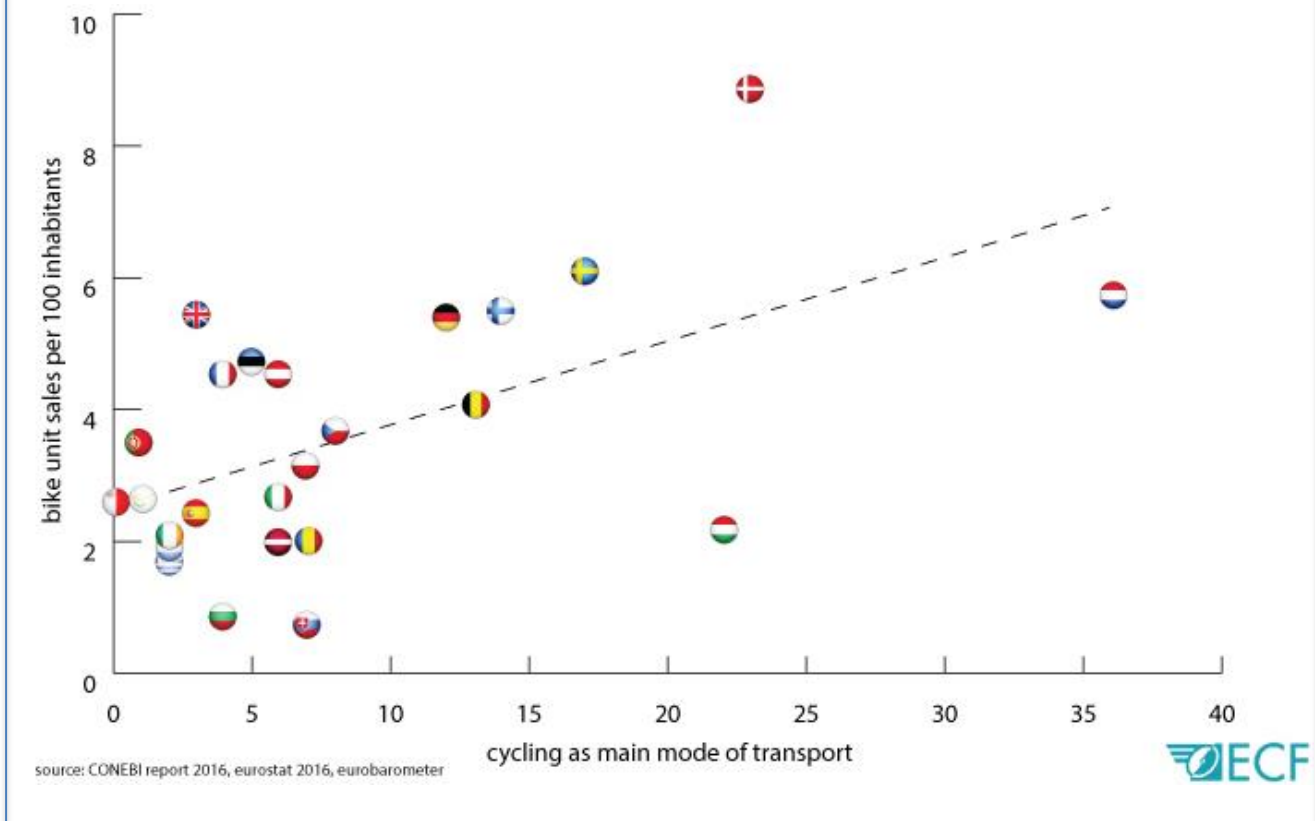
Without those three uncertain data sets we see a result that is consistent with market intelligence. The table is topped (see Figure 1) by a group containing the Nordic countries and the Netherlands with Denmark way ahead of all its peers.

¹ <http://www.bike-eu.com/sales-trends/nieuws/2016/2/slovenian-and-croatian-market-merge-10125674>

Figure 2: Bicycle unit sales per 100 inhabitants 2015



In order to test what underlying conditions affect these markets ECF has done a correlation test with a number of indicators since 2012 and found that the clearest correlation seems to be with the level of daily cycling as indicated by Eurobarometer, at least at higher modal shares.

Figure 3: Correlation - Unit sales per 100 inhabitants and cycling as main mode of daily transport 2015


This analysis shows that in high mode share countries there appears to be a significant trend towards higher unit bicycle sales.

This might be anticipated, people using bikes on a daily basis are more likely to replace their bikes regularly or upgrade them more often, but what this analysis suggests is that this buying pattern is more important than any other factor such as sports cycling in determining the relative size of the market. (Individual country variations are discussed below)

This is important for the health of the bicycle industry in Europe because it provides a prediction of possible market direction as advocacy succeeds in getting better conditions for cycling in cities. If conditions for cycling match Denmark the EU bicycle market could grow by as much as 30 million units.

We recognized that there is a broader scatter in the low mode share countries. If this data would be considered in isolation there is no strong correlation between bicycle sales and mode share to be identified. However the importance of the ECF analysis is to show what will happen to bicycle sales as countries move out of the low mode share group, as a result of investments such as bicycle infrastructure.

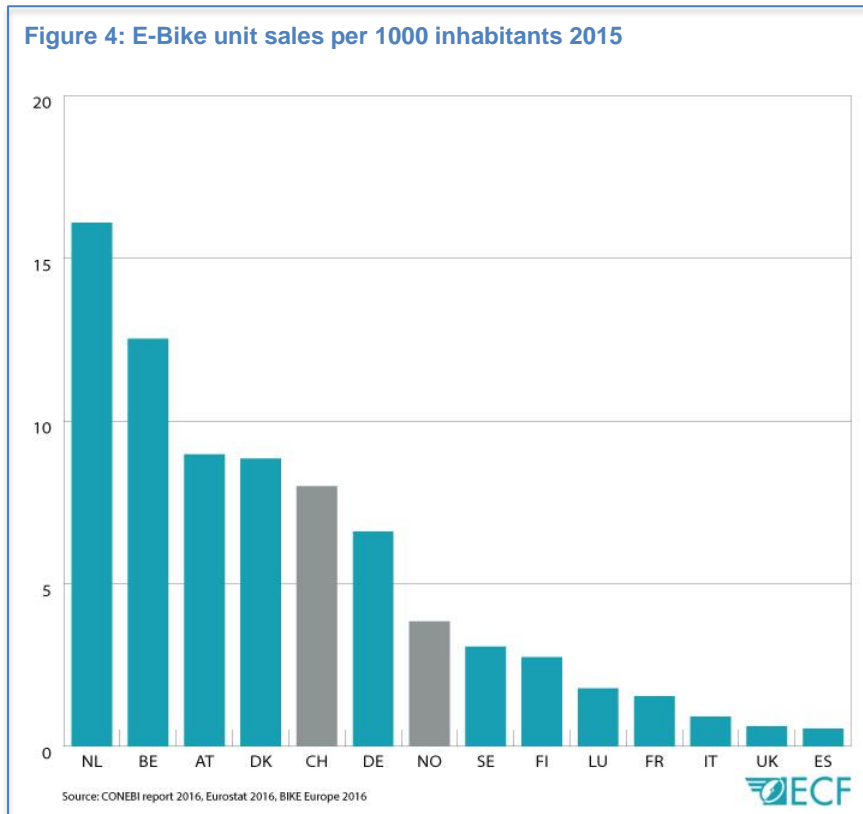
The Figure 3 also shows some of the outlying countries that provide interesting intelligence.

- The unexpectedly low number of units per head sold in the Netherlands compared to the trend is anecdotally believed to be explained by a degree of market saturation or the very strong second hand market in the Netherlands which suppresses sales a bit.
- Possibly significantly worse weather conditions in Scandinavia also cause greater wear and tear on bikes causing more regular replacement.
- The third highest level of daily cycling in Europe is Hungary, but it is understood that much of this remains historic cycle use in poor rural districts where there is very little money for new bikes. In that sense the market has some similarity to the reduction in demand in the Netherlands due to continued use of old bikes.
- Of the low mode share countries the UK has the most distinctive results. This continues a long term trend where the UK appears to be different from its neighbors. Two special features of the UK market are noted that are significant for both the UK market development and policies for other countries. Sport and recreational cycling are far more important in the UK than transport compared to any neighbouring countries and this seems to be reflected in significant uplifts in bike sales compared to comparator countries, especially after Olympic and Tour de France success.

The UK has an extremely well established fiscal incentive for cycling with the Cycle to Work scheme giving significant purchase price reductions for bikes up to £1000. Given the very low mode share for cycling in the UK some of this supports a very healthy market in bikes for enthusiasts in this price point, many sports style bikes are seen being used for commuting. ECF has carried out a major study on fiscal incentives across the EU and believes this is a big opportunity to encourage bicycle sales.

4.2. E-bike sales

We are able to carry out a similar analysis for pedelec sales from the CONEBI data. In this case we decided to only take the countries with more than 1000 sales as below this the exact data was uncertain. To this we added comparable figures for Norway and Switzerland, the other main European markets.



This is very interesting because many market reports about e-bike growth have concentrated on the Netherland and Germany which in overall size are the biggest in Europe.

However the per-head analysis shows the relative strength of the market in Belgium, Austria, Denmark and Switzerland. (see Figure 4) ECF's advocacy groups in those countries are very active in promoting the benefits of e-mobility and the use of pedelecs compared to e-cars so the results are very encouraging for their work and for the industry.

Because this is relatively new data we extended our examination of this data by comparing it to the purchasing power of the country (GDP) and the relatively hilliness from geographical data. However no correlations were seen.

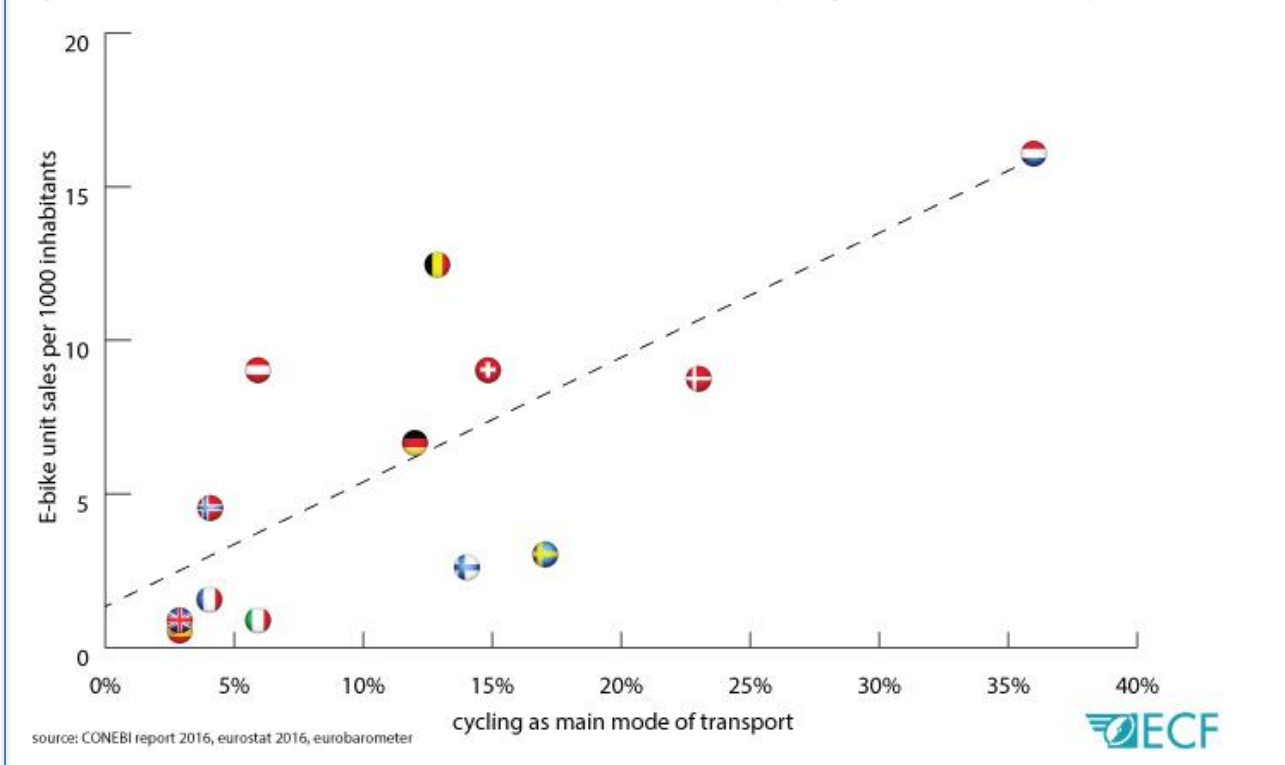
Once again the most powerful correlation is mode share. Using the same data as for overall bike sales we found the link was much more accentuated that even for overall bike sales. (for Norway and Switzerland we used various sources to find a comparable estimate to the Eurobarometer data for the EU). (see Figure 5)

In particular we see very strong per capita sales on e-bikes in Denmark where this is not a market that features in studies of the market growth in the sector. Belgium is known to be ahead of the expected line because of strong sales in Flanders which is following the pattern of its neighbours in the Netherlands and also investing substantially in cycling highways which encourage pedelec sales. ECF's member associations on Belgium are highly committed to this growth to obtain a reduction in car use in Belgium which remains high by European standards.

Finland and Sweden appear to be the most promising emerging markets for e-bikes because at the moment the market looks relatively under-developed compared to similar markets.

This analysis also indicates that the UK, France, Spain and Italy may have a natural cap on the growth of e-bikes because they do not have the underlying conditions that encourage cycling in general, for example cycling infrastructure. This points to a need for the industry to engage in core cycling advocacy alongside the promotion of e-bikes or expected growth in these markets may not be delivered.

Figure 5: Correlation - E-bike unit sales per 1000 inhabitants and cycling as main mode of daily transport 2015

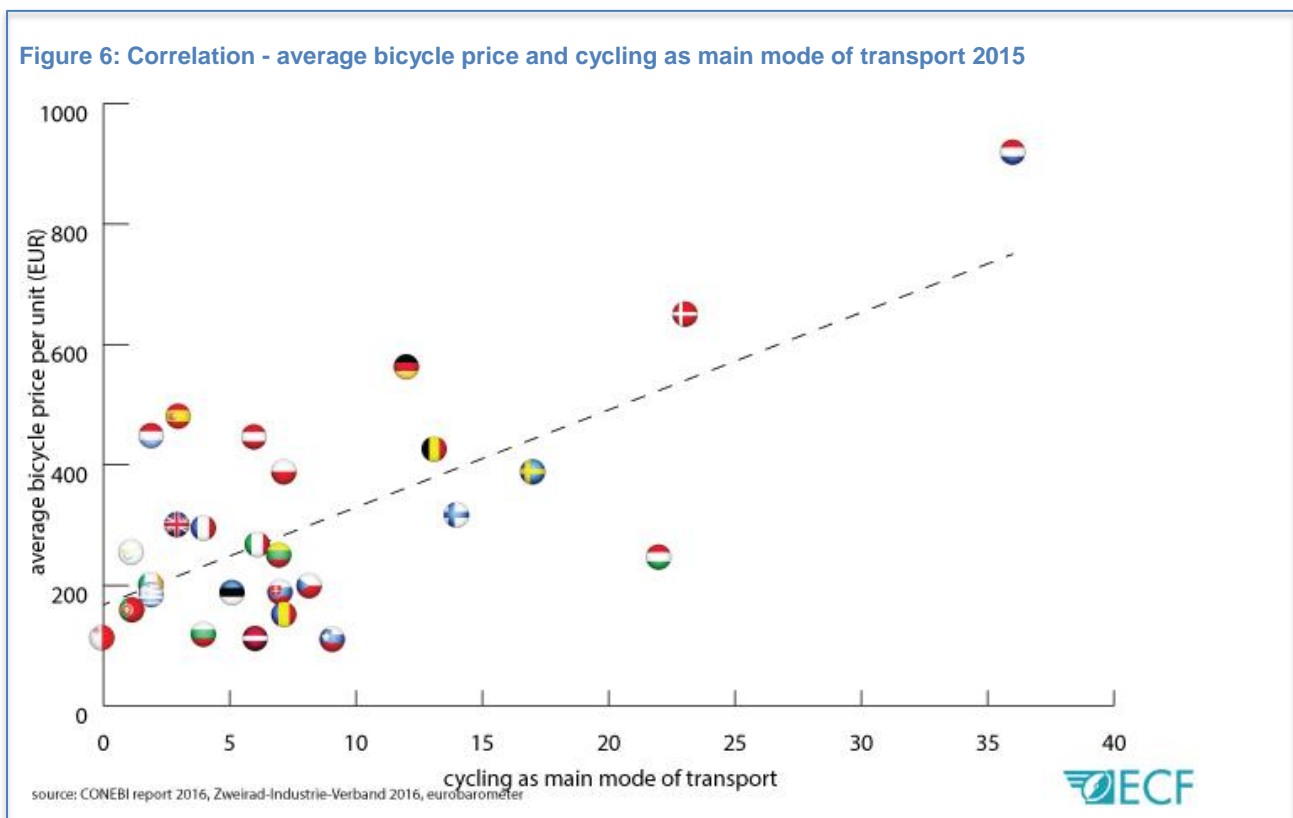


4.3. Average bicycle price

This has been one of our most interesting comparisons in recent years. ECF tested assumptions about the factors that affect unit price in various EU markets. In particular we wanted to see where we could distinguish the impact of urban cycling separately from the high value of enthusiasts' bikes in the sports and mountain biking sectors.

Here we see a much closer correlation in the countries with higher mode shares, but a significant scatter in low share countries, not all of which can be explained easily.

The relatively low price in Hungary is influenced by a market that mirrors a lot of Eastern European countries by selling low value bikes for transport, despite its high mode share.



This comparison between the former eastern bloc countries and the rest of the EU is even more apparent if we separate the data between the two groups. From this we see that on the Eastern group very low average prices continue across all markets and there is little impact of mode share, however the Western countries are closely clustered around the growth line, especially at higher mode shares. (see Figure 7 and 8)

Figure 7: Correlation - average bicycle price and cycling as main mode of daily transport 2015

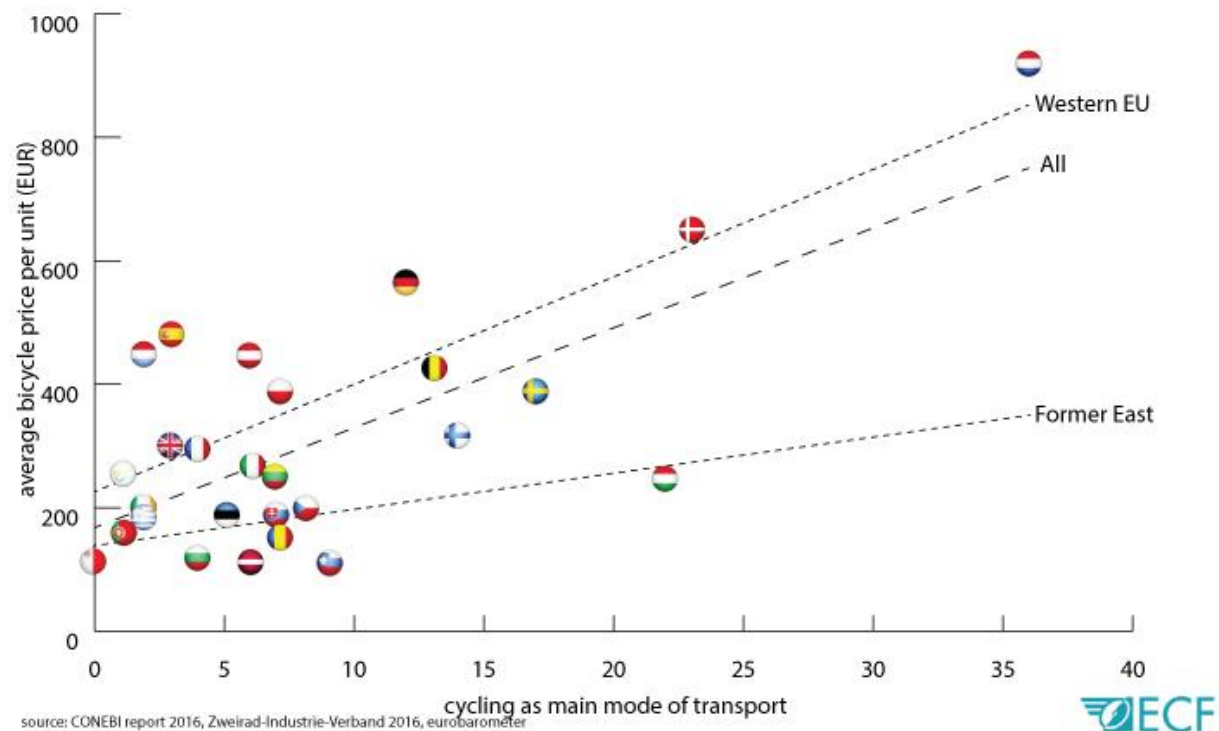
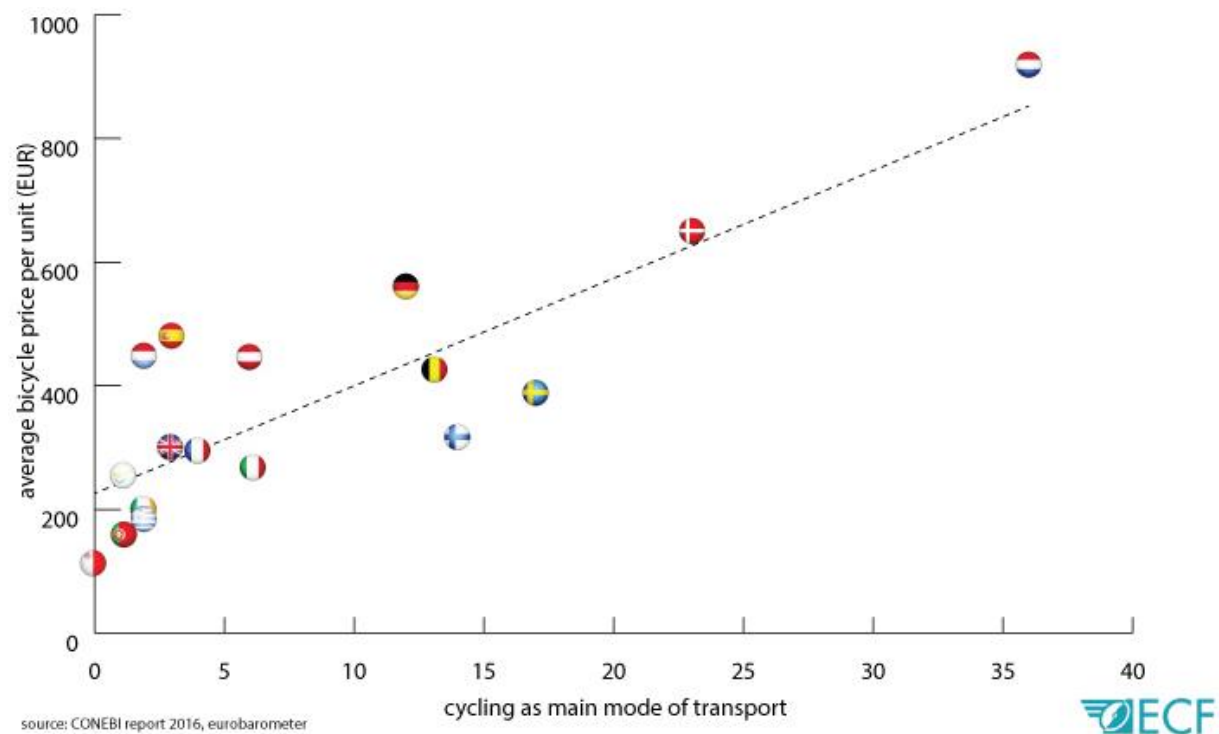


Figure 8: Correlation - former western bloc cycling economies: Average bicycle price and cycling as main mode of daily transport 2015



In general this analysis suggests that the overall profitability of the bicycle market can be heavily influenced by the amount of daily cycling – because in these high share countries consumers will be trading up to higher specification urban bikes, cargo bikes, child carriers and now e-bikes.

(The very high unit price in Spain is not explained by any trends that are apparent in other markets or by the strength of the Spanish economy and demands further investigation)

This has been an important message over the last 2-3 years for the bicycle industry in countries where the perception has been that only sports bikes attract a premium, typically countries with a heritage in cycle sport and low to medium mode share – for example Italy and France. To really push up average prices we need consumers who see bikes as a daily means of transport and a substitute for a car or season ticket on public transport.

However we do note that this is not a strong enough trend to overcome structural differences where the purchase price of these higher specification machines is too high relative to average earnings.

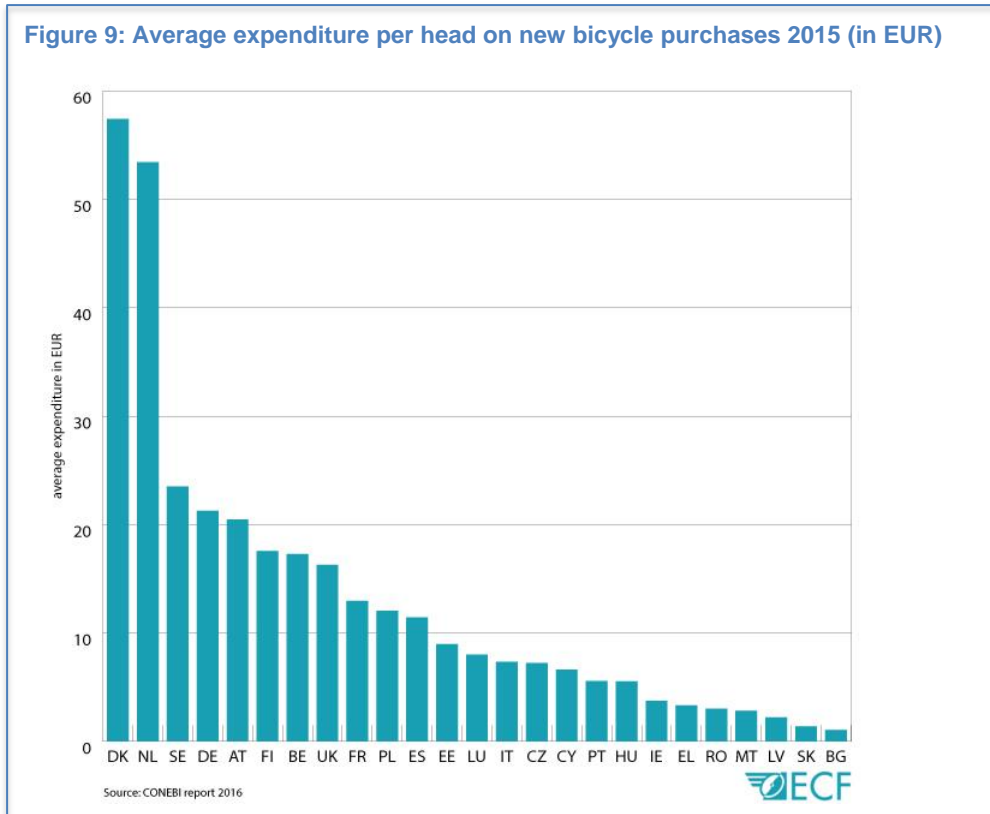
This is important learning for policy makers and advocacy efforts hoping to encourage market development in fields such as e-bikes and the use of cargo bikes in low income countries such as the former Eastern bloc. It suggests that fiscal intervention may be a necessary market condition, either to lower the purchase price of these higher specification bikes through price support (discounts, subsidies, tax relief) or through more innovation purchasing mechanics such as leasing, sharing and “pay as you go” schemes linked to travel allowances.

This is particularly relevant to ongoing discussions about the move to phase out or reduce subsidies of company cars by EU member states, this data suggests that stimulation of e-vehicle purchasing must include higher value bikes as well as cars or the machines may be unaffordable. In a market where the average unit price of a bike is below €200 it is hard to imagine a jump to a viable market of machines costing in excess of €2000 without such support.

4.4. Average bicycle expenditure per capita

Linking the data for “per capita bicycle sales” and “unit price” we can also see the national comparison for “expenditure per person on new bicycles” for 2015.

Figure 9: Average expenditure per head on new bicycle purchases 2015 (in EUR)



This is one of the most striking charts in our study, clearly showing that the EU countries that have invested most in daily cycling have by far the most successful cycling economies. This enables us to calculate the market potential if countries achieve a mode share for cycling at similar levels to the Netherlands and Denmark

Table 1: Potential market value

Country	Estimated market value (Million €)	Expenditure per capita (€)	Market value (Million €) with an expenditure per capita of €30	Market value (Million €) with an expenditure per capita of €50
Germany	1 727	21	2 436	4 060
Great Britain	1 054	16	1 943	3 238
France	860	13	1 992	3 321
Italy	447	7	1 824	3 040
Poland	458	12	1 140	1 900
Spain	531	11	1 393	2 322
Total	5 077		10 729	17 882

The table 1 shows the potential growth of market value if there is an increase in the average expenditure per capita and the bicycle unit sales remains the same. The estimated market value of the five biggest countries is about 5 billion € in 2015. If these five countries would have about half of the expenditure per capita (€30) as seen in the Netherlands, the market value would double to 10 billion €. If the average expenditure would be the same as in the Netherlands (€50) for this five countries, the market value would triple. Assuming the sales are growing, the market value would be even higher.

4.5. Sales development

This year we analysed for the first time some of the linear trends in the data, going back over previous CONEBI market reports.

In particular we have been looking for two trends.

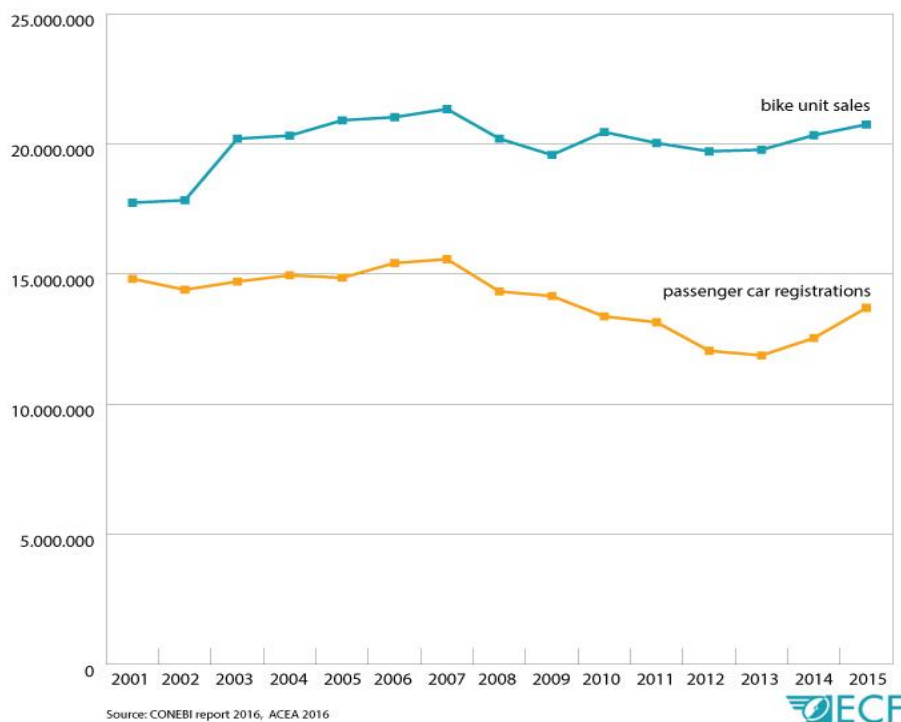
- The health of the EU cycling market compared to other sectors, especially private car sales.
- The emergence of individual markets, especially if we can see the impact of advocacy work at a national level.

What is particularly encouraging is to see how well bicycle sales have held up in the EU in the challenging market conditions since the global financial crisis since 2008.

Overall the industry might not report this as a particularly strong growth period, but compared to the other sectors the results are excellent.

For example if we take annual sales compared to private car registrations in the same period we can see that car sales slumped much more than the bike sector, even after massive government subsidies. Clearly market conditions were not strong after the big damage to consumer confidence and incomes after 2008, but the damage was much less than to the car industry.

Figure 10: New passenger car registrations compared to bike unit sales in EU from 2001 to 2015

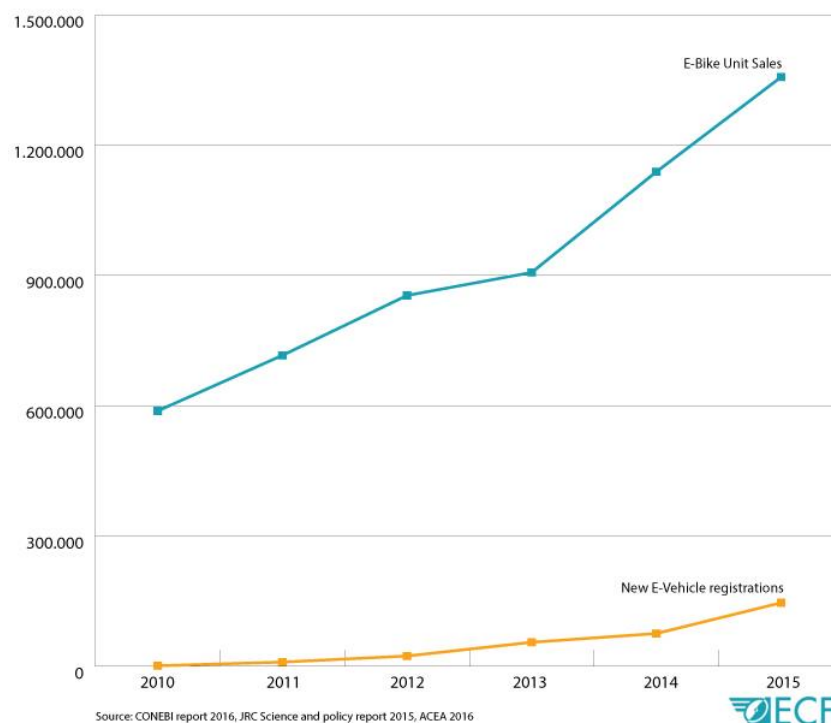


We can suggest that this might be because that the bicycle market is much more influenced and stabilised by so called “indirect subsidy” than the car industry. Where the car industry advocated

for direct subsidies and scrappage schemes to boost sales the bicycle sector was advocating for governments to invest in making cycling possible through bike lanes and other cycling infrastructure. Clearly this has been highly effective in stabilising and even growing the market in really poor trading conditions. Also it means the conditions have been permanently altered in favour of cycling by advocacy.

The car industry is still below the annual sales for 2008 despite a recent surge in growth, while cycling is ahead of that position and thanks to increased investments by cities and governments it is a strong position for steady growth. The position is even stronger in e-vehicles.

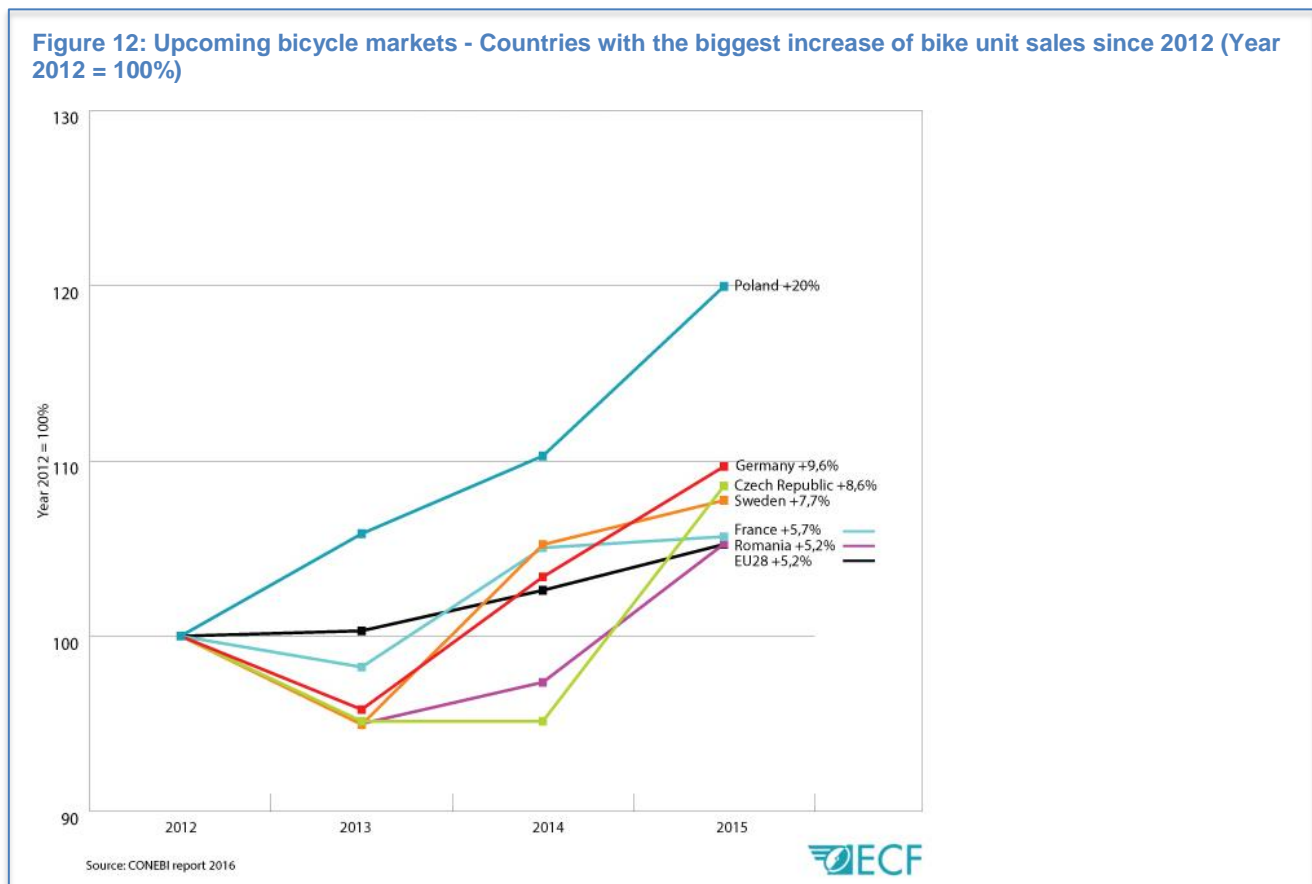
Figure 11: E-Bike unit sales compared to new E-Vehicle registrations in EU from 2010 to 2015



ECF suggests a copy of this graph should be on the desk of every government official in the whole EU responsible for electric vehicle policy!

4.6. Upcoming bicycle markets

The chart below shows markets with the biggest increase in bicycle sales since 2012.²



We note that 2013 was seen as a very challenging year for the industry, especially in Northern Europe, which is the result of one of the worst spring weather patterns in history.

However we see from the four years of data that in growing countries there has been a much more resilient underlying trend.

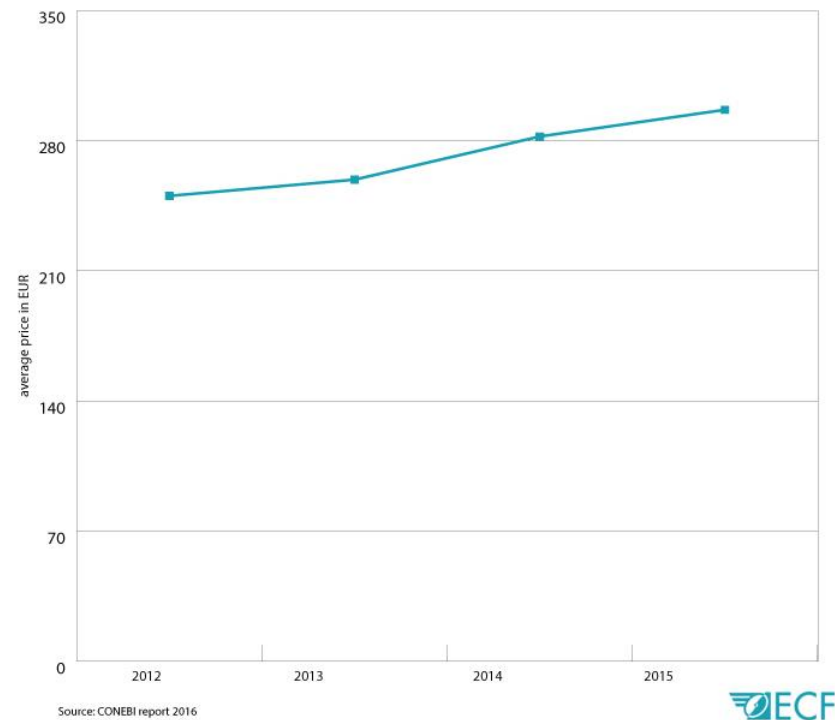
The second main point highlighted is the diversity of the growing markets, there are strong results across all regions of the EU and from very different starting points.

Through the ECF Leadership Programme the bicycle industry has been investing in advocacy in many countries where the case for daily cycling has not been supported by professional industry or advocacy groups. The evidence of this data set is that commercial growth can be seen in very diverse markets and therefore the strategy to ensure that all EU countries have effective advocacy

² For the analysis Spain is excluded because the data seems to be distorted, there is a big jump between two years, further investigations would be needed to verify the data.

is important for the health of industry and for the economic convergence of the industry in Europe.

Figure 13: Average price per bike in EU28 (EUR) from 2012 to 2015



Unit prices show a consistent trend over the same time period. In fact this trend is more stable than the unit sales growth.

This is very interesting when compared to economic models of price development in mature industries and industries facing challenges such as a recession.

Typically maturing products show reduced unit pricing over time as manufacturing costs decrease and competition increases. This is accentuated during periods of crisis. The heavy discounting and demand for public subsidies by the automotive industry during the recession is the nearest parallel in the transport sector.

Figure 13 suggests that the bicycle industry did not engage in significant discounting in the challenging market of 2013 (bad winter and overstocking) and is maintaining price growth across the EU.

There is a strong influence of new technologies pushing up prices in markets such as the Netherlands and Denmark as we have shown in earlier graphs. ECF notes that in these countries the penetration of cargo bikes has preceded the current growth in e-bikes so there is good evidence that consumers will “trade-up” for a range of new technologies in markets where daily

cycling is strong. This change may be more important to the health of industry than unit sales growth in the two counties with already high sales figures.

However as this “trading-up” is really limited to a very small number of countries but Figure 13 shows consistent price growth for the whole EU market. ECF concludes that this is evidence that the EU bicycle market is not showing signs of approaching maturity, it shows that it is growing its market share as a mode of transportation and this should support long term prices.