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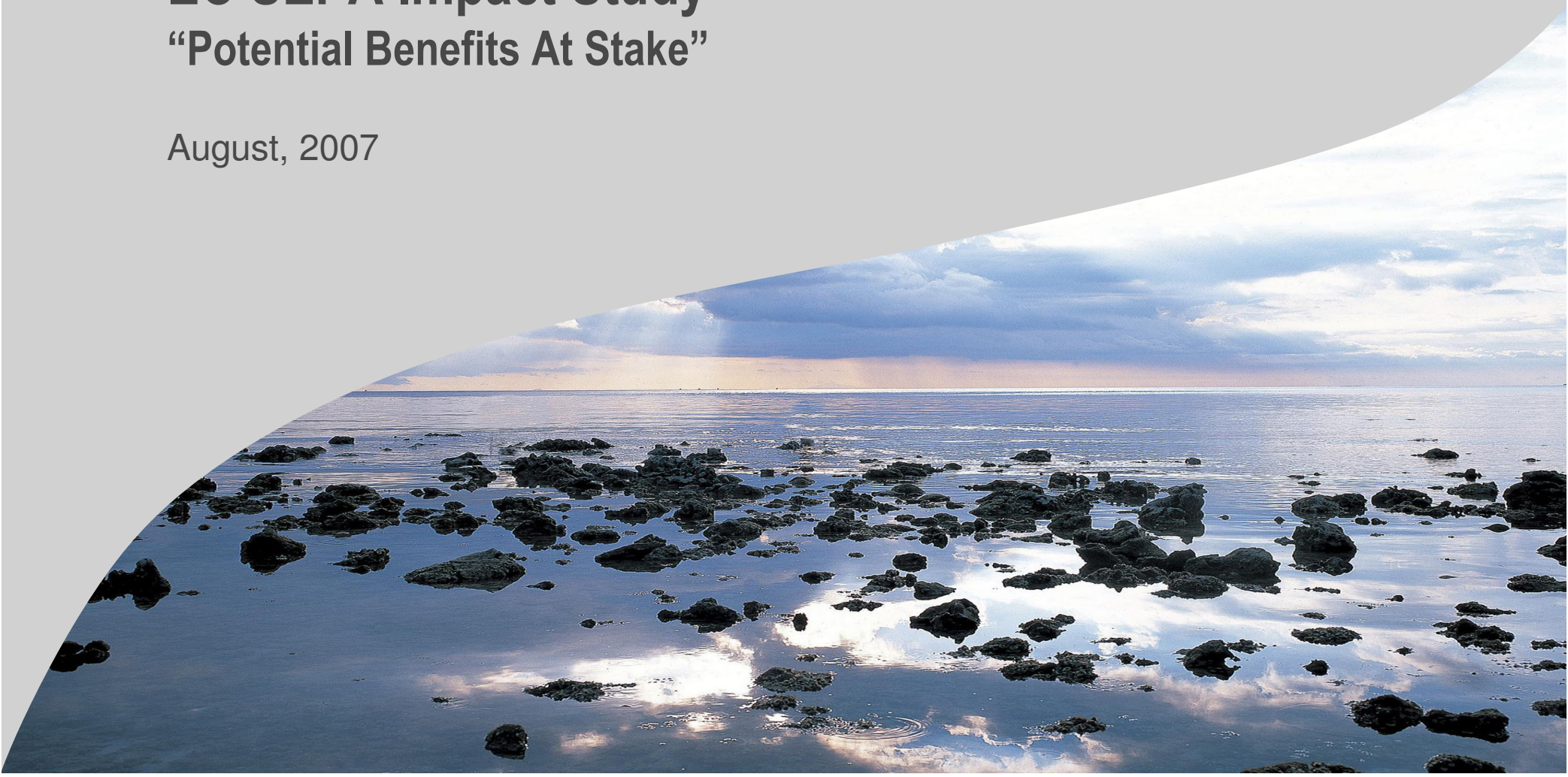
EC SEPA Impact Study

"Potential Benefits At Stake"

August, 2007



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The most optimal scenario shows a potential net impact of €123B for the market (cumulative over 6 years)

Base figures and scenarios

- Businesses and consumers spent €158 billion, or about 1.3% of GDP, on payment costs in 2006
- Without SEPA banks would increase their revenues as a consequence of the growing demand and minor price drops; margins would soar as a result of decreasing operating costs
- Scenarios are used to reflect four extreme, yet plausible, scenarios describing the payments market:
  - one in which supply and demand are reluctant to move beyond SEPA compliance (named All tied Up)
  - one in which the demand side pulls for products while supply is reactive (Demand Pull)
  - one in which demand is reluctant to invest and supply pushes SEPA products mainly through price reductions (Supply Push)
  - and finally one in which demand and supply actively promote the adoption of SEPA (SEPA Big Time)

Net impact of SEPA

- SEPA holds a market potential of up to €123B in benefits (cumulative over 6 years) with a significant upside for all demand side stakeholders while allowing banks to retain current margins
  - Consumers gain in all scenarios, while other stakeholders (especially SMEs and corporates) benefit—by tens of billions of euros—in the Demand Push and SEPA Big Time scenarios
  - SEPA clearly tempers the margins of the supply side; however, even in the most aggressive scenario the margins still grow in absolute terms compared to 2006 as the volume growth outweighs the unit price reduction

- For all countries, demand and supply are at odds in the market outcome, except in Belgium, Finland, the Netherlands and Germany, where both sides prefer SEPA Big Time to All Tied Up

Qualitative outcomes

- From a qualitative point of view the scenario with the fullest implementation of SEPA (SEPA Big Time) is the most favorable one, meeting the PSD/SEPA objectives to a large extent

A mix of measures is needed to address the barriers that stand in the way of realizing the optimal scenario

Barriers to achieving the most aggressive scenario:

- If SEPA Big Time is the goal, several issues must be addressed at the demand, supply and regulatory levels
  - For the demand side, the key barriers are lack of awareness, dual costs during transition, and inadequate incentives for each product.
  - Main barriers for the supply side are the lack of commercial interest, the significant investments needed (and the non-self-explanatory nature of the operating cost savings), a downward trend in revenues through SEPA products, and high market entry barriers.
  - For the market as a whole the barriers are unclear deadlines, lack of product standards, country specific laws and interests, and unbalanced benefits.

Mitigating measures

- A set of balanced measures can help the market reach the SEPA Big Time scenario
  - A mix of facilitation, influencing and self-regulation will be needed.

E-invoicing

- E-invoicing can reduce the costs of the invoicing process for users with a potential value for the market of 0,8% of GDP per year.
- Banks are well positioned to offer services in this market, creating a potential extra revenue flow of €0,4 billion to €3,4 billion per year.

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The European Commission has asked Capgemini to conduct a study that assesses the impact of PSD/SEPA on key stakeholders in the European Union

Introduction

Background and key objectives of the SEPA study

Situation	▪ The Single Euro Payments Area (SEPA) is an industry initiative strongly supported by the EC and ECB and geared toward increasing efficiency of payment services in the EU through advancing European financial integration; it has four strategic intermediate objectives: 1. Enhanced competition between national markets by opening up markets 2. Increased market transparency for both providers and users 3. Standardized rights and obligations of providers and users of payment services in the EU 4. Open and common industry standards ▪ Achieving these objectives will require a combination of EU regulation and market self-regulation.
Complication	▪ Early feedback from various stakeholders on the new SEPA-related regulation has not always been optimistic. Some banks and retailers, for example, are worried about the relatively high investments they need to make, while many potential users of the SEPA products are not yet aware of the potential benefits that the SEPA could bring to them.
Questions	▪ What are the benefits, opportunities and costs of PSD/SEPA for different stakeholders? ▪ What issues threaten the attainment of a single payments market? ▪ What are the alternatives for remedying or mitigating these issues?
Answer	▪ The present study has three primary goals: 1. To provide a qualitative and quantitative assessment of SEPA's costs and benefits for key stakeholders in the European Union over the next five years in four market scenarios. 2. To provide an overview of the opportunities and threats on the way to attaining SEPA in four market scenarios. 3. To define measures aimed at eliminating the barriers toward full implementation of SEPA.

Source: Open call for tenders n° MARKT/2006/10/H, European Commission, 2006; Capgemini analysis

This study gauges the direct effects of SEPA on sixteen EU countries, five payment instruments and six stakeholders

Scope

Countries

- Austria (AT), Belgium (BE), Germany (DE), Spain (ES), Finland (FI), France (FR), Greece (GR), Ireland (IE), Italy (IT), Luxembourg (LU), Netherlands (NL), Poland (PL), Portugal (PT), Sweden (SE), Slovenia (SL), United Kingdom (UK) are included in the qualitative and quantitative analysis.
- These 16 EU countries (EU-16) represent 95% of the GDP of the EU-27, 96% of the non-cash transaction volume, and 99% of the non-cash transaction value of the EU-27
- Bulgaria (BU), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Hungary (HU), Latvia (LV), Lithuania (LT), Malta (MT), Rumania (RU), Slovakia (SK) are included in the qualitative assessment only.

Payment Instruments

- Giro transactions: Credit Transfer, Direct Debit; Card transactions: Debit Card, Credit Card (Delayed Debit Card and Credit Card; Cheques are in scope
- E-payments, Mobile payments and Other payments represent less than 1% of the non-cash payments and are considered out of scope
- Cash transactions are considered out of scope

Stakeholders

- Consumers (individuals, above 15 years old), SME (Company with less than 250 employees)
- Merchant: Company with more than 250 employees adding value by trading goods or services
- Corporate: Company with more than 250 employees, creating value with producing goods or services
- Public: All public institutions
- Banks (parties holding a banking license) are in scope. New entrants are considered as a bank (eg. payment institutions)
- White Label Service Provide, Processors and ACH's are considered suppliers to the banks and are regarded part of the bank's operational costs.

Fees and costs

- Reception and remittance fees for transaction both per transaction and ad valorem; Fixed fees for channels and accounts; Remittance and reception value dates and float are in scope
- Merchant fees are in scope.
- Balance earnings (earnings on debit or credit balances on accounts) are out of scope.
- Cost for cash is not included but ATM withdrawal fees is included.

Effects

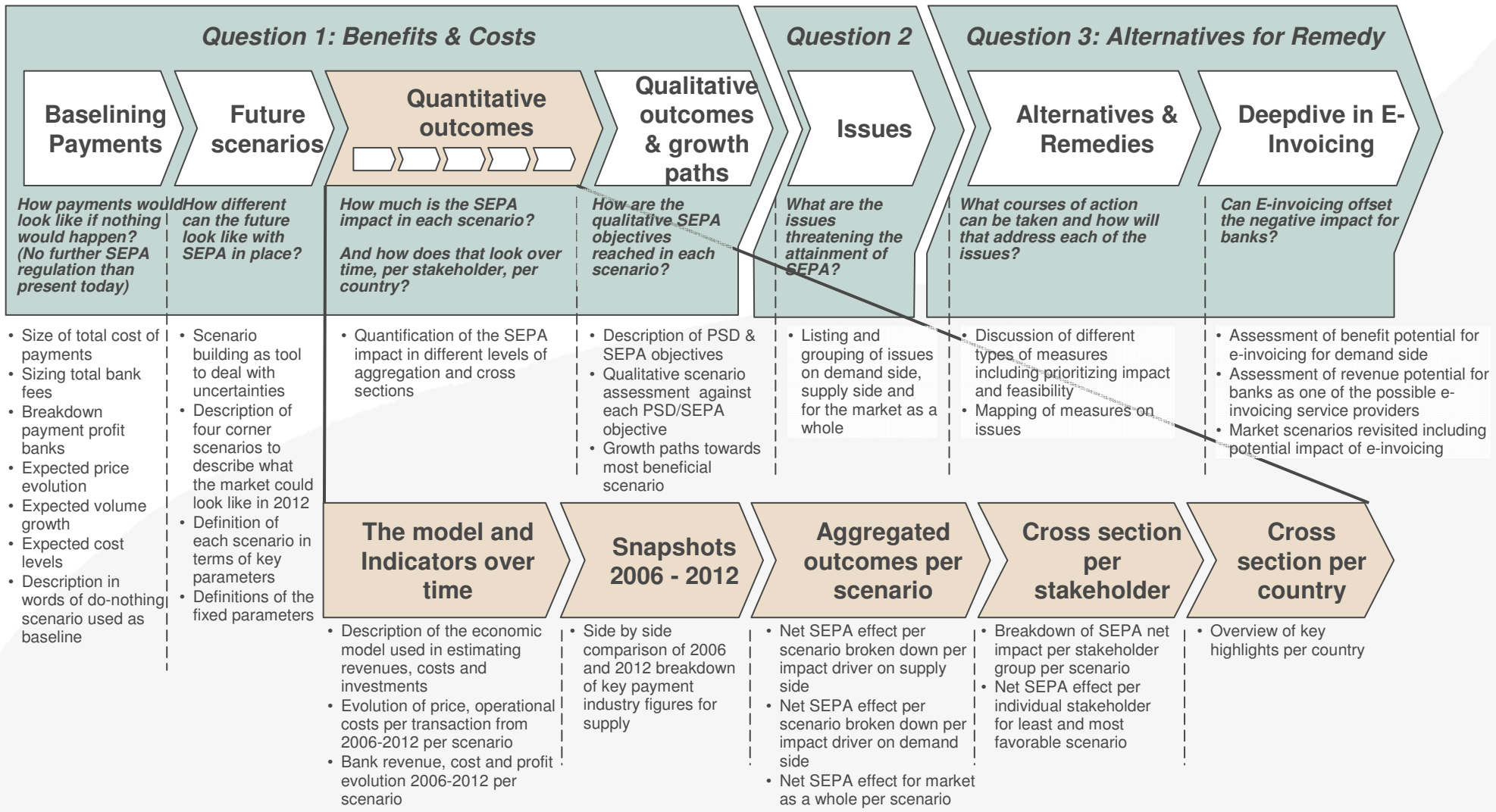
In this study three types of effects are distinguished:

- Direct effects are the immediate effects of SEPA on the stakeholders, e.g.. price, operational costs and investment. Direct effects are in scope of this study.
- Indirect effects are the effects triggered or enabled by SEPA, but are not directly attributable to SEPA. Examples of indirect effects are replacement of cash, mobile payments and growth of e-invoicing. Only e-invoicing is included in this study.
- Non payment related effects are out of scope. Examples are increased cross sell, lower interest rates, increased cross border trade, etc.

Source: Blue Book, ECB, December 2006; Capgemini analysis

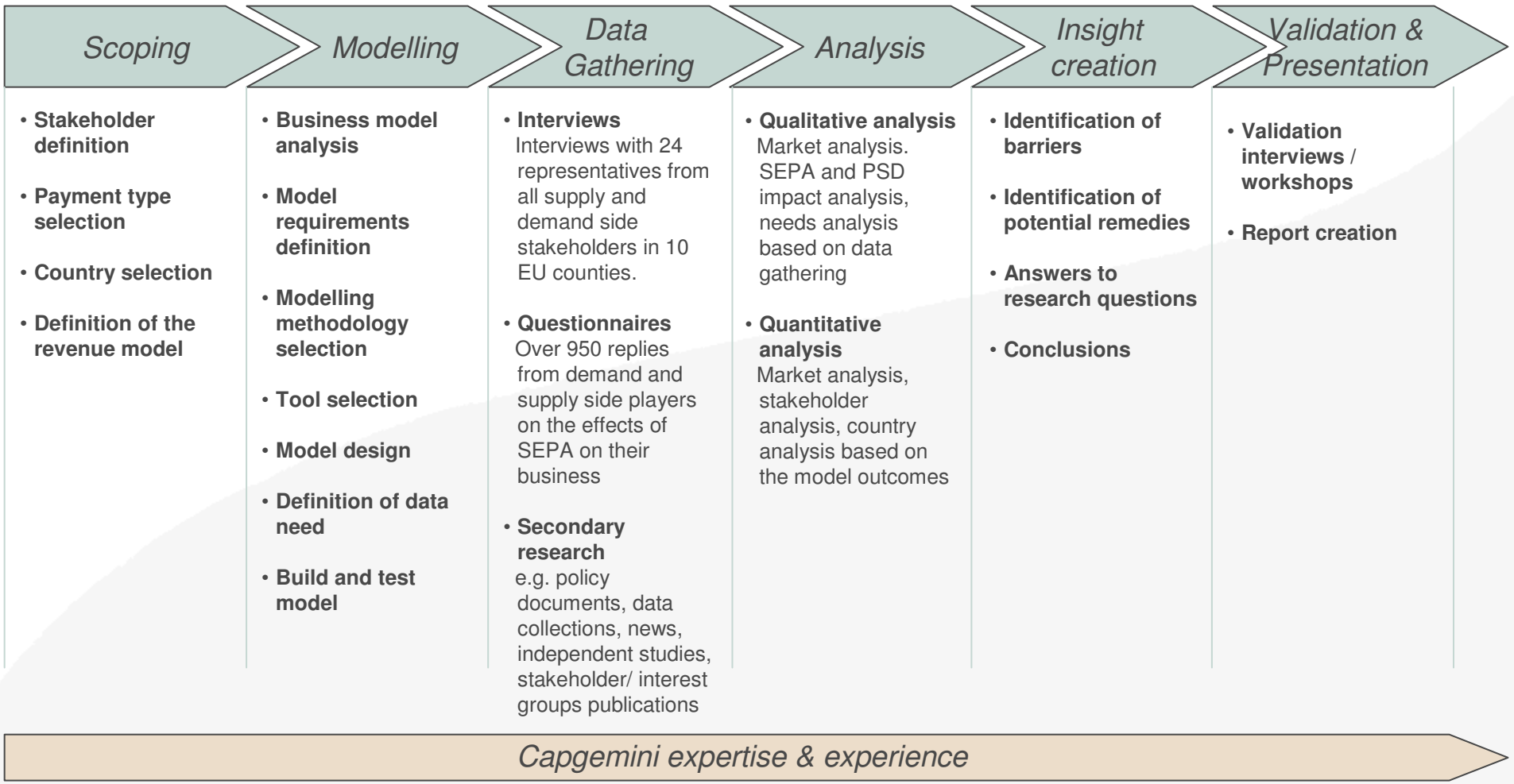
The report has three parts, each part addressing one of the questions

Structure of the report



A six step process was followed to answer the three questions

Process followed



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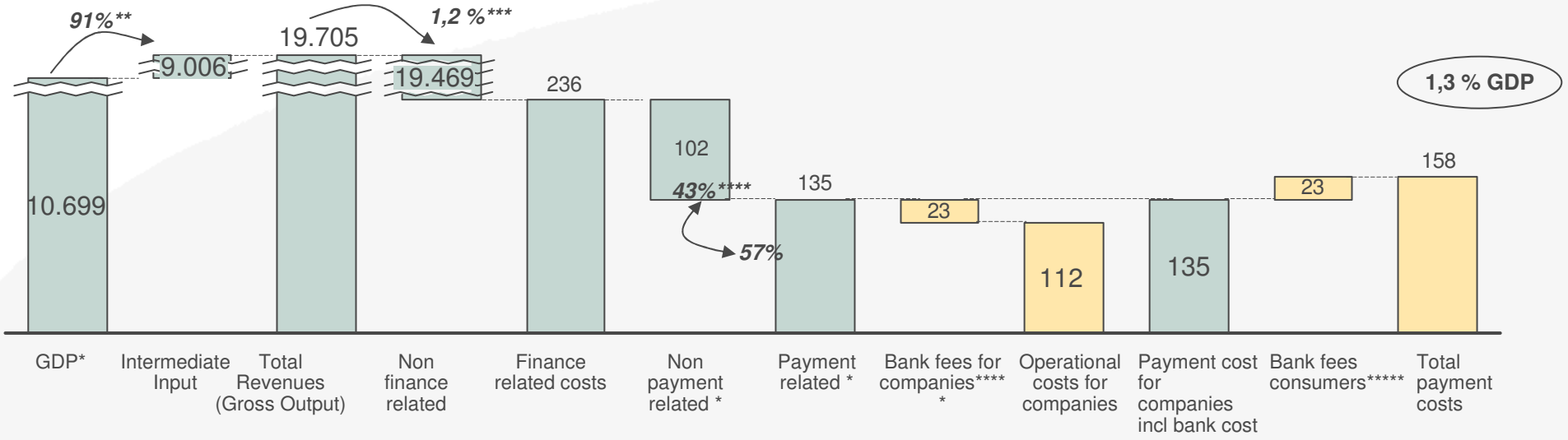
Businesses and consumers spent €158 billion, or about 1.3% of GDP, on payment costs in 2006

As is situation

- In 2006 the total number of electronic transactions in the EU-16 was more than 72 billion, with an average fee of €0.65 per transaction. This average fee includes remitting and receiver transaction fees (which vary with the transaction amount), account fees, value dating and float. It excludes balance-related earnings and cash
- The market measure used to calculate the finance and administration (F&A) costs of a corporate is based on a percentage of the revenue. Therefore the gross output (GO) is used as a measure for the total revenue in a country
- Of the F&A costs only part is related to payments (57%). Consumers do not have operational costs
- The total payment costs for the EU-16 are equal to the payments costs for companies (including fees) plus the bank fees for consumers

- The total value of the payment business is 1.3% of the GDP. The 1.3% below is excluding cash. The overall GDP impact of 2%-3% is the general impact estimation in the market. If cash handling costs represents 1% of GDP, total costs amount to 2.3% of GDP
- The total fees companies paid nearly equals the total fees consumers paid (rounding makes figures appear the same)
- Payment fees only represent 17% of the payments-related costs for a company

Breakdown of total payments costs (2006, € billion)



1. Cost of cash figures range from 0,5 to 2% of GDP: Why fighting cash is a worthy cause, Leo Van Hove,Is the EU doing enough to promote the cashless single market?, Policy Makers Diner Debate, 2005; * Source ECB Blue Book, 2004 data; ** Source: EU KLEMS database, 2004; Rationale for using Gross Output as measure for production: Timmer, O'Mahony and Van Ark 2007 *** Source: Hackett group, 2007, OPQC database, 2004; ****Applying ratio out of Capgemini Finance Transformation Study, 2005; ***** Capgemini World Payments Report 2006 updated with 2006 data;

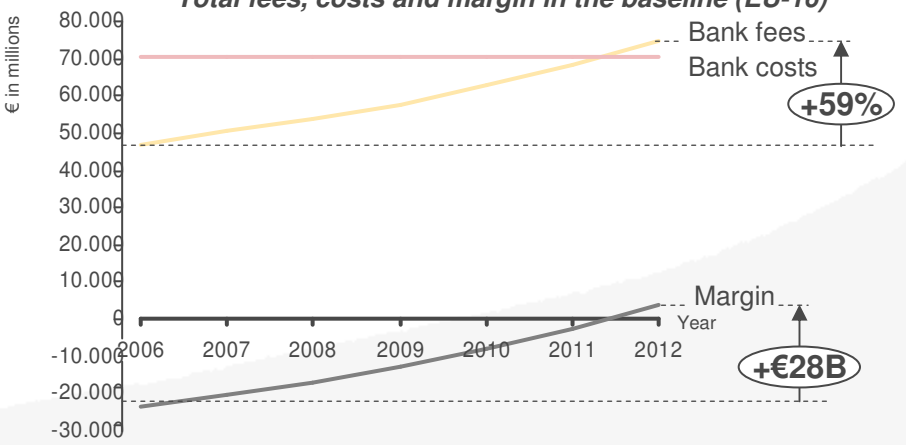
Without SEPA banks would increase their revenues as a consequence of the growing demand and minor price drops

Baseline

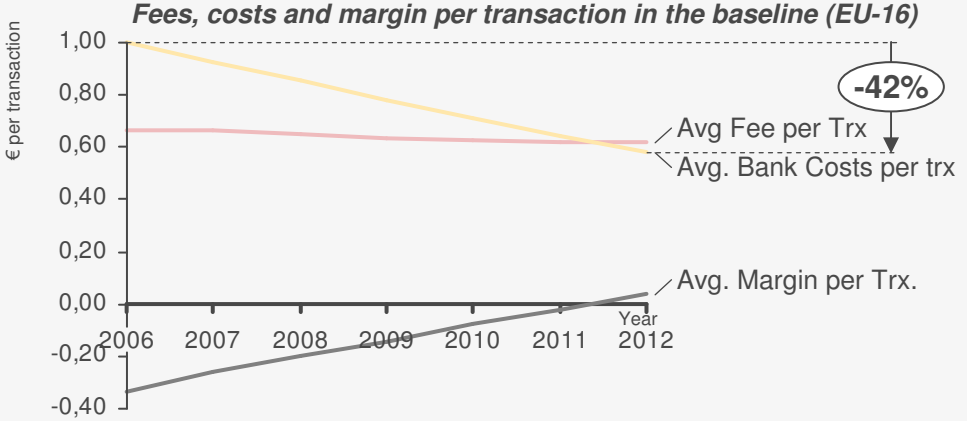
- This baseline shows how the payments market is expected to develop assuming no further developments in SEPA.
- The volume of electronic payments will continue to grow rapidly because of increasing GDP, substitution of cash, decreasing amount per transaction and resulting increased number of transactions per individual. Growth rates are taken from the Capgemini World Payments Report. The average volume growth for payment transactions is 9.5% per year.
- Prices (bank fees) are expected to drop and to converge in the EU-16 as competition slightly increases and businesses rationalize their payments processing. Prices are expected to converge to the EU lowest over time. Gaps between current prices and EU lowest will decline by 20% over six years, enabled by productivity increases.
- The supply side's cost base remains at the 2006 level in absolute terms, meaning that all additional volumes will be absorbed by productivity increases.
- No further investments are assumed to be made by any party for the implementation of SEPA (other non-SEPA related modernisation & replacement costs are considered out of scope)

- The demand side volume will increase by 68% on average in the EU-16 over a period of 6 years.
- As a result, the total revenues for banks increase, even though the average transaction price decreases.
- With the average cost per transaction for the supply side staying the same as in 2006, the margins increase rapidly, turning positive between 2011 and 2012.

Total fees, costs and margin in the baseline (EU-16)



Fees, costs and margin per transaction in the baseline (EU-16)



The development of the payments market without SEPA is used as the baseline against which to compare the effect of SEPA.

Source: Capgemini World Payments report, 2006; Blue Book, ECB, December 2006; Capgemini analysis

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As the impact of SEPA is subject to the intensity of a number of driving market forces, scenarios are used to reflect possible future states

Scenarios of the future

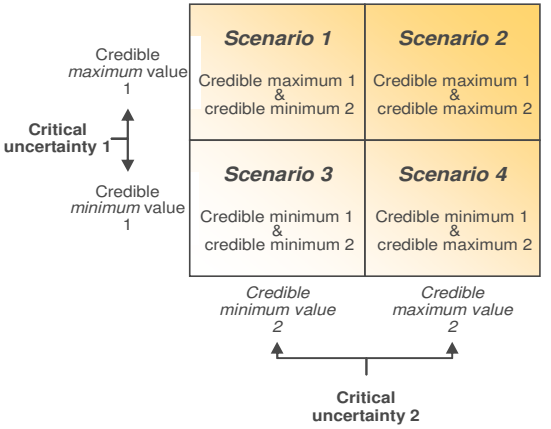
Many uncertainties add to SEPA's complexity

- **Scenario building is the applied proven methodology:**
  - to assess impact in the context of various future states—each affecting key stakeholders differently
- Our scenarios deal with a number of uncertainties:
  - Speed and extent of adoption of SEPA by the demand and supply sides
  - Degree of competitiveness / protectionism in the financial market
  - Differences in national legislation
- The market can look very different depending how these factors develop:
  - The pace of price decrease differs in each scenario
  - The level and speed of investment differ in each scenario
  - The speed with which banks can reduce operational costs vary
- The impact on each stakeholder will depend on how the market looks.
- Scenario building is an effective way to shed light on a complex and uncertain market.

Scenarios reduce complexity by focusing on the two main critical drivers

- **Steps followed to define scenarios:**
  - **Listing driving forces**
    Driving forces are underlying macro environmental factors which determine and/or significantly influence the future competitive landscape.
  - **Selecting the most critical drivers**
    The drivers are then ranked; the two highest-ranked drivers are the so-called critical drivers.
  - **Selecting credible minimum and maximum values**
    For each of the critical drivers, a credible minimum and maximum is determined. These are extreme states, but credible ones.
  - **Combining critical drivers into four scenarios**
    Together these two critical drivers form a matrix of the four extreme scenarios.
- **Critical drivers retained:**
  Describe which two drivers have been selected and why

Combining the critical drivers' potential ranges yields four useful scenarios



- The scenarios vary significantly from each other because they embody different assumptions about the evolution of factors that are influential to the outcome of the market.

Scenarios are not used to describe the most likely case, but to explore uncertainty correlation and shed light onto "what might be".

Source: Capgemini analysis

Four extreme but credible scenarios are defined to assess the impact on key stakeholders: All Tied Up, Supply Push, Demand Pull and SEPA Big Time

Scenarios of the future

Extreme market scenarios effect on SEPA after PSD

Revolution

	Reactive and patchy	Pro-active and comprehensive
Request SEPA products	**Demand Pull** *A sizable group of demand side stakeholders expects significant benefits from the use of SEPA payments. These stakeholders will force their banks to start offering SEPA-based payment products, opening up the market.*	**SEPA Big Time** *Both supply side and demand side stakeholders expect to derive benefits from the use of SEPA payment products. Accordingly, investments in compliance and migration are done early and strategies are comprehensive.*
Reluctant to SEPA products	**All Tied Up** *Neither demand side nor supply side is convinced that the investments needed to make SEPA payments usable will pay off. Consequently there will be compliance on the supply side, but very few SEPA-based payment products offered or demanded.*	**Supply Push** *Confronted with significant compliance investments and opportunities for market expansion by the leveled playing field, supply side competition intensifies. In effect, the market is pushed by banks and new payment institutes toward adopting SEPA-based payment products.*

Demand side SEPA strategy

Evolution

Supply side SEPA strategy

Comments

- The four extremes show the boundaries within which the market as a whole will develop.
- It is likely that there will be different speeds and intensities of adoption
  - across countries
  - across demand stakeholder groups
  - across payments providers
  - across payment instruments
- These variations will all fall within the boundaries of the four extreme scenarios.

Source: Capgemini analysis

Each scenario represents a combination of possible values of driving forces, depending on the strategy stakeholders adopt

Scenarios of the future

		Baseline	All Tied Up	Supply Push	Demand Pull	SEPA Big Time
Market forces	*Volume development*	On average 9.5% per year.	SEPA does not increase or decrease the volume growth.	SEPA does not increase or decrease the volume growth.	SEPA does not increase or decrease the volume growth.	SEPA does not increase or decrease the volume growth.
	Price development	Prices converge to the EU low but very slowly.	Limited price pressure as there is little demand for and supply of SEPA products. By 2012 the price converges by 25% to the EU low.	Prices converge fast to the EU low as price is used to gain/retain market share. By 2012 the price converges by 65% to the EU low.	Prices converge moderately to the EU low as banks are able to keep up prices because demand exceeds supply. By 2012 the price converges by 45% to the EU low.	Prices converge steeply to the EU low. Both supply and demand are picking up, creating a market with fierce competition. By 2012 the price converges by 75% to the EU low.
Demand-side-specific forces	*Demand side operational cost*	Demand side operational cost is not affected.	Demand side operational costs increase by 5% due to extra handling costs of new and additional SEPA products.	Demand side operational costs increase by 5% due to extra handling costs of new and additional SEPA products.	Operational costs decrease as optimizations can be realized. Benefits cannot be fully reached as banks try to slow down the change. Legacy systems still needs to be supported. Cost reductions add up to 10%.	Operational costs decrease as optimizations can be realized. Legacy can be phased out. Cost reductions add up to 20%.
	Demand side investment	No SEPA investment.	Minimum investment.	Minimum investment.	Full investment to maximize the benefits of SEPA.	Full ivestment to maximize the benefits of SEPA.
Supply-side-specific forces	*Supply side operational cost*	The supply side's cost base remains at the 2006 level in absolute terms, meaning that all additional volumes will be absorbed by productivity increases.	The supply side's cost base remains at the 2006 level in absolute terms, meaning that all additional volumes will be absorbed by productivity increases.	The supply side's cost base in 2012 is 10% below the 2006 level due to increased efficiency and a reduced cost base of SEPA products (concentration and consolidation in the back office). Legacy products cannot be phased out.	The supply side's cost base remains at the 2006 level in absolute terms, meaning that all additional volumes will be absorbed by productivity increases.	The supply side's cost base in 2012 is 20% below the 2006 level. This maximum efficiency gain is realized through optimization and sourcing, and by phasing out legacy systems.
	Supply side investment	No SEPA investment.	Investment only to comply.	Investment in compliance and volume migration to SEPA products.	Investment only to comply.	Investment in compliance and volume migration to SEPA products. Next to that also investment in decommissioning of legacy systems.

All the main driving forces are given values logically linked to each of the scenarios.

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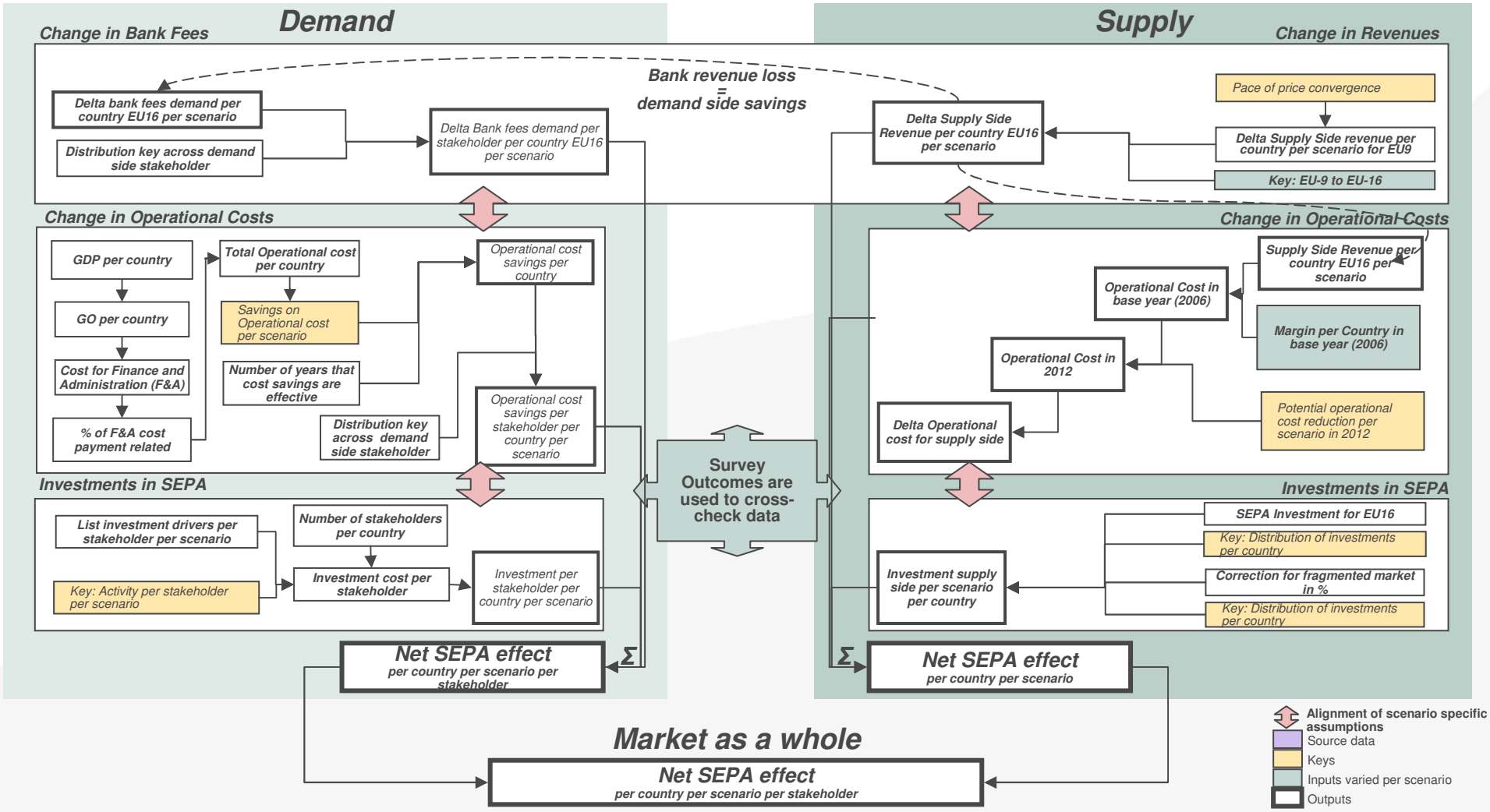
The Net SEPA effect is the logical sum of the investment, change in operational costs and the change in Bank fees/revenues

Model description



Source: Capgemini analysis

In the model a number of key parameters are used, most of which are based on available market data and Capgemini research

Model assumptions

Demand

Change in Bank Fees

Key Assumptions
- Volume growth is based on growth in the past (2000-2005) and expectations of future growth. Volume and value growth is the same in all scenarios on EU level.
- Prices are Capgemini World Payments Report 2006 with updates for 2007.
- Prices converge eventually to a 2006 EU low. The pace at which this convergence takes place is different per scenario.
- Extrapolation from EU9 to EU16 is done based on resemblance with other countries (based on market concentration and the penetration rate of non-cash payments).

Change in Operational Costs

Key Assumptions
- The percentage Finance & Administration (F&A) costs, the payment related F&A costs and the potential savings are equal for all non-consumer stakeholders in all countries.
- The F&A costs are set at 1,2% of the revenues.
- The share of payments related F&A costs include all payment related costs minus the out of pocket bank fees and are set at 57% of the F&A costs.
- The operational costs change for the demand side are set at 5% increase in All Tied Up and Supply Push, a 15% decrease in Demand Pull and a 20% decrease in SEPA Big Time.
- We assume cost savings will be effectuated starting mid 2008 leaving 4.5 years of savings over the 6 years time period; this is the same in all scenarios, for all stakeholders in all countries.
- 2006 is taken as a base year for operational costs.

Investments in SEPA

Key Assumptions
- The investment drivers are IBAN / BIC updates in account administration, adherence to SEPA compliant file formats, adaptations to invoices (IBAN / BIC add, new terms & conditions), Terms & conditions analysis and adaptations, Education of people, Migration to a new scheme, Mandate administration update (new or upgrade existing one).
- Investments for micro SME (<10 employees) is about 10x smaller than for an SME. The investments for a public or company larger than 250 people is 10x higher than the SME. (91% of all SME is considered Micro.
- Remaining investments in EMV are assumed out of scope

Σ

Survey Outcomes are used to cross-check data

Supply

Change in Revenues

Change in Operational Costs

Key Assumptions
- Operational costs do not increase with volume increase as the marginal cost is assumed to be 0 and future cost increases are compensated by efficiency gains.
- Operational cost reductions in the SEPA Big Time and Supply Push scenario are a linear function.
- 2006 is taken as a base year for operational costs

Investments in SEPA

Key Assumptions
- Investments are taken for the EU-16 as a whole and assigned to the countries
- Investments in fragmented markets are higher than in concentrated markets
- In All Tied Up and Demand Pull only compliance investments are made. In the Supply Push scenario next to the compliance investments also significant investment is made in volume migration. In SEPA Big Time also investments for decommissioning are taken into account.
- Remaining investments in EMV are assumed to be part of the SEPA investments.

Σ

Net SEPA effect
per country per scenario per stakeholder

Net SEPA effect
per country per scenario

Market as a whole

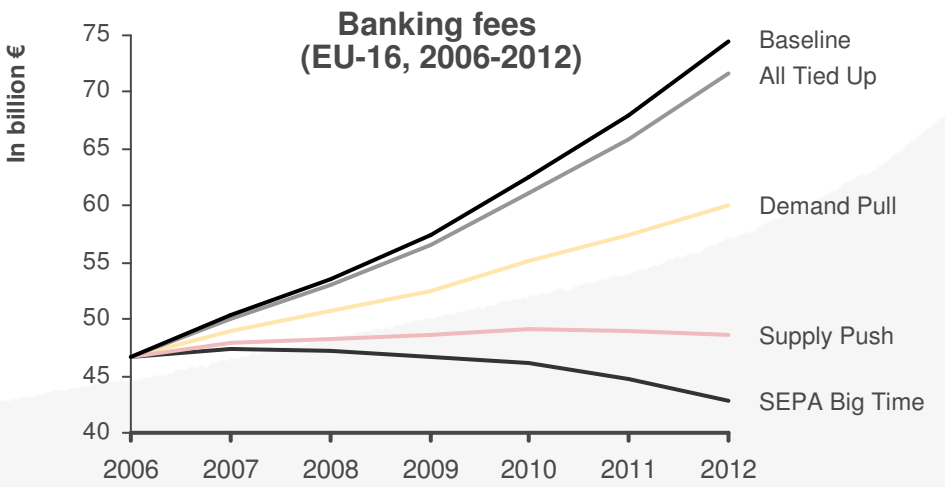
Net SEPA effect
per country per scenario per stakeholder

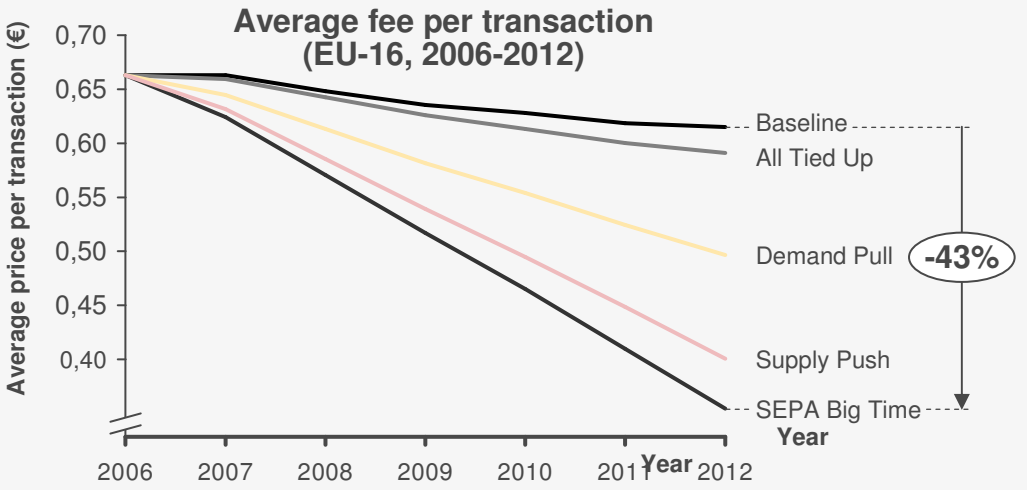
Source: Capgemini analysis

Even though the payment usage grows, SEPA reduces the potential bank revenues as the average fee per transaction decreases

Banking fees

- SEPA decreases the total banking fees. The total banking fees are lower than the baseline in all scenarios. However, the total of banking fees is higher than in the base year except for the SEPA Big Time scenario.
- The increase in banking fees can be attributed to the volume growth. The average fee per transaction decreases in all scenarios whereas the total revenue grows in all except for SEPA Big Time where revenues decrease slightly.
- Banking fees have no impact on the net SEPA effect on the market. The costs for the demand side are the revenues for the supply side. A decrease in the banking fees is therefore a loss of income to the supply side and a benefit of an equal size to the demand side.
- SEPA has a negative effect on the fees earned by banks. In all scenarios the total banking fees are lower than in the baseline. The total banking fees earned by the supply side are lower in those scenarios where the supply side applies a proactive and comprehensive strategy.
- The demand side benefits from SEPA. The demand side spends more money on transaction fees due to increased usage (except for SEPA Big Time), but the average price per transaction is much lower than in the baseline. In the SEPA Big Time scenario average price per transaction is 43% lower than in the baseline.
- From a banking fees perspective the demand is better off in the Supply Push than in the Demand Pull scenario. Price reductions are therefore not the only driver for the demand side to pull SEPA products.





Source: Capgemini analysis

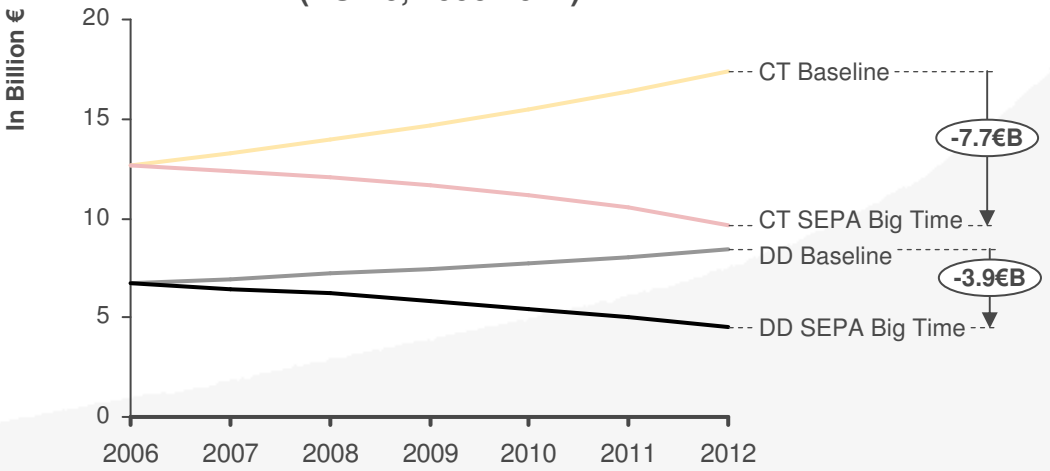
The bank fees on cards are in the SEPA Big Time scenario almost equal to the base year, while the card payment volume increases significantly

Banking fees

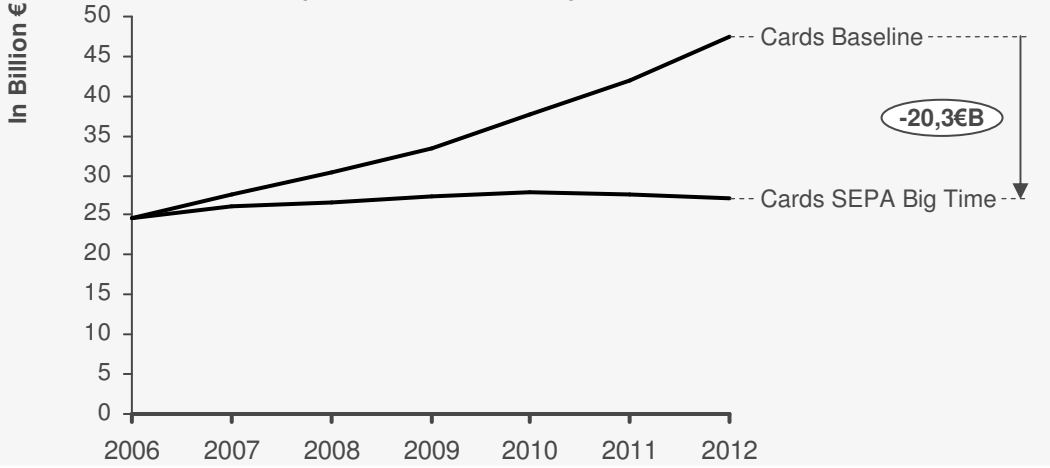
- Banking fees for credit transfers and direct debit will increase in the baseline situation. This growth is the result of positive volume growth and slowly decreasing fees.
- If SEPA Big Time would occur, credit transfers and direct debit banking fees in 2012 would be approximately €11.6 B lower than in the baseline situation. Roughly two thirds of this revenue loss would be credit transfer related.
- Banking fees for credit transfers and direct debit are expected to decrease over time compared to the present day in the SEPA Big Time scenario. The downward price effects are outweighing the positive volume growth, which approximates 4% for credit transfers and 7% for direct debits. Scale economies and competitive price pressures will be the main drivers for the revenue decrease.

- Card fees will also increase in the baseline situation. This growth results from a relatively strong volume growth and slowly decreasing fees.
- Card banking fees in 2012 will be roughly €20.3 B lower in the SEPA Big Time scenario than if the baseline situation would prevail.

Credit Transfer and Direct Debit banking fees (EU-16, 2006-2012)



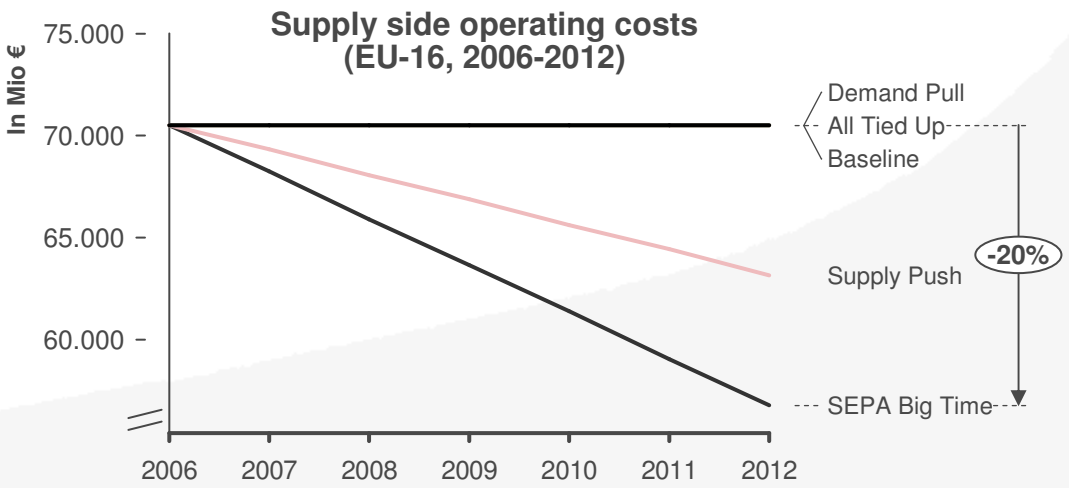
Card banking fees (EU-16, 2006-2012)

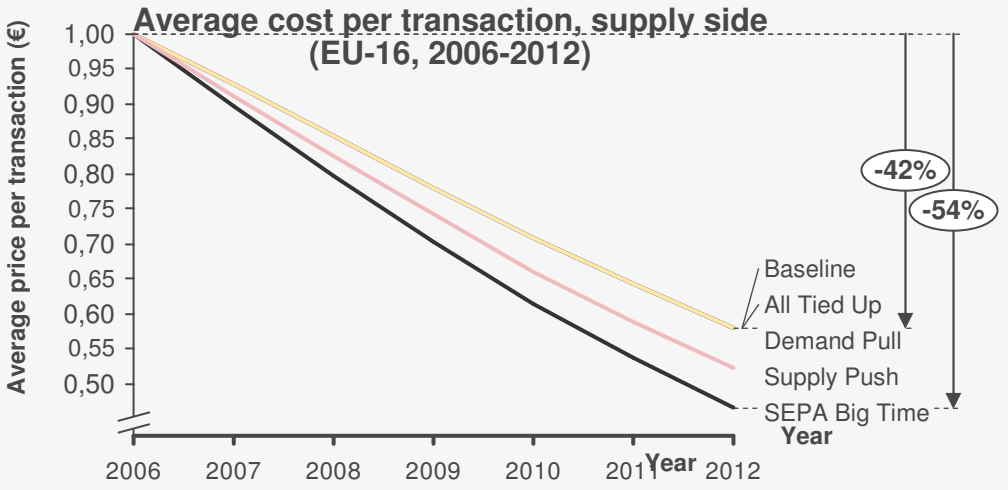


SEPA adoption enables further decrease of costs for the supply side, in a market where operating costs already need to drop steeply

Supply side operating costs

- The assumption is made that in the baseline the cost base* of the supply side remains at the 2006 level in absolute terms, and that this is also the case in two of the scenarios: All Tied Up and Demand Pull.
- This means that for these scenarios all additional volumes will be absorbed by productivity increases. This results in a decrease of the operating costs per transaction compared to base year of 42% in 6 years (equal to CAGR 8,7%) for the baseline and the two scenarios mentioned above.
- In the SEPA Big Time the maximum savings in operating costs can be achieved. The channels can be simplified and, like the processing capabilities, fully optimized. Legacy products can be phased out. This enables economies of scale on a European level, reducing the costs for processing and clearing and settlement even further. It also allows sourcing strategies to further decrease costs. The reduction is estimated to be 20% compared to the baseline and, given the growing volumes, the operating cost reduction per transaction is even greater, at 54% compared to the base year 2006.
- The Supply Push scenario is just in between the baseline and the SEPA Big Time. In this scenario the benefits of SEPA are reaped as in the SEPA Big Time scenario, but only partly, as legacy products still need to be offered and supported.



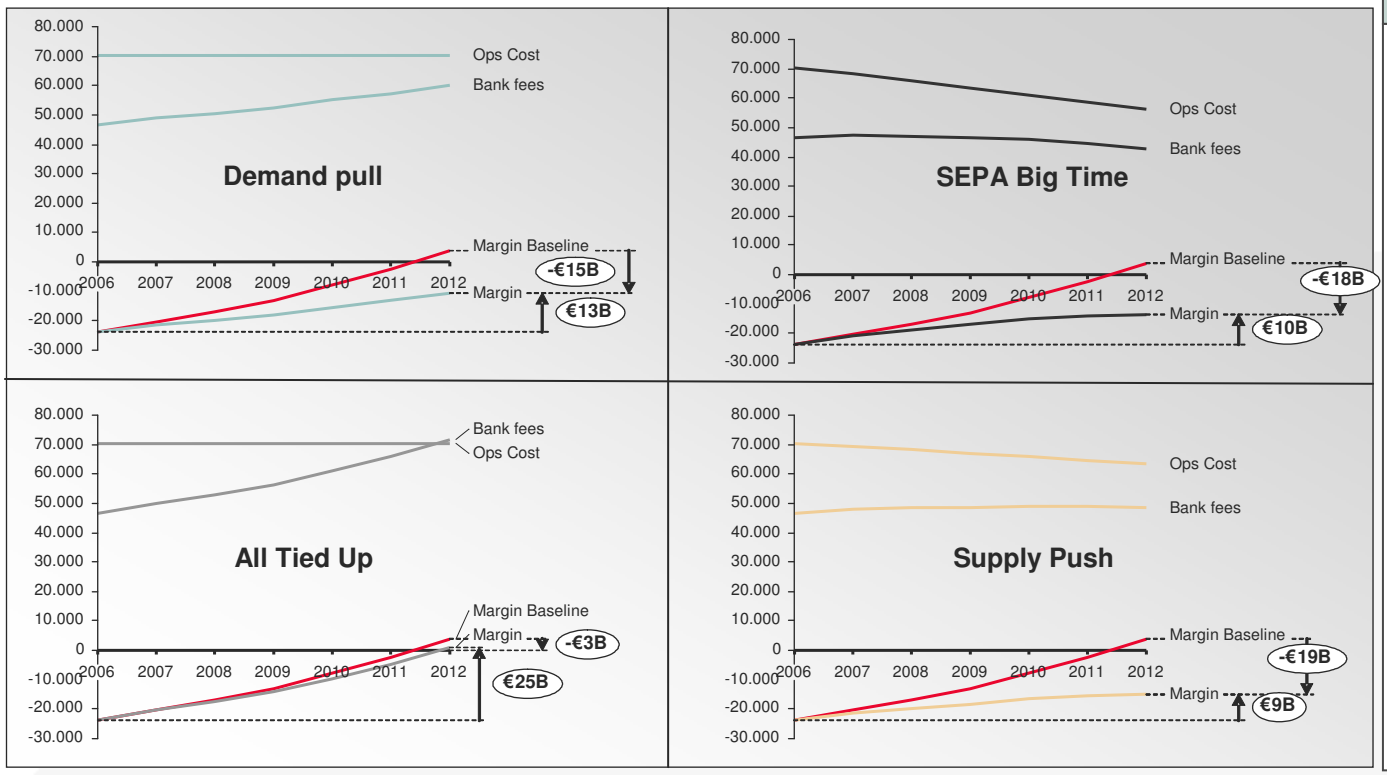


* Operating costs are deduced from McKinsey Winners & Losers, 2004; Operational cost reductions in the SEPA Big Time and Supply Push scenario are a linear function.
Source: Capgemini analysis

SEPA tempers the margin of the supply side, but even in the SEPA Big Time scenario the margin still grows in absolute terms compared to 2006

Supply side margin

Bank margins resulting from developments in revenues and costs (EU-16, 2006-2012)



Finding & Insights

- The most attractive scenario for banks, from the perspective of margin optimization, is the All Tied Up scenario, as in this scenario fees will steadily increase while operating costs are assumed to benefit from autonomous (non SEPA-driven) productivity increases.
- Compared to All Tied Up, Demand Pull will decrease the margins of the banks by €12B, due to an assumed price decrease driven by the substitution of legacy products by commodity SEPA products.
- Margins in Supply Push are more severely hit by a price decrease, as suppliers (including new entrants) decrease prices in order to gain market share.
- Compared to the Supply Push scenario the SEPA Big Time scenario adds €1B margin to the banks, as additional decreases in operating costs outweigh the additional decreases in fees.

Source: Capgemini analysis

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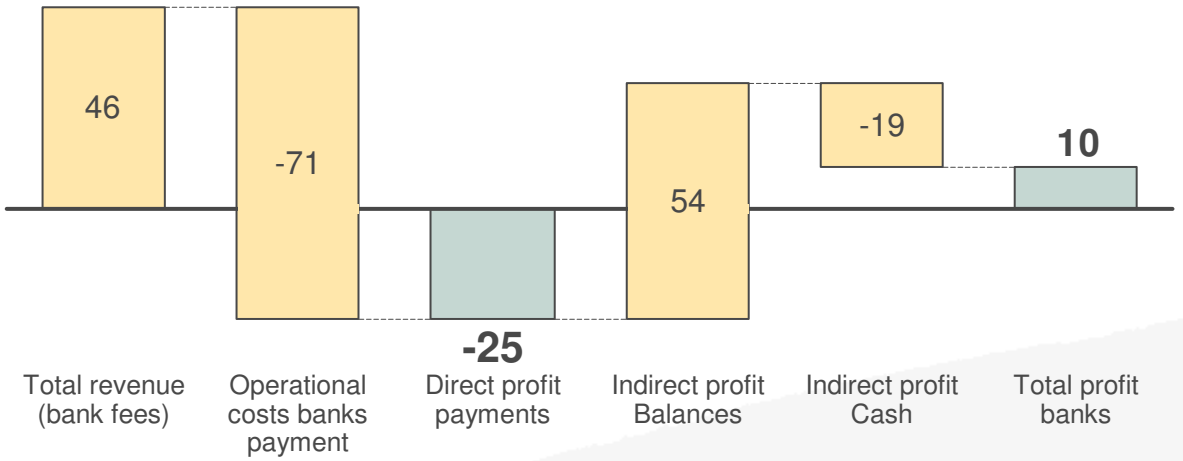
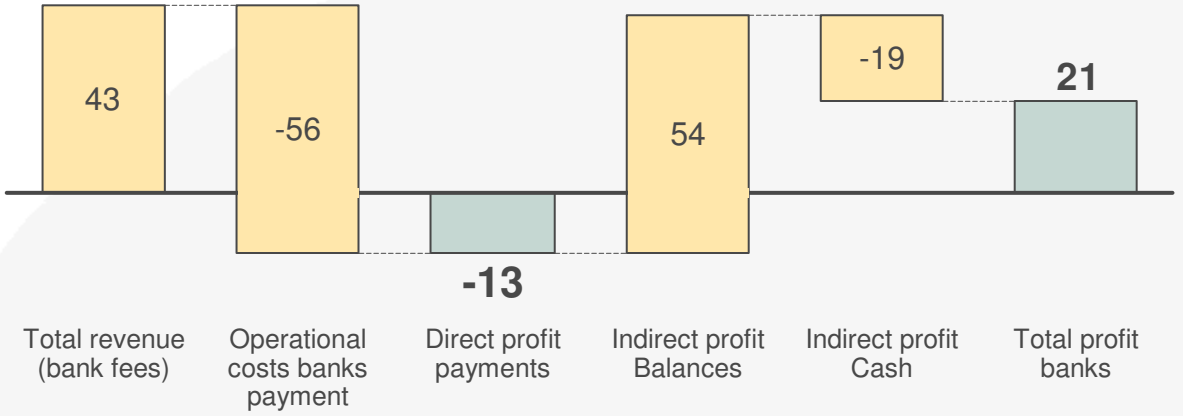
The margin increase from 2006-2012 in SEPA Big Time results from a decrease in operational costs outweighing the reduction of revenues

Supply side margin

Breakdown of Bank profit 2006 (in €B)



Breakdown of Bank profit 2012 SEPA Big Time (in €B)



Source: Capgemini analysis
* McKinsey Winners & Losers, 2004

Finding & Insights

- In SEPA Big Time the total payments bank revenue (from bank fees) is reduced with €3B even though volumes increase significantly.
- As a result of SEPA the operational costs of €71Bn can decrease with 20% to €56Bn.
- Since the operational costs for banks decrease faster than the revenues from fees decrease, the direct profit improves from -€25B to -€13B, but remains negative.
- In this model we assume the indirect profits on balances (interest on debit or credit on the accounts) and the costs of handling cash as fixed. Using the McKinsey* figures on bank profits the profits on payments grow from €10B to €21Bn. This is equal to a profit growth of 13,2% CAGR.

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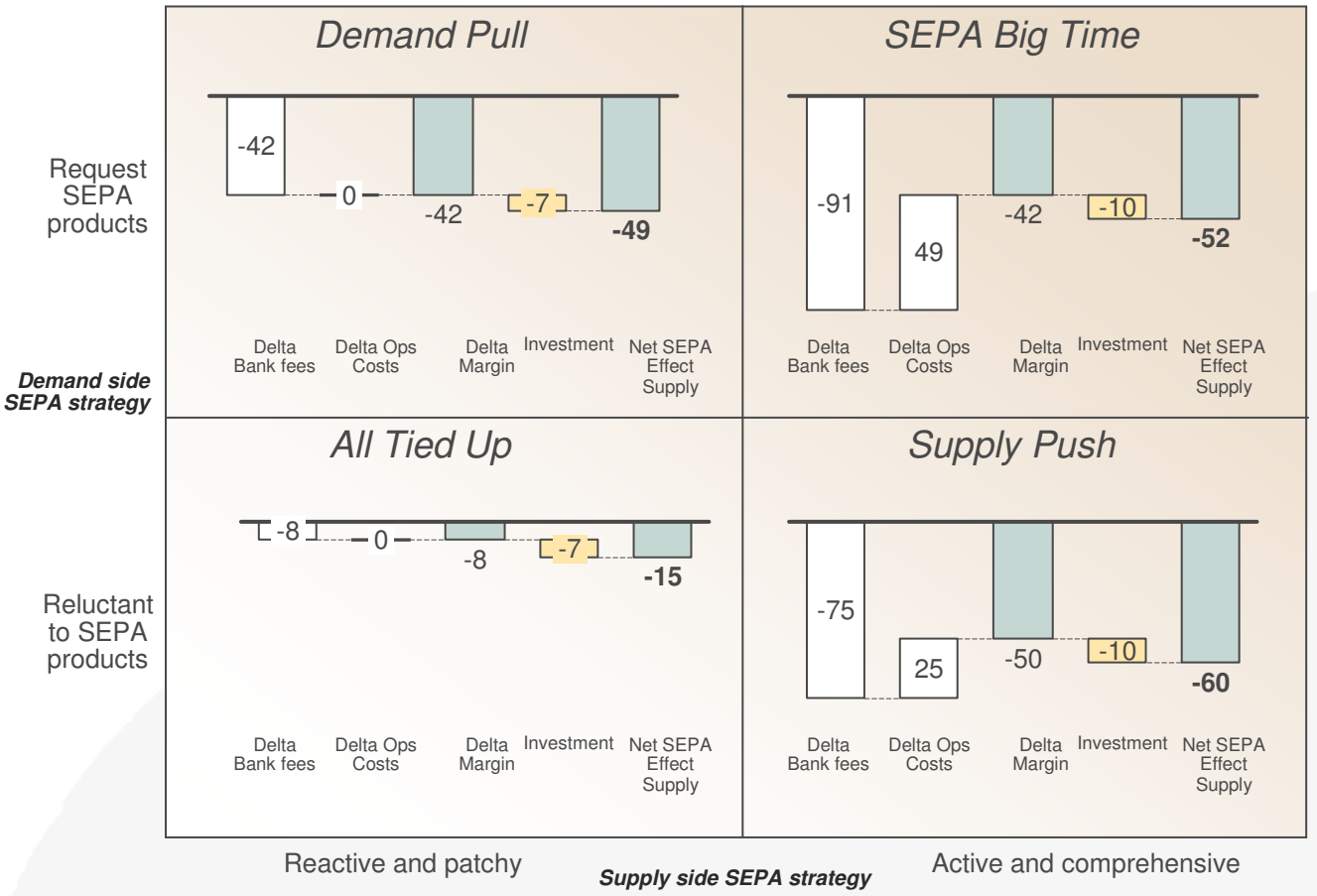
The preferred supply side strategy is likely to be reactive and patchy as this strategy tempers the profit growth the least

Supply side investments and Net SEPA effect

Net SEPA effect for banks, by scenario (€ billion, 2007-2012, EU-16)



Source: Capgemini analysis
* The investments are regarded as a cash flow in this model. Write-offs and residual value are not taken into account.

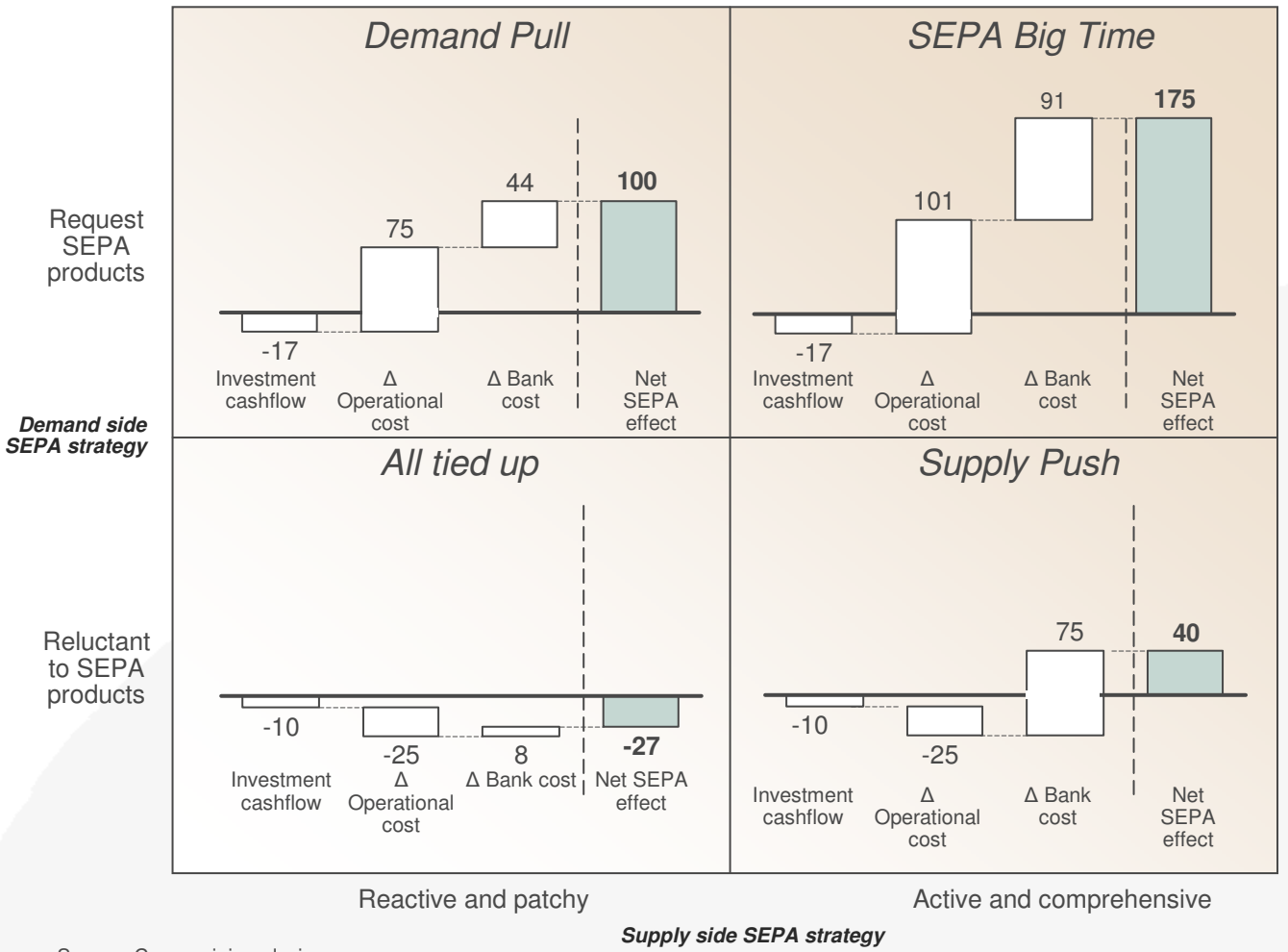
Finding & Insights

All figures in this and next sub-section show cumulated data over 2006 - 2012

- The investments* for the supply side are higher when applying the active and comprehensive strategies. In the All Tied up and Demand pull scenarios the Supply side only invest in compliance. In the Supply push scenario additional investments are made for migrating volumes from legacy to SEPA products. In the SEPA Big Time the legacy systems are decommissioned, but this investment is small compared to the compliance and volume migration investments.
- The investments determine to a lesser extent the Net SEPA effect for supply side. The investments determine for less than 50% the Net SEPA Effect. In Supply push and SEPA Big Time this is even less than 20%.
- As a result the main differentiator between different scenarios is the magnitude of the revenue drop, and how much is offset by operational cost savings:
  - All scenarios have an overall negative effect, with “only” minus €15 billion for All Tied Up.
  - Supply Push is the most negative, as the revenue drop is large and the offset by operational cost efficiencies is rather limited.
  - In SEPA Big Time the cost savings are almost twice as large, but as the revenue drop is also larger the net effect is only marginally better.
  - The net effect in Demand Pull is very close to the one of SEPA Big Time, but reached in a very different way: the revenue drop is only half, but is not offset by any cost savings.
  - For All Tied Up the net effect is low compared to other scenarios, and caused half by revenue drop and half by the investment.
- Investments by banks are justified in Supply Push and SEPA Big Time by a substantial reduction of operational costs.

The demand side has a clear incentive for Demand Pull and even more so for reaching the SEPA Big Time scenario

Net SEPA effect for demand side per scenario (in B€ 2007-2012 for EU-16)



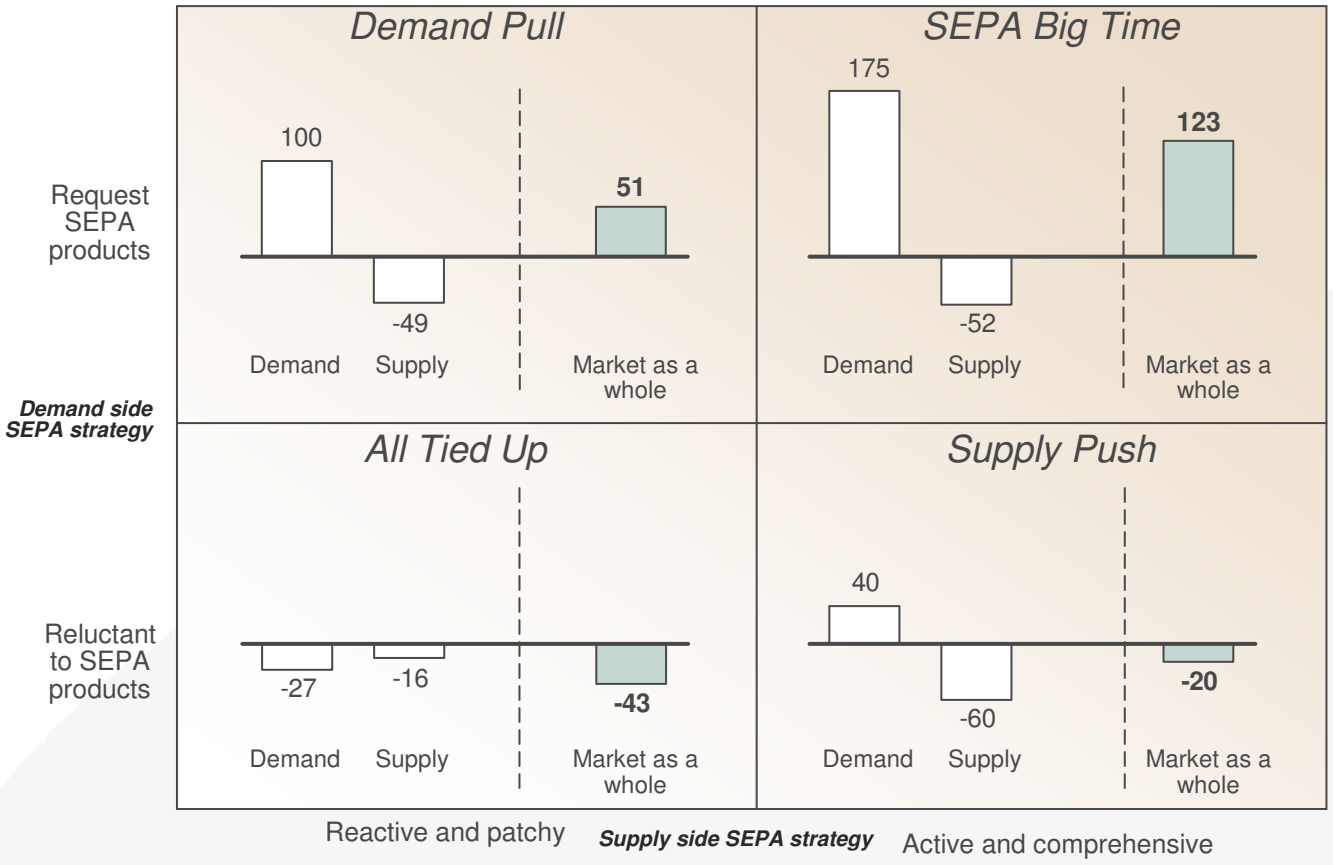
Source: Capgemini analysis

Findings and Insights

- The only negative scenario for the demand side is All Tied Up. There the benefits of decreasing bank fees do not outweigh the investments. And there is an increase in operational costs due to dual payments systems (SEPA and non-SEPA).
- Although this operational cost increase also exists for Supply Push, this scenario is overall very positive as demand benefits from decreased Bank fees (banks can only push by attractive price setting on these new products).
- For both scenarios with extensive demand the reduction in bank fees largely outweighs the investments.
- On top of that benefits are realized by very significant operational cost savings (e.g., straight-through processing, reconciliation, and cross-border optimization).
- These operational efficiencies are highest in SEPA Big Time, as banks will offer SEPA products widely and both demand and supply can decommission the old less-efficient IT systems.
- SEPA Big Time will be closest to a perfect competition for SEPA products, with a minimal price setting and consequent benefits for the demand side as a result.

The gains of SEPA for the market are significant in the SEPA Big Time scenario, with benefits unevenly spread across demand and supply

Net SEPA effect per scenario (in B€ 2007-2012 for EU-16)



Findings and Insights

- Net benefits are calculated compared to a baseline (which assumes an autonomous market growth and limited price decrease).
- SEPA Big Time and Demand Pull are the only desirable scenarios from a total market perspective:
  - Both scenarios hold a significant benefit for the demand side
  - For the supply side there is a sizable loss in opportunity compared to the baseline (with increasing volume and only marginally decreasing prices)
- All Tied Up is to be avoided as it negatively affects all parties:
  - However, banks may be inclined to prefer this scenario above all other (less negative) scenarios
- Demand Pull is preferable to (and more likely than) Supply Push:
  - For the demand and supply sides Demand Pull is more attractive
  - The impact for supply is 22% worse in Supply Push than in Demand Pull

Demand has a strong incentive to request SEPA products.

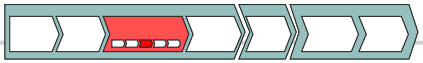
Source: Capgemini analysis

The net SEPA effects can be determined by comparing the outcome to the base year 2006 as well as to the baseline (the scenario in which no further SEPA developments take place)

Summary net quantitative impact

Stakeholder	Parameter	Compared to	Scenario		
			Baseline	All Tied Up	SEPA Big Time
Market	**Net SEPA effect (€billion)**	***Baseline***	**€ 0**	**-€ 43**	**€ 123**
	Net SEPA effect (€billion)	*Base year 2006*	*€ 0*	*-€ 43*	*€ 123*
Demand	**Net SEPA effect (€billion)**	***Baseline***	**€ 0**	**-€ 27**	**€ 175**
	Net SEPA effect (€billion)	*Base year 2006*	*-€ 86*	*-€ 113*	*€ 90*
Supply	**Net SEPA effect (€billion)**	***Baseline***	**€ 0**	**-€ 16**	**-€ 52**
	Net SEPA effect (€billion)	*Base year 2006*	*€ 86*	*€ 70*	*€ 34*

The net SEPA effect can also be presented cumulative over 6 years, or as average yearly changes over the 6 years



Summary net quantitative impact

Stakeholder	Parameter	Compared to	2007-2012, 6 yrs			2007-2012, CAGR		
			Baseline	All Tied Up	SEPA Big Time	Base line	All Tied Up	SEPA Big Time
Supply & Demand	Percentage change in revenue	*Baseline*	0,0%	-3,9%	-42,6%	0,0%	-0,7%	-8,8%
	Percentage change in revenue	*Base year*	59,4%	53,2%	-8,6%	8,1%	7,4%	-1,5%
	Change in fee per transaction	*Baseline*	0,0%	-3,9%	-42,6%	0,0%	-0,7%	-9%
	Change in fee per transaction	*Base year*	-7,4%	-11,0%	-46,9%	-1,3%	-1,9%	-10%
Demand	Percentage change of operational costs	*Baseline*	0,0%	+3,7%	-15%	0,0%	0,6%	-2,5%
	Percentage change of operational costs	*Base year*	0,0%	+3,7%	-15%	0,0%	3,7%	-15%
	Investment (€, billion)	*Baseline*	€ 0	-€ 10	-€ 17	€ 0	€ 1,4	€ 2,4
Supply	Percentage change of operational costs	*Baseline*	0%	0%	-20%	0%	0%	4%
	Percentage change of operational costs	*Base year*	0%	0%	-20%	0%	0%	4%
	Percentage change of operational costs/trx*	*Baseline*	0%	0%	-20%	0%	0%	4%
	Percentage change of operational costs/trx*	*Base year*	-41,9%	-41,9%	-53,5%	-8,6%	-8,6%	-12,0%
	Investment (€, billion)	*Baseline*	€ 0,0	€ 7,3	€ 9,8	€ 0,0	€ 1,0	€ 1,4
	Margin for Supply side (percentage points of revenue)	*Baseline*	0,0%	3,0%	37,0%	0,0%	0,7%	6,0%
	Margin for Supply side (percentage points of revenue)	*Base year*	56,0%	52,0%	19,0%	9,4%	8,7%	3,1%

Base year: the year 2006 is used as the base year against which developments can be measured
The baseline is a projection of the development of the market (in 2007-2012) if SEPA were not further implemented
* trx = transaction

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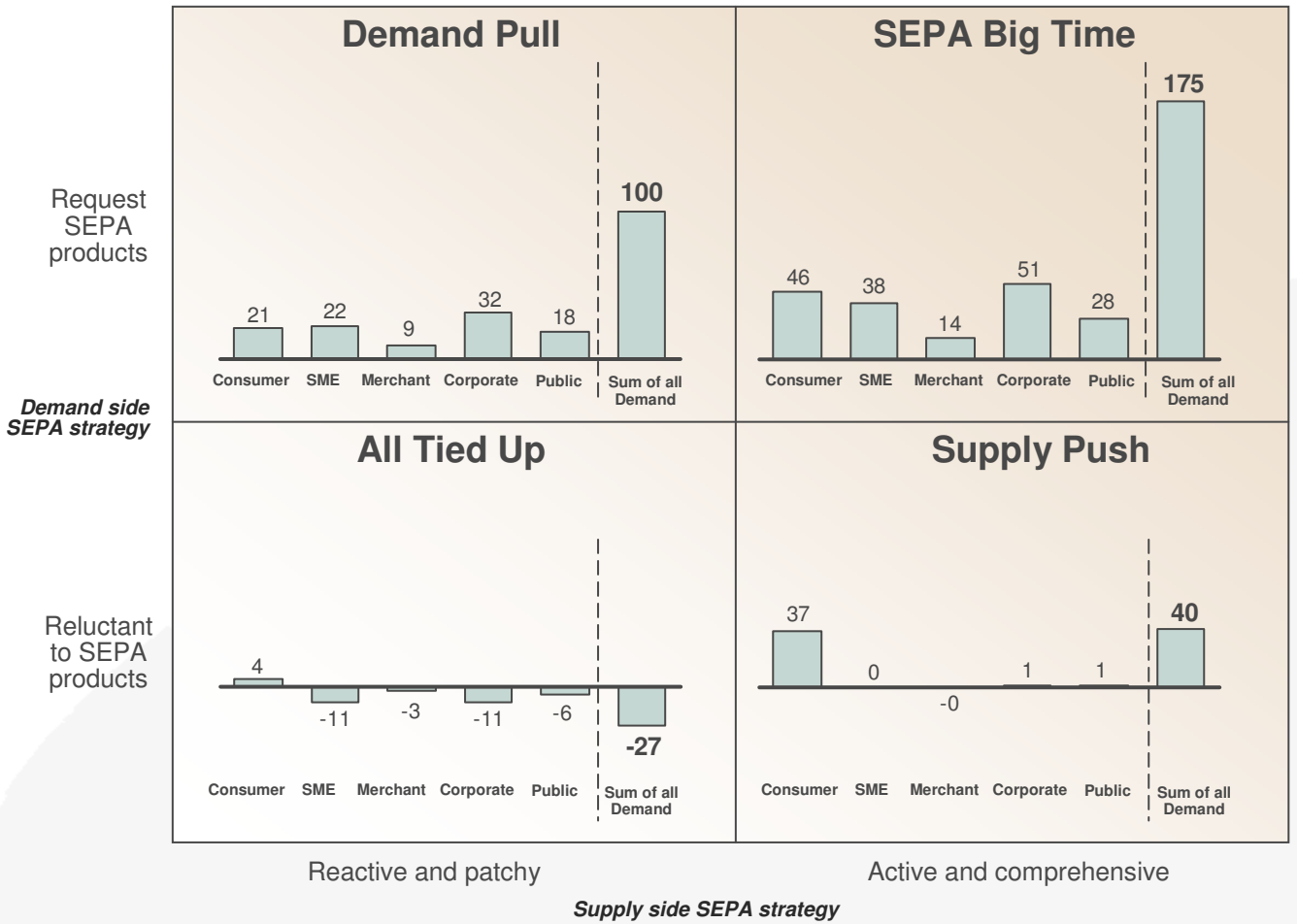
Consumers gain in all scenarios; other groups (especially SME's and Corporates) benefit tens of billions in € in the Demand Pull and SEPA Big Time scenarios

Net SEPA effect for demand side per scenario (in B€ 2007-2012 for EU-16)



Findings and Insights

- Corporates as a group benefit most in the SEPA Big Time scenario, followed by consumers and SMEs.
- At the same time, SMEs and corporates are the groups that suffer most in the All Tied Up scenario. Hence, we would expect these groups to pull hardest for SEPA, and demand most from the supply side.
- For the public administration, there is also much at stake (€34 billion, the difference between the maximum scenario and the minimum scenario).

Source: Capgemini analysis

All individual stakeholders benefit in SEPA Big Time; in this scenario, the benefits largely outweigh the investments

Net SEPA cumulative effect by individual demand side stakeholder (€, 2007-2012)

Stakeholder	All Tied Up				SEPA Big Time			
	Investment (2007-2012)		Net benefit / loss (2007-2012)		Investment (2007-2012)		Net benefit (2007-2012)	
	Total € billion	Per stakeholder	Total € billion	Per stakeholder	Total € billion	Per stakeholder	Total € billion	Per stakeholder
Consumer	0	€ 0	4	€ 12	0	€ 0	46	€ 129
SME	5	€ 190	-11	€ -449	8	€ 335	38	€ 1557
Merchant	1	€ 100K	-3	€ -317K	2	€ 150K	14	€ 1307K
Corporate	3	€ 100K	-11	€ -340K	5	€ 150K	51	€ 1523K
Public administration	1	-€ 4K	-6	€ -18K	2	€ 6K	28	€ 89K

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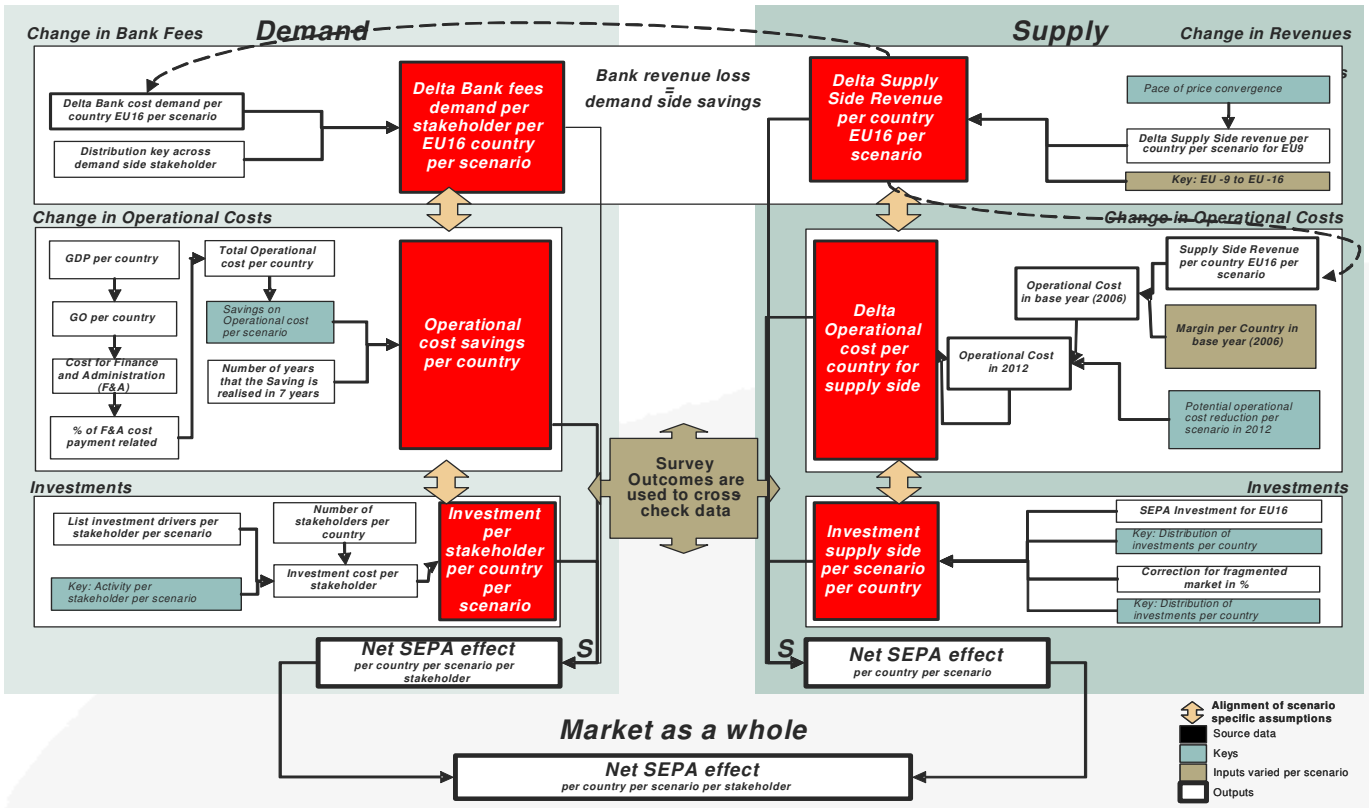
Breakdown of benefits per country are based on the same model, with most data used originating at the country level

Model description

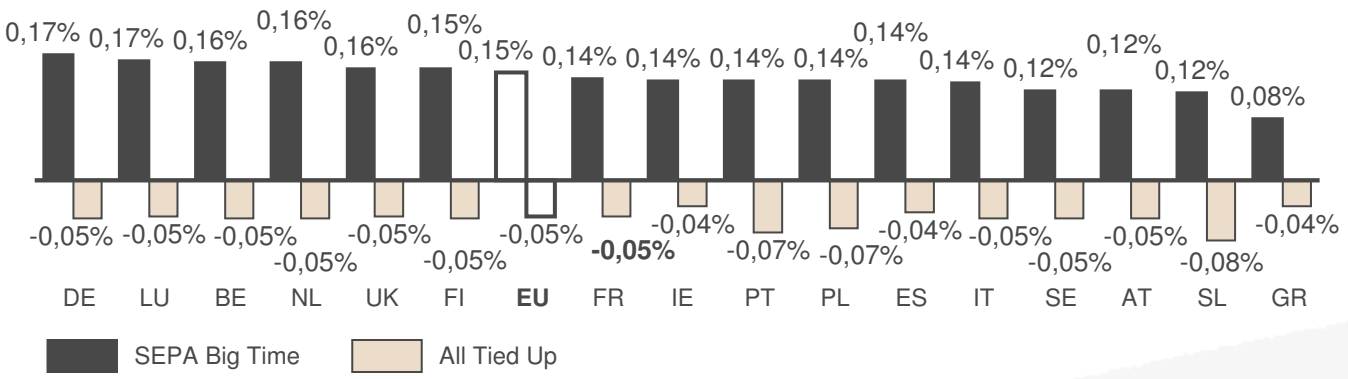


Principles for estimating country impact

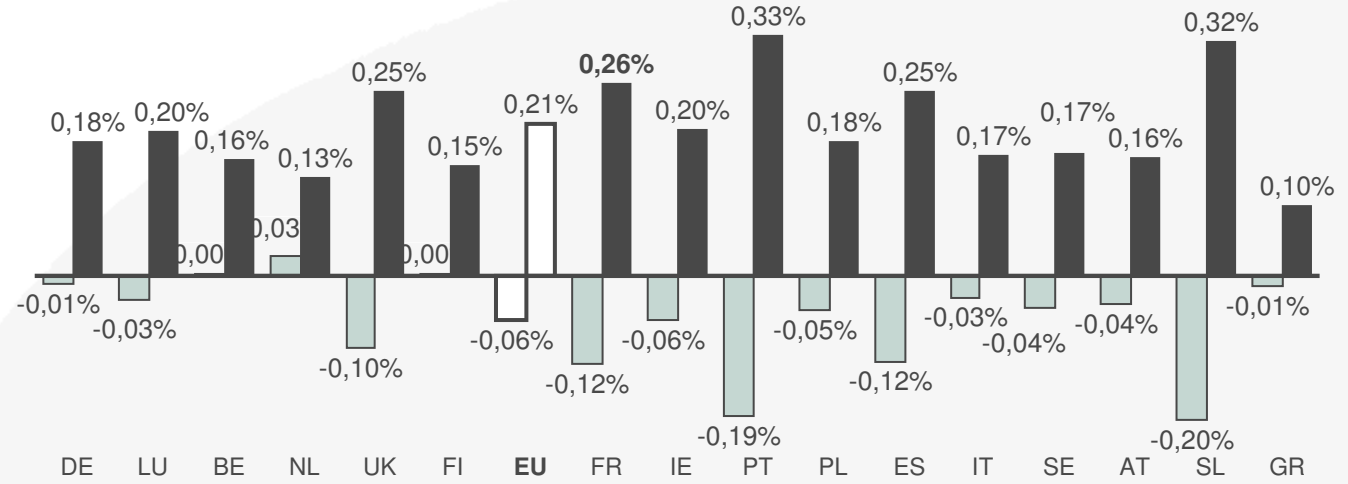
- All relevant variables needed to define the impact of SEPA at a country level are available.
- Revenues (equals Bank Fees paid) are based on national transaction volumes times country-specific prices (based on Blue Book data and World Payments Report)
- Operational Costs per country at the demand side are based on % Gross Output (defined as 1.9 * GDP) spent on F&A and more specifically on Payments; savings are defined as a percentage, dependent on the scenario.
- Operational Costs per country at the supply side are estimated as a result of Revenues minus margin (as deduced from McKinsey report); savings are defined as a percentage dependent on the scenario.
- Investments per country at the demand side are based on investments per type of stakeholder multiplied by the number of stakeholders per country.
- Investments at the supply side are based on an allocation of overall SEPA investments in Europe, allocated to countries based on number of transactions and corrected for degree of fragmentation of the industry.

On average 0,2% of GDP is at stake*; for all countries the difference between the most and least aggressive scenario lies between 0,12% and 0,22% of GDP

Net SEPA effect SEPA Big Time vs All Tied Up in % GDP (2007-2012 ,EU-16)



Net SEPA effect demand & supply SEPA Big Time in % GDP (2007-2012, EU-16)

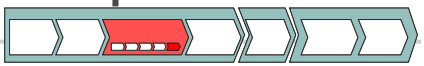


Finding & Insights

- Countries with a high spread between the two extreme scenarios (All Tied Up and SEPA Big Time) have most at stake (in percentage of GDP)
  - These countries should put significant effort into convincing stakeholders to embrace SEPA
- Most countries face a negative impact of 0,04% to 0,08% in the All Tied Up scenario.
- Countries with a relatively fragmented banking sector (Portugal, Slovenia, Poland) are hit more than average in the All Tied Up scenario, due to relatively high investments they must make for compliance.

* At stake in terms of difference between the two extreme scenarios: SEPA Big Time and All Tied Up

Demand and supply are at odds in the market outcome, except in Belgium, Finland, the Netherlands and Germany, where both sides prefer SEPA Big Time to All Tied Up



Scenario outcomes	All Tied Up		SEPA Big Time		
	Demand	Supply	Demand	Supply	
All Loose in All Tied up All win in SEPA Big Time	-	-	+	+	SEPA Big Time is the most successful scenario for both demand and supply side stakeholders. The market is likely to end up in SEPA Big Time. Counties in this category are ***Belgium, Finland and the Netherlands.*** These countries are characterised by their high concentration level on the supply side. In all three countries the market share of the top 5 players is larger than 80%.
Demand gets positive in SEPA Big Time. Supply's position worsens in SEPA Big Time	-	- -	+	-	Demand side loses in All Tied Up and wins in SEPA Big Time. Supply side experiences a negative effect from SEPA in both scenarios, but in the SEPA Big Time it is less negative. The likely supply side strategy is therefore expected to be pro-active, to the extent that the supply side is aware of the potential. The only country in this category is: ***Germany.*** The low concentration of the supply side leads to relative high investments in All Tied Up. These investments are almost offset in SEPA Big Time, due to operational cost reductions outweighing decreases in revenues.
Demand gets positive in SEPA Big Time Supply's position improves in SEPA Big Time compared to All Tied Up	-	-	+	- -	Demand side loses in All Tied Up and wins in SEPA Big Time. Supply side has a negative effect in both scenarios, but in the SEPA Big Time it is more negative than in All Tied Up. The likely supply side strategy is defensive: damage control. In this case, the market forces are opposite. The strength of the force is largely depends on the level of organization and concentration of the demand and the supply side. Most countries examined fall in this category: ***Austria, France, Greece, Ireland, Italy, Luxembourg, Poland, Portugal, Slovenia, Spain, Sweden, UK***.

Source: Capgemini analysis

For non-euro countries, the same economic model can be applied as for euro countries; however, the effects will be less pronounced

In the model no distinction has been made between euro and non-euro countries. This could cause a slight overestimation of the absolute outcomes for non-euro countries.

The economic model is the same for euro and non-euro countries, but for a non-euro country figures could be overestimated.

- Banking fees are expected to drop to a lesser extent, as local products remain in the retail markets, thereby restraining competition on a European level. On the corporate level the fees are expected to be in line with the euro countries, as SEPA drives the creation of a level playing field in the European cross border market
- Operational cost are expected to drop less as local currencies remain requiring additional steps and prevent systems being decommissioned.
- Investments are less than the investments made in euro countries for SEPA compliance. The euro payments in non-euro countries are primarily cross border transactions and only cover part of the operation. On top of that, compliance with the Cards Rulebook is not mandatory. The low-price domestic schemes can remain.

The scenarios are also valid for non-euro countries

- Similar to euro countries, players in the non-euro countries will face the question whether to adopt SEPA fully and comprehensively or to merely become compliant. Full implementation is an option, now that PSD has to be implemented and opportunities arise to reduce the operational costs by converting to SEPA products.
- The chance of survival of local products is higher than in euro countries, especially in the retail markets, as it is not mandatory to offer SEPA products for domestic payments. Consequently the likelihood of co-existence of "legacy" domestic retail products is high.
- Enterprises and citizens of non-euro zone countries will be directly impacted by SEPA competition if they open up accounts in the euro zone.

- **Prices are expect to drop also in non-euro countries. When payment service providers have achieved a critical mass of euro payments they will also be able to provide service offerings in another currency at low price.**
- **The supply side investments in non-euro countries are expected to be slightly lower in the reactive and patchy scenarios, and slightly higher in the pro-active and comprehensive scenarios.**
- **The demand side effects are expected to be less beneficial for retail clients as bank fees are expected to drop less aggressive. For corporate clients a European level playing field will force non-euro countries to be in line with the euro countries.**

Source: Capgemini analysis

Net effects per country for the market as a whole, and for the demand and supply side are dependent on key parameters that vary quite significantly per country

SEPA impact per country

Country	GDP (2006, €B)	Concentration (Asset Share of largest 5 supply side players)		Delta transaction volume (CAGR 2007-2012)		Delta average fee per transaction (SEPA Big Time, CAGR 2007-2012)	Delta revenue Baseline (CAGR 2007-2012)		Delta Absolute revenue growth (SEPA Big Time, CAGR 2007-2012)	Delta average ops cost supply per transaction (SEPA Big Time, CAGR 2007-2012	Net effect Market €B	Net effect Market CAGR 2007-2012		Net effect Supply €B	Net effect Supply CAGR 2007-2012		Net effect Demand €B	Net effect Demand CAGR 2007-2012	
												(High/Medium/Low effect)			High/Medium/Low effect)			High/Medium/Low effect)	
Germany	2.275	22%	L	8%	L	-11%	3%	L	-3,8%	-11%	28.794	0,17%	H	-1.847	-0,01%	L	30.641	0,09%	H
UK	1.823	35%	L	7%	L	-12%	5%	L	-5,6%	-10%	21.571	0,16%	H	-13.791	-0,10%	M	35.362	0,06%	L
France	1.763	49%	M	7%	L	-1%	19%	H	5,7%	-10%	19.226	0,14%	M	-16.842	-0,12%	M	36.067	0,05%	L
Italy	1.446	26%	L	14%	M	-11%	9%	M	1,6%	-16%	15.197	0,14%	M	-3.310	-0,03%	L	18.507	0,08%	M
Spain	976	42%	L	20%	H	-19%	9%	M	-3,0%	-20%	11.791	0,14%	M	-10.238	-0,12%	M	22.030	0,05%	L
Netherlands	522	84%	H	6%	L	-6%	2%	L	-0,2%	-9%	6.455	0,16%	H	1.073	0,03%	L	5.382	0,12%	H
Belgium	308	84%	H	5%	L	-5%	4%	L	0,3%	-8%	3.931	0,16%	H	29	0,00%	L	3.902	0,10%	H
Sweden	294	54%	M	10%	M	-9%	7%	L	0,8%	-13%	2.882	0,12%	M	-1.025	-0,04%	L	3.907	0,07%	M
Poland	291	50%	M	21%	H	-16%	14%	H	1,7%	-21%	3.207	0,14%	M	-1.139	-0,05%	M	4.346	0,07%	M
Austria	255	44%	M	4%	L	-6%	4%	L	-2,5%	-7%	2.436	0,12%	M	-779	-0,04%	L	3.215	0,08%	M
Greece	195	54%	M	16%	H	-15%	9%	M	-1,1%	-17%	1.477	0,08%	L	-236	-0,01%	L	1.713	0,09%	M
Ireland	176	44%	M	2%	L	-3%	9%	M	-1,1%	-6%	2.190	0,14%	M	-982	-0,06%	M	3.171	0,07%	M
Finland	163	83%	H	11%	M	-9%	4%	L	0,3%	-13%	1.932	0,15%	H	23	0,00%	L	1.908	0,10%	H
Portugal	152	67%	H	6%	L	-7%	9%	M	-1,1%	-9%	1.617	0,14%	M	-2.263	-0,19%	H	3.880	0,04%	L
Luxembourg	32	30%	L	7%	L	-7%	9%	M	-1,1%	-10%	460	0,17%	H	-90	-0,03%	L	550	0,08%	M
Slovenia	29	65%	H	3%	L	-4%	9%	M	-1,1%	-7%	296	0,12%	M	-483	-0,20%	H	780	0,04%	L
EU	**10.699**	**n.a.**		**9%**		**-10%**	**8%**		**-1,5%**	**-12%**	**123.462**	**0,15%**		**-51.900**	**-0,06%**		**175.362**	**0,07%**	

Source: Capgemini analysis

The 11 EU countries that have not been studied cover 4% of the volume and can be grouped in two categories based on penetration rate for electronic payments

High penetration

- **Denmark** can be categorised as a country with a relative high penetration rate and a high concentration in the market*. It is considered a mature payments market. It is similar to the Netherlands, Belgium and Finland.
- In Denmark the price drops are expected to be relatively small like in the comparable countries. The revenue growth in the baseline is considered small (between 2-4%).
- SEPA is expected to be beneficial for all parties both supply and demand in the SEPA Big Time scenario, but the demand side benefits most.

Expected Net effect in SEPA Big Time (% of GDP, 2007-2012)

Presented in ranges, as no exact estimation was made

Net effect market: 0.12%-0.16%

Net SEPA effect Supply: 0.00% - 0.03%

Net SEPA effect Demand: 0.07% - 0.12%

Low penetration

- **Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Romania, Slovakia** can be categorised as countries with relative low penetration rates of non-cash payment types. These payment markets are considered to have relatively high growth rates. Therefore these countries can be compared to countries with low penetration rates like Italy, Poland, Portugal, Slovenia and Spain, except for the fact that the latter ones have higher GDP numbers.
- In the countries not analysed in detail the revenue growth in the baseline is large as a consequence of the expected volume growth.
- The negative effect on the supply side in SEPA Big Time is expected to be significant, due to relatively high investments and high pressure on prices
- SEPA is expected to be moderately beneficial for the demand side in SEPA Big Time.

Expected Net effect in SEPA Big Time (% of GDP, 2007-2012)

Net SEPA effect Market: 0.12%-0.14%

Net SEPA effect Supply: -0.12% - -0.20%

Net SEPA effect Demand: 0.04% - 0.09%

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PSD and SEPA are initiatives of the European Commission and the European Payments Council, supported by the European Central Bank, to create a Single Euro Payments Area

Overview of objectives of PSD and SEPA

Core problem areas
1. High cost of the payment system to the economy due to inefficient use
2. Deficiencies in EU payment infrastructures and services
3. Large differences in the efficiency of payment services in the single market
4. Lack of efficient competition and a level playing field in the payments market
5. Fragmented legal framework for payment services

Objective	Rationale	Operational objectives
Open up markets and ensure a level playing field to enhance competition between national markets	Opening up national payment markets for existing and new providers from other EU member states will increase competition and foster market entry. Increased competition is aimed at providing a healthy framework for a future single payments market. It should promote consolidation of redundant payment infrastructures, improve efficiency through better economies of scale and stimulate innovation.	▪ Removing legal barriers to market access and leveling the playing field with prudent requirements for payment service providers. ▪ Increasing the number of providers and payment services in national payment markets. ▪ Increasing cross-border services of existing and new providers. ▪ Reducing the number of payment infrastructures through consolidation.
Increase market transparency for both providers and users	Increased transparency between offers from payment service providers and conditions for payment services will improve consumer protection and facilitate an informed choice. Standardized information requirements also make it easier for providers to offer fully automated services across borders. This is expected to contribute to greater variety of services, more competition and improved efficiency.	▪ Consumers will receive standardized conditions for the payment services offered in the market. ▪ Consumers will be able to compare the key elements of different service offers and benefit from greater transparency on prices and fee calculation methods. ▪ Providers can offer payment services across borders under the same information requirements.
Standardize rights and obligations of providers and users of payment services in the EU, with strong emphasis on consumer protections	Standardized rights and obligations of payment service providers and users will help to overcome the current barriers for a unified payment services market. The current legal framework of national rules means national fragmentation of markets and lack of cross-border payment services and standards. The fragmentation also protects national markets from outside competition and acts as an impediment for cross-border service provision. A uniform basis of core rights and obligations will allow providers to develop EU-wide service offerings. Users will be able to transfer money under the same conditions and with the same ease from one part of the European Union to another.	▪ Users can rely on the same conditions wherever they use payment services in the EU. ▪ Providers can develop and roll out payment services for the entire EU market under the same legal conditions.
Open and common industry standards	It is expected that a more cooperative approach between existing and new infrastructures will allow the adoption of common standards for exchanging payment orders across systems and provide the necessary processing platforms for SEPA payments. Hence, standardization in this field cannot be further delayed and should become the primary focus of work in order to facilitate interoperability between the different infrastructures.	▪ Common core payment instruments and experiences. ▪ Consistent standards to achieve interoperability. ▪ Reduced complexity and improved efficiency with cross-border transactions, potentially leading to concentration and consolidation/integration of national payment systems.

Source: Impact Assessment, proposal for a Directive of the European Parliament and of the Council on Payment Services in the Internal Market, Commission Staff Working Document, December 2005; 4th Progress Report EPC,

From a qualitative point of view the scenario with the fullest implementation of SEPA is the most favourable one, meeting the joint PSD and SEPA objectives to a large extent

Qualitative assessment of scenarios against PSD/SEPA objectives

	Objectives	Operational objectives	All Tied Up	Demand Pull	Supply Push	SEPA Big Time	Comments
Market objectives	Enhanced competition	Removing legal barriers to market access and leveling the playing field with prudent requirements for payment service providers					PSD is assumed signed; therefore, in all scenarios legal barriers have been removed in theory. However, the PSD still leaves room for options within the basic rules as well as for interpretation. And it is not the only regulation affecting local implementation (tax and account structure are others).
		Increasing the number of providers and payment services in national payment markets					The higher the demand, the higher the likelihood of new entrants (and vice versa), especially when users demand SEPA products. Concentration of players occurs to gain market share in a saturated market or to reduce costs as prices drop (economies of scale).
		Increasing cross-border services of existing and new providers					Harmonized product offerings may lead to increased cross-border service offerings, further amplified by high demand.
		Reducing number of payment infrastructures through consolidation					The higher the usage of SEPA payments, the more attractive consolidation becomes (especially at the infrastructure level).
	Increased market transparency	Consumers will receive standardized conditions for the payment services offered in the market					The more SEPA payments get used, the more standards become a prerequisite for basic payments only. Product differentiation will remain, however, in competitive markets.
		Consumers will be able to compare the key elements of different service offers and benefit from greater transparency on prices and fee calculation methods					With greater competition, product transparency is expected to improve along with it.
		Providers can offer payment services across borders under the same information requirements					The higher the usage of SEPA payments, the more the information requirements will be standardized.
	Standardized rights and obligations	Users can rely on the same conditions wherever they use payment services in the EU					The more rulebook-based products are used, the more standardized the information requirements become. However, legislation is key for full success.
		Providers can develop and roll out payment services for the entire EU market under the same legal conditions					Implementation speed will vary depending on the scenario.
Supply side objectives	Open and common standards	Common core payment instruments and experiences					The impact depends on full implementation. Therefore, scenarios should distinguish these cases.
		Consistent standards leading to improved interoperability					The impact depends on full implementation. Therefore, scenarios should distinguish these cases.
		Reduced complexity and improved efficiency with cross-border transactions, potentially leading to concentration and consolidation					The impact depends on full migration. Therefore, scenarios should distinguish these cases.
		Overall score					

Differences in local laws impede PSD/SEPA from fully reaching the market objectives

Qualitative assessment of scenarios against PSD/SEPA objectives

	Objectives	All tied up	Demand Pull	Supply Push	SEPA Big Time
Market objectives	**Enhanced competition**				
	Increased market transparency				
	Standardized rights and obligations				
Supply side objectives	**Open and common standards**				
	Overall Score				

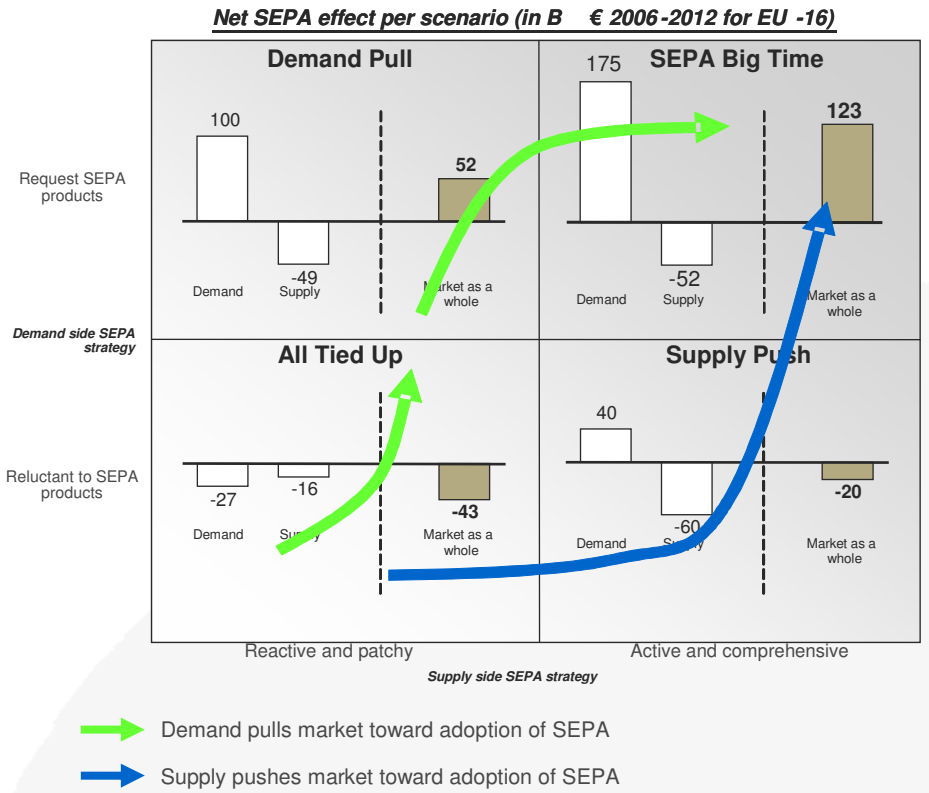
Findings and Insights

- For regulators, SEPA Big Time is the most desirable scenario; All Tied Up the least. Supply Push and Demand Pull fulfill the regulators' objectives almost equally well.
- None of the scenarios completely covers the set objectives, but SEPA Big Time comes close.
- In all the scenarios, the standardized rights and obligations objectives were more than half met when the European Parliament accepted the PSD in April 2007.
- Meeting the EPC's SEPA objectives for open and common standards influences the scenario outcomes the most. All scenarios meet the objectives to a large extent, but only SEPA Big Time does it fully.

Even in the most favorable scenario, SEPA Big Time, not all regulators' objectives are met.

Source: Capgemini analysis

The most logical evolution toward SEPA Big Time would be via Demand Pull



Source: Capgemini analysis

Findings and Insights

- Game theory suggests that the most logical outcome is the Demand Pull scenario:
  - Supply can only influence the X-axis of the matrix, so it can choose between the left and right sides of the matrix. Demand, similarly, has the choice between upper and lower halves.
  - If supply could choose freely, it would remain "reactive and patchy" on the left-hand side of the matrix, as this holds better outcomes for it than the right-hand side.
  - If demand could choose freely, it would prefer the upper half of the matrix, where its outcomes are better.
  - Crossing the preferences of the supply stakeholders with those of the demand stakeholders means that the upper left quadrant, the Demand Pull scenario, is the most logical outcome.
- However, the huge additional demand benefits, combined with marginal extra supply impact, transform Demand Pull from an end to a transitional stage toward SEPA Big Time:
  - The benefits for demand would almost double by moving right. So demand can be considered to be very open to any sort of compensation that would bring it closer to the large extra benefits of moving to the right.
  - The extra loss for the supply side is marginal.
  - Thus it would be a logical step from All Tied Up through Demand Pull to end up at the desired SEPA Big Time.
- Supply Push is also likely to be an intermediate stage, triggered by new entrants:
  - The only way to end up in Supply Push would be by competitive reaction to new entrants offering new SEPA-only products with attractive prices. (In a lean SEPA, this is the only way without any legacy products and systems.) Existing players would have to match these prices to keep their customers.
  - In this case, either demand accepts the newly available products and the market ends up in SEPA Big Time or (less likely) these newcomers have little effect and the market "relapses" back to All Tied Up.
- There is a risk of getting stuck in All Tied Up:
  - If demand is not fully aware of the benefits it can reap, the market as a whole could easily get "stuck" in All Tied Up. After all, judging from these outcomes, the banks will not exert a proactive and comprehensive SEPA push unless they are forced to or unless they find larger related indirect benefits.

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If SEPA Big Time is the goal, several issues must be addressed at demand, supply and regulatory levels

Issues threatening the attainment of SEPA

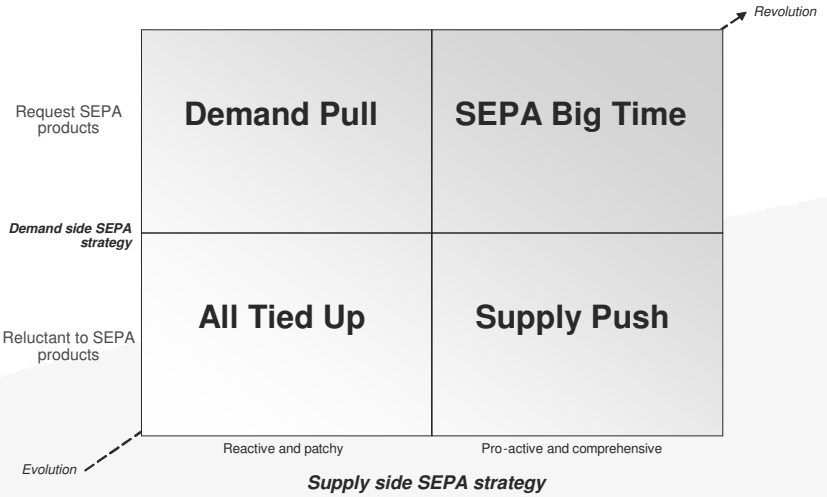
Issues on Demand side

A) Across products:

1. Lack of awareness about SEPA or little importance attached to it
2. Fragmentation of the demand side, resulting in inability to exercise power
3. Duplicate costs for running dual payment systems during transition

B) Product specific:

1. SEPA debit card: few incentives for merchants; perceived risks of price increases and little to no perceived added value
2. SEPA direct debit: few incentives for most payees
3. SEPA credit transfer: few incentives and few barriers for payers



Issues for the market as a whole

1. Factors outside the scope of PSD influence the standardization effort
2. Ambiguity about solution
3. Lack of clarity about timing and deadlines
4. Unbalanced benefits across countries and stakeholders

Issues on Supply side

1. Lack of commercial interest
2. Significant investments
3. Decrease of operating costs not self-explanatory
4. Downward trend in revenues through SEPA products
5. Market entry barriers

Source: Capgemini analysis

If SEPA Big Time is the goal, several issues must be addressed at demand, supply and regulatory levels (details)

Issues threatening the attainment of SEPA

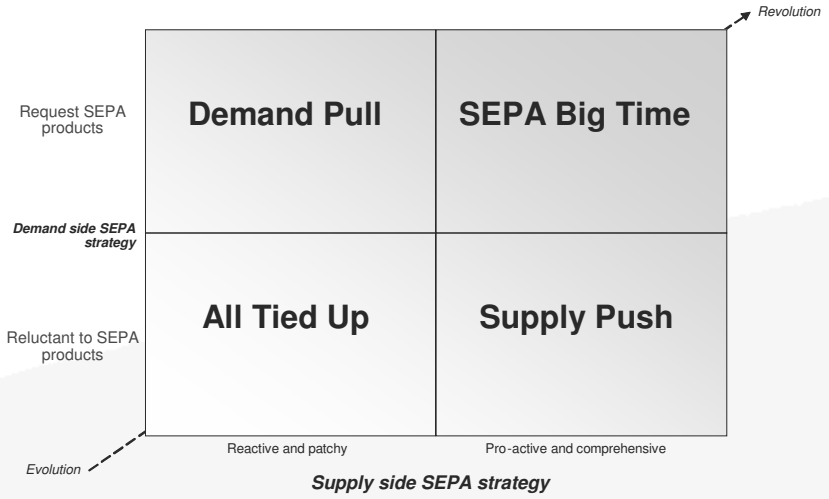
Issues on Demand side

A) Across products:

1. Lack of awareness about SEPA or little importance attached to it
2. Fragmentation of the demand side, resulting in inability to exercise power
3. Duplicate costs for running dual payment systems during transition

B) Product specific:

1. SEPA debit card: few incentives for merchants
   - No savings in operational costs expected
   - Fear of negative side effects from dealing with large international firms:
     - Relatively high fees
     - Security issue around disclosure of transactions to other authorities
2. SEPA direct debit: few incentives for most payees
   - Investments in implementing mandate handling required
   - Increased operating costs of payees (more data to be entered)
   - Price effect not guaranteed (limited to high-priced countries)
   - Product features mainly attractive to payer (security through mandate check); payee must send notification five days before due date (benefit for payer)
3. Credit transfer: few incentives and few barriers for payers
   - Marginal investments
   - Marginal changes in operating costs
   - Lower prices through increased STP rate



Issues for the market as a whole

1. Factors outside the scope of PSD influence the standardization effort
   - National legislation (e.g., around taxes and social contributions) not addressed by PSD
   - Protection of national markets by local banking communities
2. Ambiguity about solution
   - Options are allowed under PSD/SEPA, potentially leading to a diversification of standards (development of "dialects")
   - Standards have been set at high level, leaving room for interpretation and/or continuation of local differences
   - No pan-European acceptance framework for debit cards
   - Differentiation through AOS can lead to a new fragmentation and limitation of price drop
3. Lack of clarity about timing and deadlines
   - No final date for abolishment of legacy products
4. Unbalanced benefits across countries and stakeholders
   - Advanced countries benefit least; no common drive toward fast and full implementation

Issues on Supply side

1. Lack of commercial interest:
   - Limited signs of demand pull for SEPA-compliant products
   - Perception with certain suppliers that SEPA is a compliance issue, and mainly aimed at the cross-border volume (which is only 2% of total volume)
2. Significant investments:
   - Investments in implementing SEPA and decommissioning systems are significant
   - Due to time pressure functionality is added in suboptimal way to existing portfolio, leading to an inefficient application portfolio
3. Decrease of operating costs not self-explanatory:
   - SEPA solution may add to the complexity of the systems:
     - Early movers may have duplicate operational costs over a longer period
   - Savings will only occur after actual decommissioning
4. Downward trend in revenues through SEPA products:
   - Price pressures from standardizing will erode revenues and margins: the later the better
5. Market entry barriers
   - Not easy for a foreign player to enter a market without offering local legacy products

Source: Capgemini analysis

The change in the debit cards market is highly unpredictable at this moments. There are 4 drivers which will determine the outcome

There is a threat that the SEPA debit card offers few incentives for merchants if there are no savings in operational costs expected and there is a fear of negative side effects from exclusive dealing with large international firms

Driver: Supplier market situation

- As a consequence of SEPA domestic schemes will need to be interoperable though-out Europe. At this moment this is not the case. This leaves only the international schemes to be able to provide solutions. Banks have the option to co-brand the domestic scheme with an international scheme or fully adopt the international scheme
- There is also the option of a third scheme. This can either be a new sche or a network of existing domestic schemes that are interoperable. An example of the latter is the European Alliance Payment Scheme (EAPS) is a joint effort of the domestic schemes to create a interoperability between domestic schemes.
- A third option is that the domestic scheme grows to be an international scheme.

Driver: Regulation and prescription

- The level of regulation is expected to put a downward pressure on prices, either by increasing the competition in the market or by regulation of prices (i.e. max fees). The latter one could be temporarily until there is a market where multiple parties are able to compete.

Driver: Political pressure and or pressure by the public or interest groups

- Example Belgium: Belgium's banking association had decided not to migrate the country's national debit card scheme to MasterCard's Maestro platform by January 2008. Due to the pressure from the public and merchant organisations opposing the price increase this has been delayed..

Driver: The commercial interest of banks

- Payment by means of a debit card are relatively cheap compared a cash alternative. It is also in the bank's interest to increase the penetration rate of card payments.
- New fee structures can be introduced for transparency or harmonisation reasons

Uncertain short-medium term outcome

- The outcome at this moment is highly unpredictable as there are too many uncertainties and interrelations between different payment types, because of the uncertain state of the four drivers.

Long run perspective

- In the long run, assuming an open and competitive market, the most logical outcome would be a situation with multiple providers and lower prices than the existing ones. In such a situation, prices are expected to be driven down as costs can be lowered through economies of scale and increased competition. At the end "all cards at all terminals" and the unbundling of processing should lead to increased competition and a decreased price.

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A mix of facilitation, influencing and regulation will be needed to increase the chances of achieving the SEPA Big Time scenario

Type of measure	Possible measure	Description	Impact on Demand side	Impact on Supply side	Feasibility of execution	Priority
Facilitate	Facilitation Kit / Offer best practices	▪ A set of tools (detailed guides on conversion of processes, systems and other) allowing companies to adopt SEPA with minimal investments	H	L	H	1
	Organize demand side	▪ Bring demand side parties with common interests for implementation of SEPA together on a national and international scale	H	L	H / M	1
Influence	SEPA communication program	▪ Targeting specific stakeholders with information about benefits and importance of SEPA	M	M / L	H	1
	Publish progress	▪ A regular reporting of the degree of adoption of the SEPA products per country and/or per provider aimed at increasing peer pressure	L	M	H	2
	Fuel competition	▪ A proactive approach from local and central policy makers to decrease the entry barriers for external parties and/or new entrants into established markets	M / L	H	M	2
	Mobilize publics and semi-publics	▪ Local governmental power used to speed up the adoption of SEPA in (semi-) public institutions (tax, social security, energy sector, possibly telco's)	H / M	H / M	H / M	2
Stimulate	Provide subsidies for early movers	▪ Investment subsidies provided to early adopters (demand side), to compensate for higher costs / risks incurred	H / M	M	L	3
(Self-) Regulate	Set hard standards for all products within agreed scope	▪ Define the detailed common standards for all elements of the product / process within pre-set scope, thereby eliminating the degrees of freedom per country	H	H	M	1
	Set fixed / hard deadlines for full adoption	▪ Define deadlines not only for availability of products but also for abolishment of legacy products	H	H	M / L	1
	Pricing policies	▪ Define maximum prices for SEPA products, thereby increasing the need to standardize and consolidate ▪ Define standard interchange fees	M	H	L	3

This still leaves important measures to be taken by local governments to reduce differences in national legislation and to eliminate protectionism of local markets.

Source: Capgemini analysis

The suggested measures with priority 1 and 2 will address most of the barriers, in particular those at the demand side and market side

			Demand side barriers						Supply side barriers					Market side barriers			
Type of measure	Possible measure	Prio-rity	Aware ness	Frag mentat ion	Dupl costs	Debit card	Dir Debit	Credit Transf	No pull	High invest	Cost reduct	Price reduct	Entry barrier	Local legal	No stand.	No fix time	Unbala nce
Facilitate	Facilitation Kit	1				◔	◔	◔						◔			
	Organize demand side	1		◕					◔								
Influence	SEPA communication program	1	●														
	Publish progress	2												◔			◔
	Fuel competition	2				◔	◔						◑				◔
	Mobilize publics and semi-publics	2				◔	◔	◔	◔								
Stimulate	Provide subsidies for early movers	3				◔	◔	◔		◔		◔					
(Self-) Regulate	Set hard standards for all products	1									◔				●		
	Set fixed / hard deadlines for full adoption	1			◕						◑	◔	◔			●	
	Pricing policies	3										◑					
Sum of priority 1 and 2 measures			●	◕	◕	◕	◕	◑	◑	○	◕	◔	◕	◑	●	●	◑

The suggested priority 1 and 2 measures are minimally required to give the market a chance to reach the SEPA Big Time scenario. An additional demand pull for related products (e-invoicing!) may well lead to faster adoption.

Source: Capgemini analysis

Findings and Insights

Demand side barriers can be addressed up to 75% by priority 1 and 2 measures

- Duplicate costs can partially be overcome by minimizing the existence of dual standards
- Barriers with respect to debit cards are best addressed by fueling competition
- Without subsidies or financial incentives, perceived barriers regarding investments will remain

Supply side barriers can be addressed up to 45% by priority 1 and 2 measures

- Lack of market pull can best be addressed by mobilizing public stakeholders
- High investments will remain a barrier as long as subsidies are not used
- Duplicate costs can partially be overcome by minimizing the existence of dual standards
- Fear over price reduction is likely to remain a barrier to implementation
- Entry barriers can be lowered by fueling competition

Market side barriers can be overcome up to 75% by priority 1 and 2 measures

- Local legal differences will remain; facilitation with these can help
- Product standardization and setting of deadlines can eliminate crucial barriers
- Imbalances in perceived importance (per country and stakeholder) will remain

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E-invoicing market is an opportunity for corporates to reduce costs and for banks to regain some of the margin lost compared to baseline

- E-invoicing can reduce the costs of the invoicing process, with a potential value for the market of 0.8% of GDP per year.
- SEPA is expected to help the e-invoicing market to grow by relieving barriers, opening up a larger market.
  - SEPA provides a potential platform for distribution and expansion of e-invoicing.
- E-invoicing is a rapidly growing market currently valued at €131 million, primarily fuelled by large corporates.
- The potential extra revenue flow for payment service providers is estimated between €0,4 Bn and €3,4.

E-invoicing can be an important catalyst to the adoption of SEPA, as corporates and public administrations will demand fully standard e-invoicing solutions from the payment service providers, which will be facilitated by full SEPA compliance.

E-invoicing can reduce the costs of the invoicing process with a potential value for the market of 0.8% of GDP per year

E-invoicing has many benefits ..

- Electronic invoicing refers to sending invoices (and storing data and other related activities) by any number of wired, radio or other electromagnetic means.
- It includes all steps of the purchase-to-pay and the order-to-receive cycle: sending/receiving invoices, dispute handling, acceptance, payment and collection, reconciliation and archiving.
- E-invoicing improves efficiency . . .
  - Automation eliminates manual tasks
  - Higher reconciliation rates
  - Shorter processing cycle time
  - Reduced penalty interest
- . . . And quality control and responsiveness:
  - Real-time information
  - Electronic authorization, authorization schemes and control points in workflow
  - Information integrity improved through authorization measures and event logging
  - Improved decision support
- E-invoicing also supports geographic independence through Web-enabled workflow and electronic filing

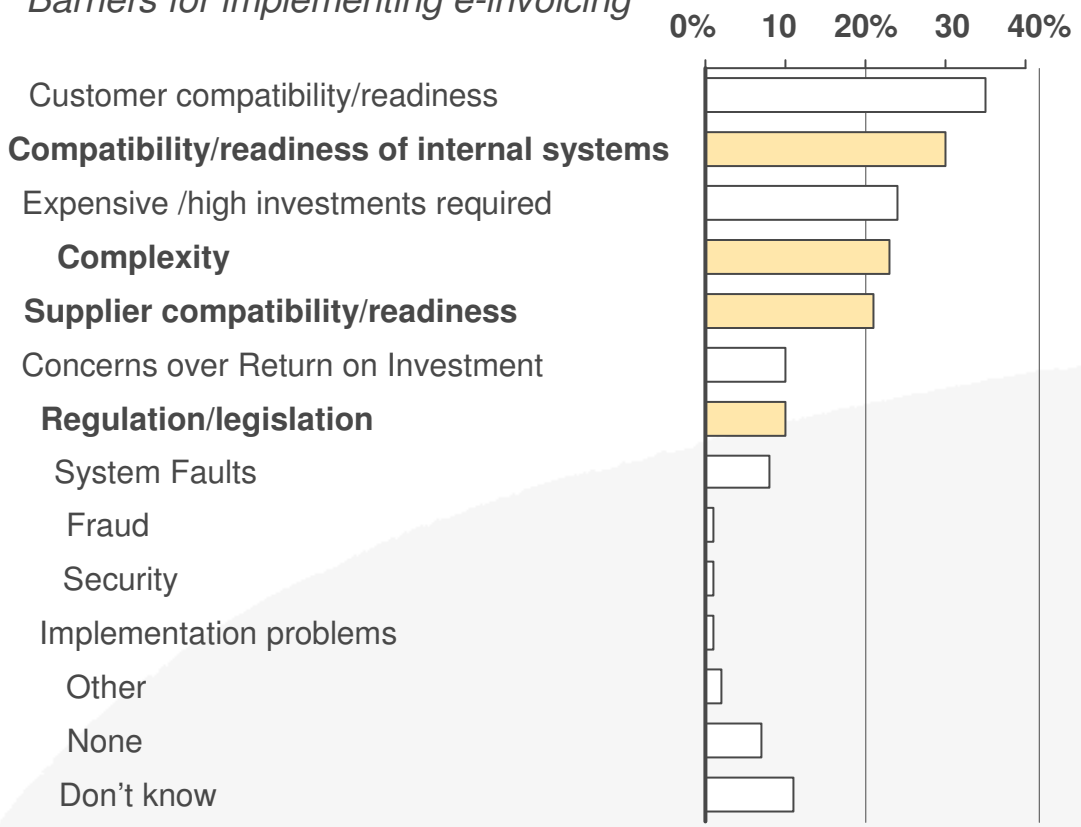
.. equal to a value of 0,8% of GDP

- The estimated payments-related operational cost on the demand side is €112 billion (2006), or 0.8% of the GDP in the EU-16.
- Currently, 80% to 90% of invoices are based on paper. A paper invoice costs between €1.13 and €1.65. Electronic invoicing is a solution for suppliers and buyers to send, process and collect invoices in an automated way. It reduces the cost per invoice to between €0.28 and €0.47, a reduction of 70% to 75%.
- The maximum total value that could have been reduced by e-invoicing in 2006 is €84 billion, or 0.8% of GDP.
- The Capgemini questionnaire reveals that nearly 26% of the responding companies are already using e-invoicing. However, those that use e-invoicing indicate that, on average, they are able to save nearly 27% on their processing costs.

Source: Council Directive 2001/115/EC, art 2(2)(e)); E-billing and e-invoicing, Market comparison Europe – US, Billentis, 2006; E-invoicing solutions selection report, Aberdeen Group, December 2005; The developing electronic invoicing market, GT News, 2005; Electronic Payments and E-Invoicing, E-business Watch, 2005

SEPA is expected to help the e-invoicing market to grow by lifting barriers, opening up a larger market

*Barriers for implementing e-invoicing**



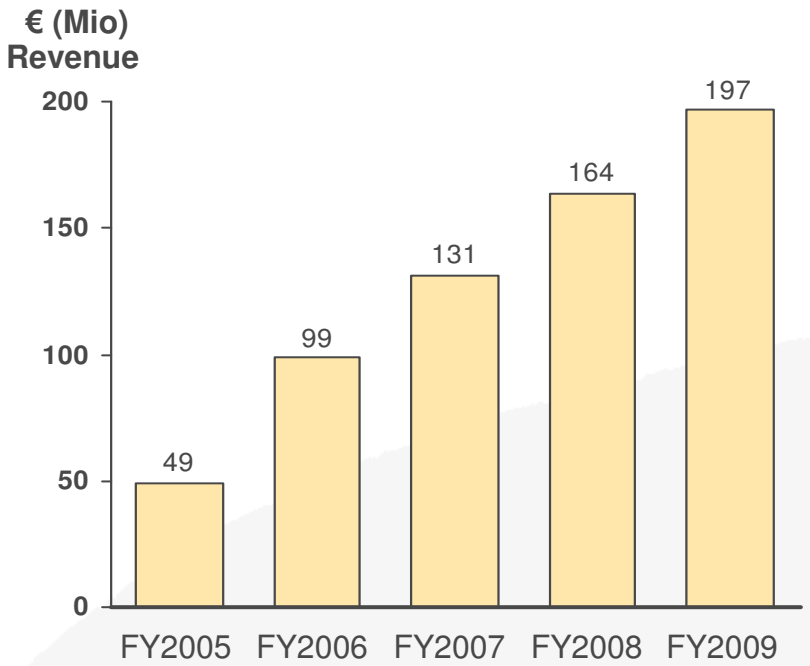
How SEPA addresses these issues?

- SEPA will standardise and harmonise payment processing, across borders.
- This will significantly reduce the complexity to implement e-invoicing solutions and integrate them into the back-offices of sellers and buyers. The barrier of compatibility with internal systems is lowered.
- As both supplier and buyer are using the same standards for payments processing the barrier of supplier and buyer compatibility is lowered.
- The PSD harmonises regulation and legislation. This lowers the barrier of regulation and legislation, but barriers still remain (e.g. taxation)

* Source: e-invoicing and e-archiving: taking the next step, PWC, 2005; Capgemini analysis

E-invoicing is a rapidly growing market currently valued at €131 million, primarily fuelled by large corporates

*Forecasted e-invoicing solution revenues**



Findings and insights on e-Invoicing market development

- Main parties interested are the corporates and Public Administrations, having large volumes of payments to process and consequently large potential savings to realise
- Banks, ACH's, and Swift are expected to play a key role in providing e-invoicing services
  - The degree of lock-in by the e-invoicing service provider will be a selection criterion for large clients
- In addition, processors, point solution providers and outsourcing service providers will benefit from the increased market for solutions and processing services

* Source: e-invoicing solution selection report, Aberdeen Group, Dec 2005. € values based on EUR/USD exchange rates of 1 January 2007

The potential extra revenue flow for payment service providers is estimated between €0,4 Bn and €3,4 over 6 years time

Average penetration of e-invoicing in 2006 (BTC and BTB)	2,25%
Number of invoices processed in EU16	17B
Number of invoices with e-invoicing	383M
Turnover in the business	€99M
Revenue per invoice	€0,26

Annual growth rate is between 25 and 80%

Worst case

With a growth rate of 25% per year the penetration rate would be at 9%.

Assuming the revenue per invoice would stay at €0,26/invoice the total e-invoicing market would have a value of €0,4B in 2012.

Best case

With a growth rate of 80% per year the penetration rate would be at 77%.

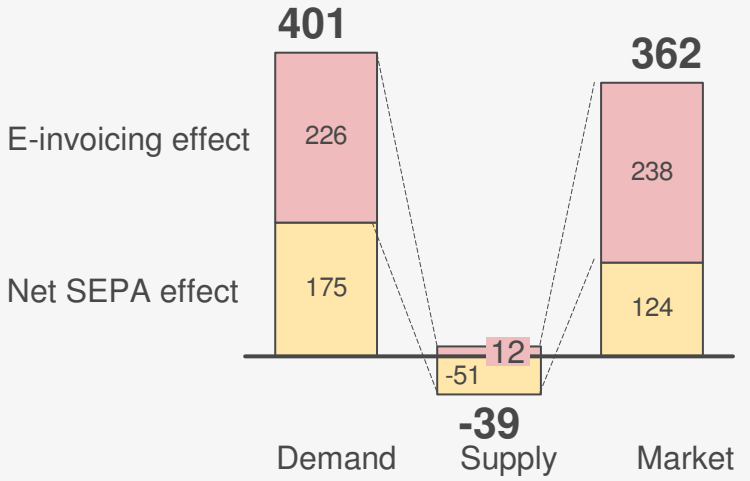
Assuming the revenue per invoice would stay at €0,26/invoice the total e-invoicing market would have a value of €3,4B in 2012. Comparing this to the total payment revenues of €43B (in SEPA Big Time) gives an idea of the relative size of e-invoicing revenues.

Supply side: Assuming the best case scenario and a linear evolution of the revenue generated with e-invoicing, the cumulative revenue generated in 6 years would be €11,6B.

Demand Side: With a penetration of 77% the benefit for de demand side would be €64,5B in 2012 compared to the base year 2006. Cumulated over a period of 7 years, and assuming a linear evolution, the total demand side benefit would be €226B.

Note that investments in e-invoicing have not been taken into account.

Cumulative effect of E-invoicing on the market outcome in SEPA Big Time (€B, 2006 - 2012)



Source: E-billing and e-invoicing, Market comparison Europe – US, Billentis, 2006; E-invoicing solutions selection report, Aberdeen Group, December 2005; Capgemini analysis

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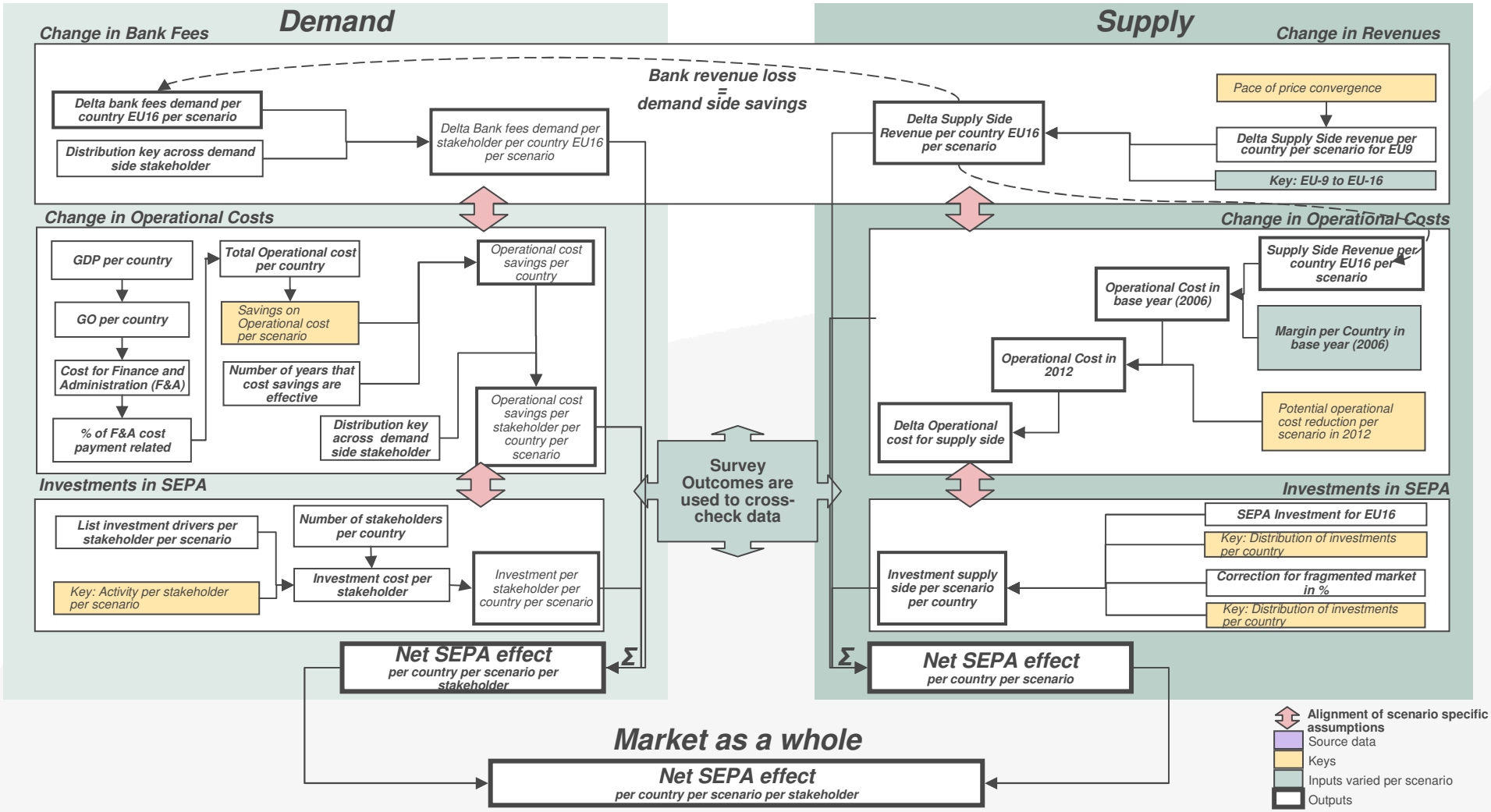
The Net SEPA effect is the logical sum of the investment, change in operational costs and the change in Bank fees/revenues

Model description



Source: Capgemini analysis

In the model a number of key parameters are used, most of which are based on available market data and Capgemini research

Model assumptions

Demand

Change in Bank Fees

Key Assumptions
- Volume growth is based on growth in the past (2000-2005) and expectations of future growth. Volume and value growth is the same in all scenarios on EU level.
- Prices are Capgemini World Payments Report 2006 with updates for 2007.
- Prices converge eventually to a 2006 EU low. The pace at which this convergence takes place is different per scenario.
- Extrapolation from EU9 to EU16 is done based on resemblance with other countries (based on market concentration and the penetration rate of non-cash payments).

Change in Operational Costs

Key Assumptions
- The percentage Finance & Administration (F&A) costs, the payment related F&A costs and the potential savings are equal for all non-consumer stakeholders in all countries.
- The F&A costs are set at 1,2% of the revenues.
- The share of payments related F&A costs include all payment related costs minus the out of pocket bank fees and are set at 57% of the F&A costs.
- The operational costs change for the demand side are set at 5% increase in All Tied Up and Supply Push, a 15% decrease in Demand Pull and a 20% decrease in SEPA Big Time.
- We assume cost savings will be effectuated starting mid 2008 leaving 4.5 years of savings over the 6 years time period; this is the same in all scenarios, for all stakeholders in all countries.
- 2006 is taken as a base year for operational costs.

Investments in SEPA

Key Assumptions
- The investment drivers are IBAN / BIC updates in account administration, adherence to SEPA compliant file formats, adaptations to invoices (IBAN / BIC add, new terms & conditions), Terms & conditions analysis and adaptations, Education of people, Migration to a new scheme, Mandate administration update (new or upgrade existing one).
- Investments for micro SME (<10 employees) is about 10x smaller than for an SME. The investments for a public or company larger than 250 people is 10x higher than the SME. (91% of all SME is considered Micro.
- Remaining investments in EMV are assumed out of scope

Σ

Survey Outcomes are used to cross-check data

Supply

Change in Revenues

Change in Operational Costs

Key Assumptions
- Operational costs do not increase with volume increase as the marginal cost is assumed to be 0 and future cost increases are compensated by efficiency gains.
- Operational cost reductions in the SEPA Big Time and Supply Push scenario are a linear function.
- 2006 is taken as a base year for operational costs

Investments in SEPA

Key Assumptions
- Investments are taken for the EU-16 as a whole and assigned to the countries
- Investments in fragmented markets are higher than in concentrated markets
- In All Tied Up and Demand Pull only compliance investments are made. In the Supply Push scenario next to the compliance investments also significant investment is made in volume migration. In SEPA Big Time also investments for decommissioning are taken into account.
- Remaining investments in EMV are assumed to be part of the SEPA investments.

Σ

Net SEPA effect
per country per scenario per stakeholder

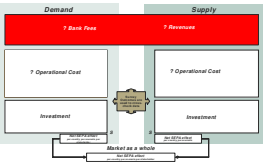
Net SEPA effect
per country per scenario

Market as a whole

Net SEPA effect
per country per scenario per stakeholder

Source: Capgemini analysis

Logic to determine the revenue impact on banks, which is equal to the impact on bank fees for the demand side



Revenue impact

Pace of price convergence per country EU-9*

Change in supply side revenue per country per scenario for EU-9

Volume and value data EU-9 *(Source: Blue Book 2001-2005 figures)*

Price per product per country EU-9 *(Source: Capgemini World Payments Report 2006, 2007 update)*

Prices converge to EU low at a different pace in each scenario. In 2012 the price convergences are:
- Baseline 20%
- All Tied Up 25%
- Demand Pull 45%
- Supply Push 65%
- SEPA Big Time 75%

Key: EU-9 to EU-16

Number of transactions per country *(Source: ECB Blue Book, 2001-2005 figures)*

Population *(Source: ECB Blue Book, 2001-2005 figures)*

Herfindahl index per country** *(Source: ECB, bank figures)*

Key for revenue extrapolation

Change in supply side Revenue per country EU-16 per scenario

Bank revenue loss equals demand side savings

Change in supply side revenue per country EU-16 per scenario

Distribution key across demand side stakeholders

The percentage of payments of a certain type that can be attributed to a stakeholder***

Number of transactions per country per payment type *(Source: Blue Book 2001-2005 figures)*

Distribution key based on number of transactions initiated by a stakeholder

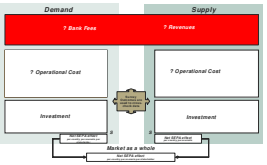
Impact on the bank fees per demand side stakeholder

NET SEPA EFFECT

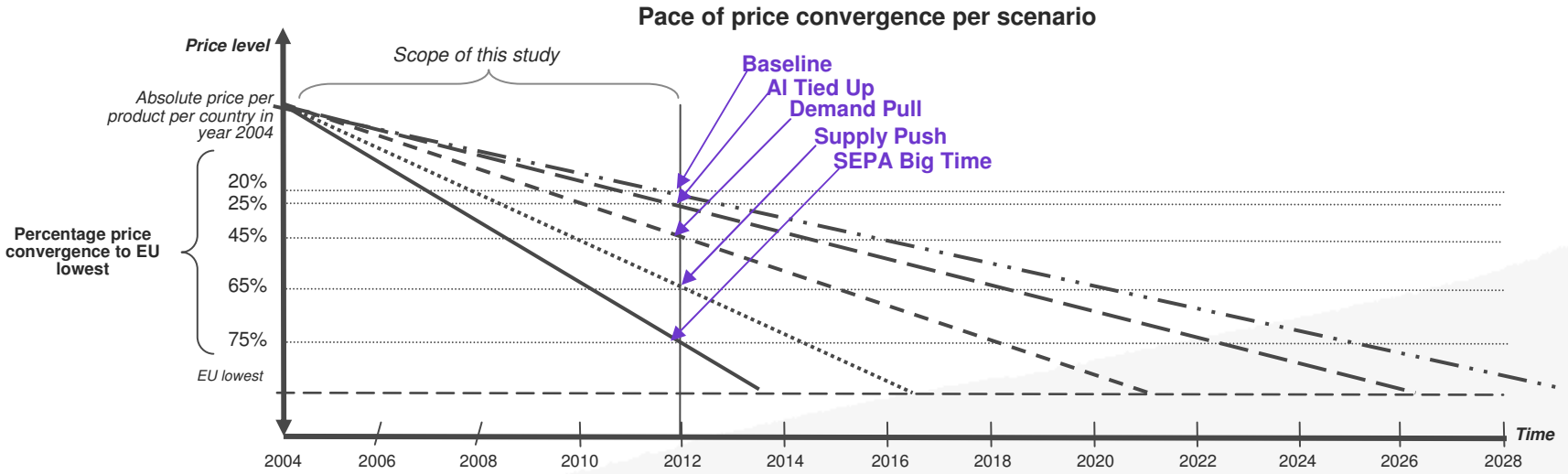
Source data
Keys
Inputs varied per scenario
Outputs

** See Pace of price conversion; **See Extrapolation key based on Herfindahl index and Penetration rate; *** See Payment share attributed to stakeholders*

Price levels converge to an EU low, but the pace at which they do this differs per scenario



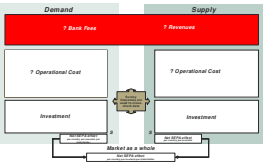
Pace of price convergence



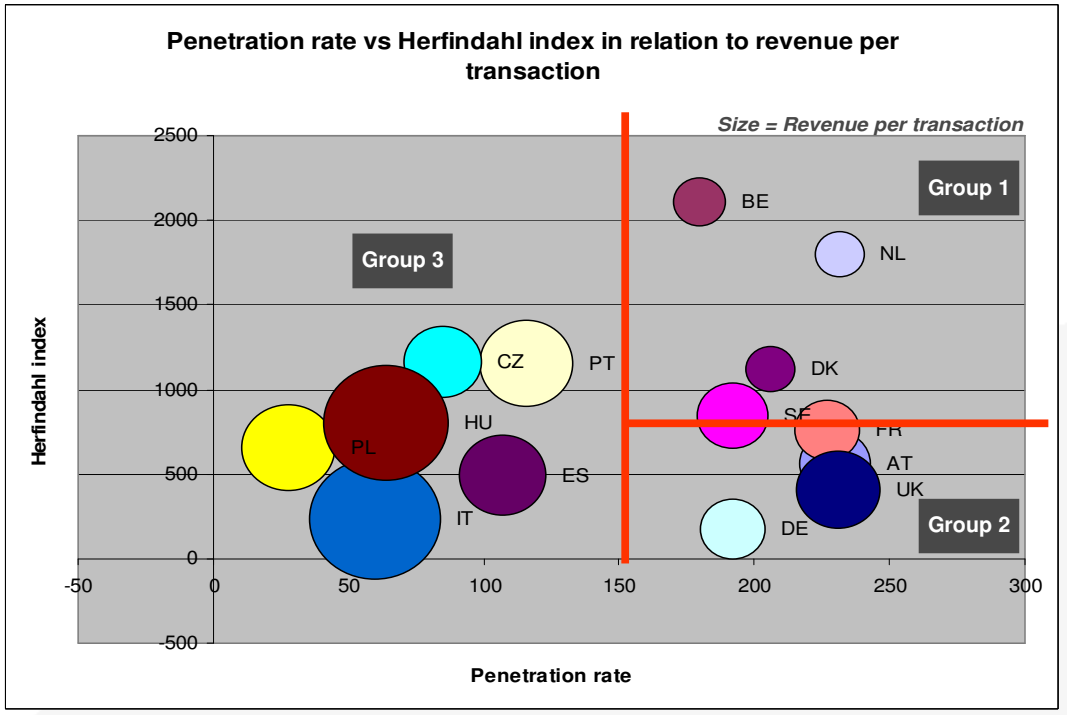
Assumptions

- In all scenarios prices converge to an EU low (Capgemini World Payments Report).
- The pace at which prices converge differs in each scenario:
  - In the baseline prices converge slowly as payments commoditize on a national level, which limits the possibilities for economies of scale. There are little to no new entrants. In the baseline the price convergence is at 20% of completion by 2012.
  - In the All Tied Up scenario the prices converge slightly faster, but still slowly. Payments commoditize on a national level, like the baseline, but there is a better solution for cross-border traffic. Possibilities for economies of scale are still small. There are little to no new entrants and there is little international competition, as domestic markets still have high barriers to entry. In All Tied Up the price convergence is at 25% of completion by 2012.
  - In the SEPA Big Time scenario competition is fierce. There are many suppliers and high demand for commoditized products. Prices will converge fast as national entry barriers disappear. Convergence is assumed to be at 75% by 2012.
  - In the Demand Pull scenario the demand side will pull products and force suppliers to drop prices in order for them to keep up their market share. Supply side players will be forced to offer SEPA products at a European price. The banks will delay price drops as long as possible to keep up margin. The price convergence is assumed to be at 45% of full convergence by 2012.
  - In the Supply Push scenario supply side players need to push commoditized products and will use pricing to differentiate themselves and increase market share. Next to that competition increases as new parties enter the market. Prices will converge fast, but not as fast as in the SEPA Big Time scenario. By 2012 convergence is 65% completed.

Countries were grouped by Herfindahl index* and Penetration rate of electronic payments to extrapolate the World Payment Report figures on Bank Fees to EU16



Herfindahl vs penetration rate to cluster countries

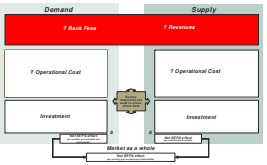


Findings and Insights

- To calculate the change in Bank fees the model makes use of Capgemini's World Payment Report 2006.
- However, this incorporates only nine countries.
- These data gaps have been filled by assigning a certain price evolution from a country with WPR data that is comparable in terms of payment habits and banking landscape with the one whose data is missing. To group countries according to these similarities a matrix has been defined with the following two axes:
  - Amount of electronic payment transactions (= high penetration rate)
  - Market concentration (= high Herfindahl index). This macro economical index is obtained by squaring the market share of the various players, and then summing those squares.
- In this way three distinct groups of countries arise:
  1. Belgium, Netherlands, Denmark and Sweden, having a concentrated market with high use of electronic payments. Finland has been added to this group.
  2. France, UK, Austria and Germany, also having high use of electronic payments but with a more fragmented market.
  3. Spain, Italy, Hungary, Portugal, Poland and Czech Republic, with relatively limited use of electronic payments and many banks. Greece, Slovenia, Luxembourg and Ireland have been added to this group.
- Revenue per transaction is a third related variable and adding this information to the graph confirms the validity of these groupings.

** Herfindahl Index is a measure of the size of firms in relationship to the industry and an indicator of the amount of competition among them.*

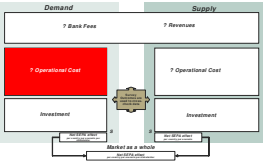
Assumptions have been made on the percentage of each payment type that can be attributed to a stakeholder



Payments share attributed to stakeholders

Stakeholder	Definition	Example	Debit Card	Credit Cards	Checks	Credit Trans	Direct Debit
Consumers	Individuals or tourists		85%	60%	80%	25%	0%
SME	Commercial company with less than 250 employees; shop, service provider or manufacturer	Corner bakery, gas station, plumber, freelancer	15%	23%	15%	25%	5%
Merchant	Retailer or wholesaler reselling products; more than 250 employees	IKEA, Ahold, H&M	0%	5%	0%	15%	5%
Corporate	Manufacturer or service provider with more than 250 employees	Airbus, Fiat, KLM, Bayer, Capgemini	0%	10%	5%	20%	60%
Public	Entity largely owned by central or regional government	Taxation office, ministry of foreign affairs, local municipality	0%	2%	0%	15%	30%
Total			***100%***	***100%***	***100%***	***100%***	***100%***

Logic to determine the impact of SEPA on the Demand Side operational costs



Demand side operational cost

GDP per country (*Source: Blue Book 2001-2005 figures*)

Profit margin: 9%
(Source: International Comparisions of Company Profitability, Bank of England)

Total payments-related cost per country

Savings on yearly operational costs per scenario

- SEPA Big Time: -20% due to high STP, reconciliation and standardization.
- Demand Pull -15%. Same as SEPA Big Time, but legacy payments remain, resulting in a partly inefficient process.
- All Tied Up and Supply Push: +5%. In both scenarios the current operation must work with additional functionality, implying a cost increase.

Payments-related F&A costs
(Source: Capgemini/CFO studies 2003)

Ops cost old[OR: Base year ops cost?] x percentage change per scenario x number of years

Operational cost savings per country per scenario

Cost for finance and administration (F&A)

Finance and administration (F&A) cost as a percentage of the total cost
(Source: Capgemini/CFO studies 2004)

Cost for finance and administration (F&A)

Payments-related F&A costs: 57.2%
Non-payments-related F&A costs: 42.8%

Capgemini survey: 0.19% of total costs (2007)
Capgemini CFO studies: 0.5% of total costs
CIMA: 0.25% and 1.5% of total costs (2005)
Hackett Group: between 1.1% and 1.4% of total costs (2004)

In this study the assumption is that the finance-related costs are 0.76% of the total costs. This is excluding the Bank fees.

Assumption is made that the operational cost reduction starts after the investment has been made. The investment is assumed to be made mid 2008. The number of years of reduced operational costs is set at 4.5.

Number of years that the reduced operational costs are in effect during 6 years (2007-2012)
(Source: Capgemini analysis)

Ops cost savings x distribution key

Operational cost savings per stakeholder per country per scenario

NET SEPA EFFECT

Distribution key across demand side stakeholder

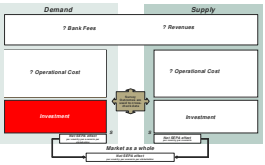
Number of transactions per country per payment type
(Source: Blue Book 2001-2005 figures)

The percentage of payments of a certain type that can be attributed to a stakeholder*

Source data
Keys
Inputs varied per scenario
Outputs

** See Payments share attributed to stakeholders on previous page*

Logic to determine the investment cash flow of the demand side



Demand side investment

The investment drivers are IBAN / BIC updates in account administration, adherence to SEPA-compliant file formats, adaptation of invoices (IBAN / BIC additions, new terms and conditions), terms and conditions analysis and adaptations, education of staff, migration to a new scheme, mandate administration update (new or upgrade existing one).

Investment drivers

Activities to become SEPA compliant
(Source: Capgemini analysis)

Number of man-hours spent per activity
(Source: Capgemini analysis)

Average price per hour (*Source: Capgemini analysis*)

Key: Activity per stakeholder per scenario
(Source: Capgemini analysis)

Number of large and small companies and publics per country
(Source: EuroStat)

Large: more than 250 employees
Medium: 10 to 250 employees
Small: less than 10 employees
(91% of all SMEs have less than 10 employees)

Investment cost per stakeholder
(Source: Capgemini analysis)

Investment per stakeholder per country per scenario
(Source: Capgemini analysis)

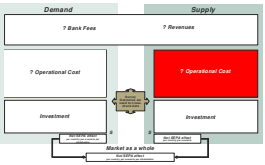
Total Demand Side investment	All tied up	Pulling through	Pushing it	Hitting it large
Large	-€ 100.000	-€ 150.000	-€ 100.000	-€ 150.000
Medium	-€ 1.000	-€ 2.000	-€ 1.000	-€ 2.000
Small	-€ 100	-€ 150	-€ 100	-€ 150

Investment cost per stakeholder
(Source: Capgemini questionnaire)

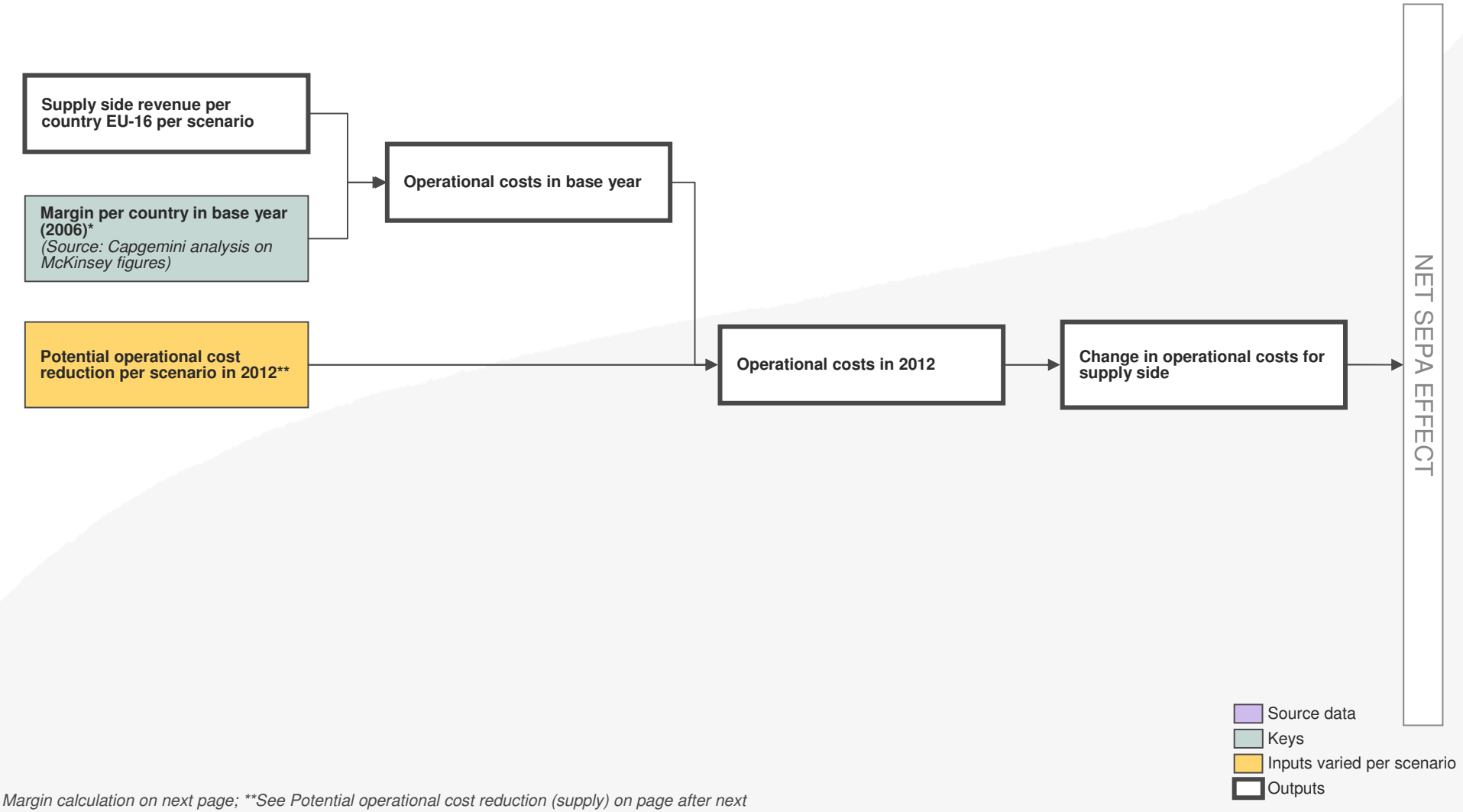
NET SEPA EFFECT

Source data
Keys
Inputs varied per scenario
Outputs

Logic to calculate the impact of SEPA on the operational costs for the Supply Side

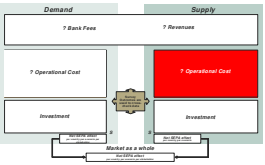


Supply side operational cost



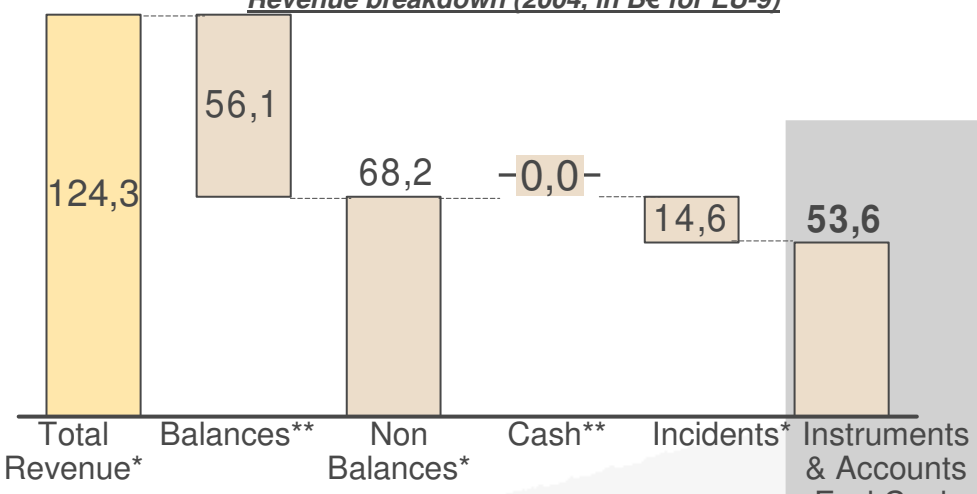
** See Margin calculation on next page; **See Potential operational cost reduction (supply) on page after next*

Cleaned Profit Margins per country are used to derive Operational Costs from Revenue forecasts

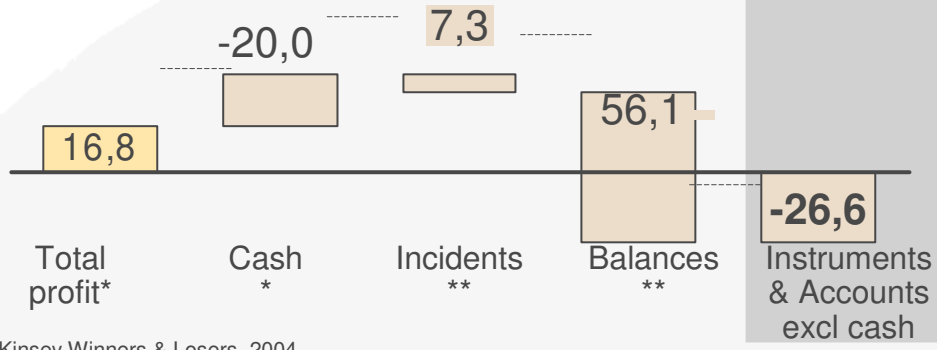


Margin calculation

Revenue breakdown (2004, in B€ for EU-9)



Profit breakdown (2004, in B€ for EU-9)

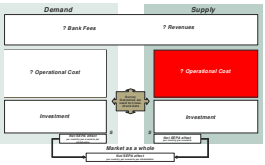


Applying this breakdown per country leads to the required profit margin per country

Country	Total profit margin *	Profit margin from Instruments & accounts excl. cash***
Belgium	0%	**-52%**
France	+7%	**-56%**
Germany	-7%	**-89%**
Italy	+33%	**-20%**
Netherlands	0%	**-117%**
Poland	-22%	**-128%**
Spain	+21%	**-34%**
Sweden	+33%	**-7%**
United Kingdom	+25%	**-28%**
Weighted EU average	*+14%*	***-51%***

* McKinsey Winners & Losers, 2004
** Assumption taken that costs related to Balances and revenu related to cash are marginal (set to zero)
*** These profit margins per country are needed to derive operational costs from the calculated revenues.
(Pure all-in McKinsey margins do not match in terms of scope.)

The saving for operational costs is estimated at 10% due to SEPA and at 20% including related sourcing optimization



Potential operational cost reduction (supply)

Process flow of payments processing in banks

Process steps

Channels *50% of total payment processing costs*	***Internal Processing*** *35% of total payment processing costs*	***Connectivity, Clearing and Settlement*** *15% of total payment processing costs, of which 5% are Connectivity and 10% are ACH related*
• *Collecting data* • *Website development and maintenance* • *Manual input* • *Re-keying* • *Checking and Security* • *Mandate management* • *Correspondence*	• *Balance checking* • *Internal routing* • *Booking* • *Exception handling* • *Error correction*	• *External routing* • *Clearing* • *Settlement*

Potential savings due to SEPA

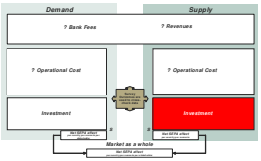
Little to be gained, but some efficiencies due to reduced complexity.	Most to be gained here: greatest reduction due to SEPA. Sourcing optimization could reduce further.	Increased competition will reduce the ACH part.
Net benefit: -3%	**Net benefit: -5% (-15% after SEPA sourcing)**	**Net benefit: -2%**

Model assumptions

- Baseline, All Tied Up and Demand Pull: Operational costs do not increase along with volume, as the marginal cost is assumed to be very small and future cost increases are compensated by efficiency gains. Operational costs in 2012 are equal to the operational costs in 2006.
- Supply Push: Operational cost benefits can be achieved by sourcing and economies of scale. Legacy systems remain. Operational costs in 2012 are 10% below the 2006 level.
- SEPA Big Time: Operational cost benefits can be achieved by sourcing and economies of scale, even more than in Supply Push. Legacy products can be phased out and systems can be decommissioned. Operational costs in 2012 are 20% below the 2006 level.

Source: Capgemini analysis 2007, based on BCG 2006, Deutsche Bank 2006

Logic to determine the investment cash flows for the Supply Side



Supply side investments

Number of transactions per country
(Source: ECB Blue Book, 2001-2005 figures)

Share of five largest banks in % total assets (2004)
(Source: EU Banking Structures, ECB, Oct 2006)

SEPA investment for EU-16*

Three studies were used to determine the basic SEPA investment level:
•€9-12 billion: FBF 2007
•€10 billion: Accenture 2005
•€8 billion: Capgemini questionnaire 2007
•€8 billion: Tower group 2005

In this study an investment of 9.75 billion is used.

Investments are distributed over the countries based on the share of electronic transactions in the EU-16

Key: Distribution of investments per country

Correction for fragmented market in %

Key: Distribution of investments per scenario

Migration investment per country

Compliance investment per country

Decommissioning investment per country

Countries with a highly concentrated market will need to invest less than countries that are more fragmented (to overcome duplication of work, learning curves, etc.)
When the five largest banks hold more than 60% of the market, the country's investment decreases 15%. If their share is below 40% the investment increases 15%.
[I CHANGED THIS BOX A LOT—PLEASE CHECK THE MEANING]

Assumes that the total investment is distributed in the following way:
•75% Compliance
•22% Migration
•3% Decommissioning

Investment supply side per scenario per country

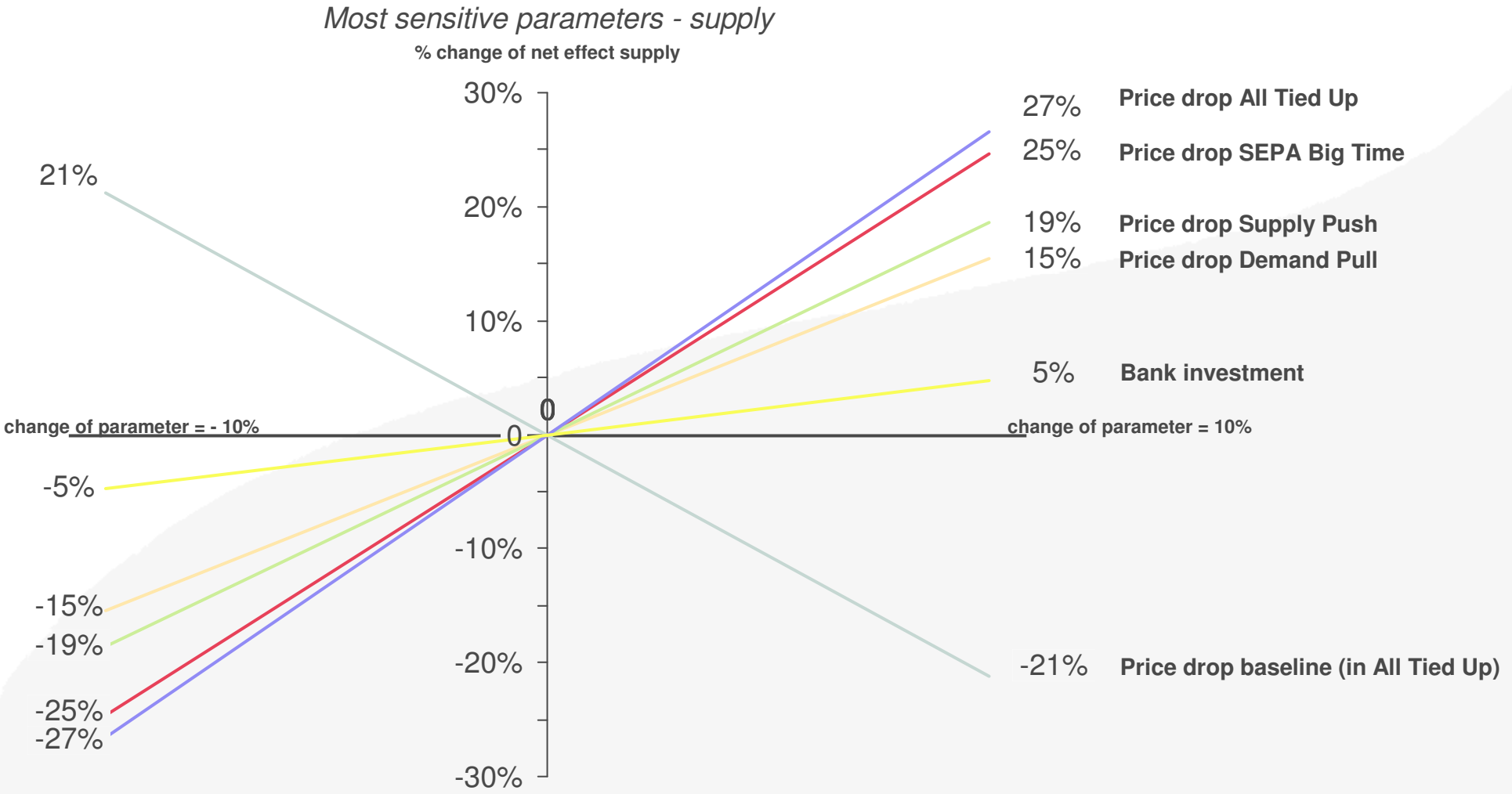
In the All Tied Up and Demand Pull scenarios only the investment for compliance is considered.
In the Supply Push scenario, migration investment is added.
In SEPA Big Time all three investments are included: compliance, migration and decommissioning.

NET SEPA EFFECT

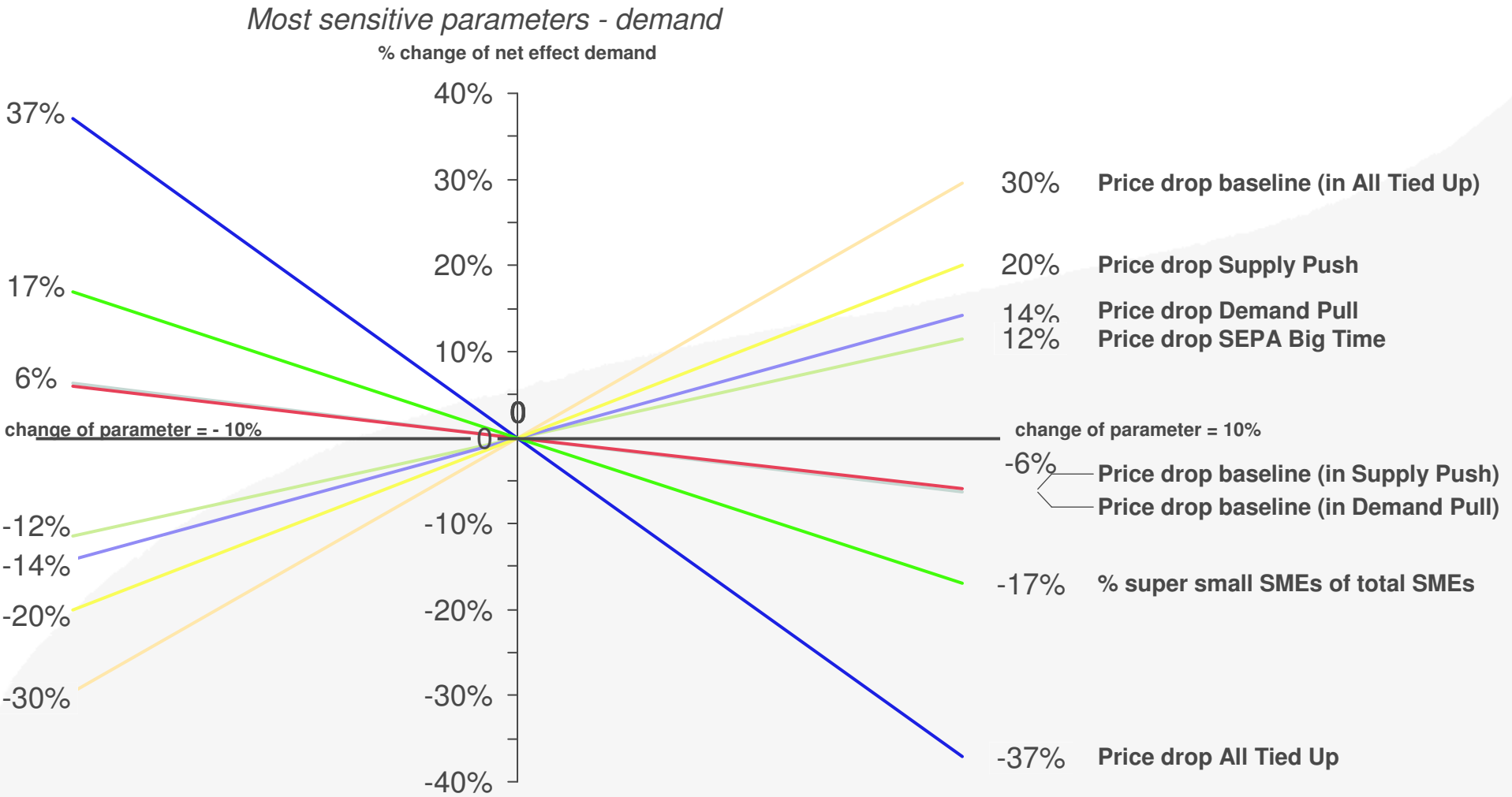
Source data
Keys
Inputs varied per scenario
Outputs

** See Investments supply side*

Price drop is the most sensitive parameter in the model for the supply side outcomes



Price drop is the most sensitive parameter in the model for the demand side outcomes



Model outcomes in absolute figures

In € million

Effect driver	Remarks	EU Baseline	EU All Tied Up	EU Demand Pull	EU Supply Push	EU SEPA Big Time
Bank Fees (Supply & Demand)	Total revenue in 6 years	413249	404935	371682	338429	321803
	Delta to baseline	0	-8313	-41566	-74819	-91446
	Delta to base year	85852	77538	44285	11032	-5594
Bank Fees (Consumer)	Bank fee	206624	202468	185841	169215	160901
	Delta to baseline	0	4157	20783	37410	45723
	Delta to base year	-42926	-38769	-22143	-5516	2797
Bank Fees (SME)	Bank fees	68599	67219	61699	56179	53419
	Delta to baseline	0	1380	6900	12420	15180
	Delta to base year	-14251	-12871	-7351	-1831	929
Bank Fees (Merchant)	Bank fees	20662	20247	18584	16921	16090
	Delta to baseline	0	416	2078	3741	4572
	Delta to base year	-4293	-3877	-2214	-552	280
Bank Fees (Corporate)	Bank fees	78517	76938	70620	64302	61143
	Delta to baseline	0	1580	7898	14216	17375
	Delta to base year	-16312	-14732	-8414	-2096	1063
Bank Fees (Public)	Bank fees	38845	38064	34938	31812	30249
	Delta to baseline	0	781	3907	7033	8596
	Delta to base year	-8070	-7289	-4163	-1037	526
Operational costs Supply	Operational Cost	493564	493564	493564	468886	444208
	Delta Operational Cost to baseline	0	0	0	24678	49356
	Delta Operational Cost to base year	0	0	0	24678	49356
Investment Supply	Investment	0	-7358	-7358	-9516	-9811
Operational costs Demand (delta)	Consumer	0	0	0	0	0
	SME	0	-7620	22861	-7620	30481
	Merchant	0	-2721	8162	-2721	10883
	Corporate	0	-9582	28746	-9582	38329
	Public	0	-5203	15609	-5203	20812
	Total Demand	0	-25126	75378	-25126	100504
Investments Demand	Consumer	0	0	0	0	0
	SME	0	-4587	-8087	-4587	-8087
	Merchant	0	-1061	-1591	-1061	-1591
	Corporate	0	-3330	-4994	-3330	-4994
	Public	0	-1177	-1916	-1177	-1916
	Total Demand	0	-10154	-16588	-10154	-16588

* **Base year**: the year 2006 is used as the base year against which developments can be measured
* **The baseline** is a projection of the development of the market (in 2007-2012) if SEPA were not further implemented

Model outcomes in absolute figures

In € million

Net effect	Stakeholder	EU Baseline	EU All Tied Up	EU Demand Pull	EU Supply Push	EU SEPA Big Time
Net effect to baseline	Supply	0	-15671	-48924	-59657	-51900
	Demand	0	-26967	100356	39539	175362
	Consumer	0	4157	20783	37410	45723
	SME	0	-10827	21674	213	37574
	Merchant	0	-3366	8649	-41	13864
	Corporate	0	-11332	31650	1304	50709
	Public	0	-5599	17600	653	27492
Net effect to base year	Supply	85852	70180	36927	26194	33952
	Demand	-85852	-112818	14505	-46312	89510
	Consumer	-42926	-38769	-22143	-5516	2797
	SME	-14251	-25078	7422	-14038	23323
	Merchant	-4293	-7658	4357	-4333	9571
	Corporate	-16312	-27644	15338	-15008	34397
	Public	-8070	-13669	9530	-7417	19422

Table of content

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Glossary 1/2

ACH	Automated Clearing House. *Supply side* entity that sends and receives payment information to and from (central) *banks*. *ACHs* sometimes directly provide *payment services* to *businesses*, but offer their services mostly indirectly through *banks*
Bank	A *supply side* entity that holds a banking license and provides *payments services* directly to the *demand side.*
Base year	The year 2006 is used as the base year against which developments can be measured
Baseline	The baseline is a projection of the development of the market (in 2007-2012) if SEPA were not further implemented
Business	Either a *SME*, a *merchant*, or a *corporate; Publics* are no businesses
Company	A *business entity (SME, merchant, corporate)*
Consumer	An individual person
Corporate	A *company* with more than 250 employees, creating value by producing goods and/or services
Demand side	People or entities that make use of *payment services* provided by banks and other *supply side stakeholders. Demand side* = *Consumers* + *Businesses* + *Publics*
Direct effect	Immediate effect of SEPA on a *stakeholder*, e.g. price, *operational cost*, or investment
Duplicate costs	The increased costs of running multiple systems simultaneously during the migration phase to SEPA
Electronic invoicing	The sending of invoices 'by electronic means', i.e. transmission or making available to the recipient and storage using electronic equipment for processing (including digital compression) and storage of data, and employing wires, radio transmission, optical technologies or other electromagnetic means.
Full service ACH	An *ACH* that not only sends, receives, but also processes payment information
Gross output	The sum of Gross Domestic Product and *Intermediate consumption*

Source: Capgemini analysis

Glossary 2/2

Indirect effect	An effect triggered or enabled by SEPA, though not directly attributable to SEPA, e.g. replacement of cash and the growth of *electronic invoicing*
Intermediate consumption	The total monetary value of goods and services consumed or used up as inputs in production by *businesses*, including raw materials, services and various other operating expenses
Market scenario	An extreme, though not unrealistic possible outcome of the way the market will have evolved in the future
Merchant	A *company* with more than 250 employees, creating value by trading goods and/or services
Micro SME	A *SME* that has less than 10 employees
Net SEPA effect / -benefit	The resulting effect that SEPA has on a *stakeholder*'s revenues, operational costs, margin and investment
Payment service	A service that either directly or indirectly enables a *demand side stakeholder* to make payments
Payment service provider	A *supply side stakeholder* that either directly or indirectly provides *payment services* to the *demand side*
Processor	A supply side stakeholder that processes payments
Public	All public institutions, such as municipalities, ministries, tax authorities, public schools, et cetera
SME	A *company* with less than 250 employees
(key) Stakeholder (group)	A (group of) people or entities that has the same interests in and is being influenced by the outcome of SEPA in the same manner
Supply side	In the context of this report, the *supply side* offers *payments services* to the *demand side*, either directly or indirectly. *Banks* are *stakeholders* that directly provide *payment services* to the *demand side*, while *processors* for example are indirectly providing *payment services* to the *demand side*. *Supply side = Banks + ACHs + Full service ACHs + Processors*

Source: Capgemini analysis