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Corporate Change After the Global Financial Crisis: A Case Study in Direct Banking

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Abstract

This paper examines the strategic response of the Dutch bank ING to the global financial crisis. Prior to the crisis, ING was a prominent global exponent of direct banking, using the so-called pure play internet (PPI) business model. PPI banking is a hybrid business model that combines features of relationship and transaction banking. Downsides of this business model are that it may lead to overexposure in securities and that it may attract savers that have an above-average sensitivity to interest rates or risk. Using data on the geographical activities of ING, the timeline of relevant events in the history of ING and strategy statements of ING management, we examine how ING has responded to the strategic challenges of the crisis. We conclude that PPI banking should be viewed more as a market penetration strategy than as a full-blown business model that is tenable in the long run.

Keywords: Financial Stability, Direct Banking, Business Models

JEL Classification: G01, G21

I. Introduction

The idea that any bank can easily enter new markets through digitalization still captures the imagination. In a recent interview, Andrea Enria, the newly appointed chair of the ECB's Single Supervisory Mechanism, argues that online banking services can increase the volume of cross-border banking in Europe (Financial Times 2019). As an example he takes the Dutch bank ING, which has a track record of capturing business in mature banking markets by offering online-only savings accounts. More than 20 years ago, ING started offering online-only banking services in Canada under the brand name ING Direct. Up to the start of the global financial crisis in 2008, ING Direct experienced strong growth in major developed banking markets, by offering simple banking prod-

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ucts using aggressive pricing, strong branding and standardized, state-of-the-art ICT processes. The source of the strategic advantage of the online-only model is the reduction in overhead costs stemming from the lack of a physical branch network. This make it possible to offer high deposit rates and charge low service fees, and allows online-only banks to quickly capture market share. Prior to the crisis, case studies in the business literature have heralded ING Direct as a successful example of strategic innovation in banking (*Dermine* 2005; *Güttler/Hackethal* 2005; *Heskett* 2005; *Sequira* et al. 2007; *Verweire/Van den Berghe* 2007; *Verweire/De Grande* 2008). At that time, ING Bank formulated its strategic ambition to be world's leading direct bank.

This was more than ten years ago. If online-only banking would indeed have been the easy solution to Europe's lack of cross-border banking, as Enria suggests, a major puzzle is why we haven't seen much stronger cross-border penetration of direct banks in Europe's banking markets in the past decade, either by ING or by imitators. The technology has matured since the 1990s and thus should not have stood in the way of further growth. If anything, the advent of smartphones and apps should have enabled a faster penetration of online-only banking. Yet following the crisis ING had to scale down its international activities. Eventually it also dropped the ING Direct brand name. In the meantime, no other traditional bank has taken up the mantle of wanting to be the world's leading direct bank. Only recently have fintech startups started to emulate ING Direct's global ambitions, witness for example the vision of N26, a German fintech startup, to become a global mobile bank. At present, these startups still have to establish their credibility as viable competitors of existing banks.

This paper examines the strategic response of ING to the challenges that the global financial crisis created for its pure play internet (PPI) banking business model, as online-only banking is often called in the literature. PPI banking is a hybrid business model that combines features of both the relationship-oriented model and the transactions-oriented model. PPI banks are characterized by low overhead costs and easy scalability. The latter feature may enable them to quickly capture market share. As a downside, however, the adoption of this business model risks generating overexposure in securities markets in the run-up to a financial crisis, due to the inability of lending to keep pace with the commercial success in savings markets (*Arnold/Van Ewijk* 2011). In addition, PPI banks may have a special appeal to savers who are more sensitive to risk or interest rates, making their depositor base less stable in times of crisis.

While PPI banking held out huge promise in the past, it has not achieved major market breakthrough in developed banking markets. In understanding why PPI banking has not caught on and why it may not be an easy fix for Europe's lack of cross-border banking, one should look beyond the cost advantage of offering banking products without physical bank branches and also examine the limitations of this business model. The present paper aims to do this using a case study of ING Direct, which has been the most prominent exponent of PPI banking. The success story of ING Direct prior to crisis has often been told (see e.g. *Dermine* 2005). Unlike previous case studies, this study focuses on the impact of the global financial crisis on ING Direct and the strategic response to the challenges created by the crisis. Using data on the geographical activities of ING Direct, the timeline of relevant events in the history of ING Direct and strategy statements of ING management, we show how PPI banking at ING has evolved over time. More specifically, the following research questions will guide this paper:

1) When did ING become aware of the challenges that the crisis presented to the PPI business model?
2) How did ING respond to the challenges?
3) How did this response transform ING Direct?
4) Has this response been effective in addressing the weaknesses of the PPI business model?
5) What are the lessons of ING's experience with PPI banking for other banks?

This paper is a follow-up study to *Arnold/Van Ewijk* (2011). Both papers are case studies about ING Direct and thus share a common methodological approach and a common object of study. The research questions that the papers try to answer are, however, different. Whereas *Arnold/Van Ewijk* (2011) focus on identifying the stability issues of the PPI business model, the current paper focuses on the strategic response of ING's management to those issues. In order to analyse this response, the current paper not only employs accounting data, as in *Arnold/Van Ewijk* (2011), but also examines the management statements in the annual reports over the period 2004–2018. A further difference with *Arnold/Van Ewijk* (2011) is the use of a large German direct bank, Comdirect, for the purpose of external validation.

Case study research is defined as "the investigation and analysis of a single or collective case, intended to capture the complexity of the object of study" (*Hyett* et al. 2014, p. 2). The use of case study research among researchers has grown in recent years (*Thomas* 2011). The case study approach lends itself well to the study of the PPI business model. The small number of PPI banks and the resulting paucity of data precludes the use of a more traditional econometric methodology using numerous bank-level data. At the same time, the presence of ING, a bank that has made PPI banking the cornerstone of its global strategy, offers an extreme and thus theoretically useful case, in which the phenomenon of interest can be clearly observed and studied (*Eisenhardt* 1989). A feature of a case study is that it draws together different types of information. This paper employs a mixed methodological approach, combining qualitative and quantitative data. The qualitative part is aimed at identifying key phrases and decisions in ING's management statements that may indicate a strategic reorientation. In the quantitative part, we look at changes in the balance sheet composition of ING entities for evidence of a strategic shift. We also update the regression analysis in *Arnold/Van Ewijk* (2011) on the relationship between deposit growth and investments in securities.

The organization of this paper is organized as follows. The next section will discuss the PPI business model and compare it to traditional business models in banking. Section III. documents the development of ING Direct in time. In section IV., we use management statements from the annual reports to examine the strategic responses of ING to the challenges created by the crisis. Section V. uses data from annual reports to analyse how the strategic responses have transformed ING Direct. In section VI. we discuss the external validity of our findings using the German direct bank Comdirect. Section VII. concludes.

II. PPI Banking Compared to Traditional Business Models[1]

As argued by *Diamond* (1984), banks reduce information asymmetries and agency costs by specializing in the screening and monitoring of borrowers. Information and communication technology (ICT) enables banks to do this "better-faster-cheaper" (*White* 2003), making the financial sector an information-intensive industry. Technological developments thus have a strong impact on the sector. Since the 1990s, the internet has offered a new distribution channel for banking products. By decoupling competition from physical presence, the internet held out the promise to stimulate competition between new entrants and established banks. Two internet strategies have developed in the market. First, a 'clicks-and-mortar' strategy combines a physical network of branch offices with an online presence. According to *DeYoung* (2005), this business model enables banks to process most routine transactions online. Customers with more complex needs are still served through the branch network. In developed banking markets, most banks nowadays opt for this strategy. PPI banking is the second internet strategy. Banks that make this strategic choice relinquish an expensive branch network to gain a competitive advantage vis-à-vis traditional banks (*Furst* et al. 2002). Compatible with this choice is a focus on a limited range of simple banking products which can be easily sold online, instead of offering complex products needing face-to-face contact. Unhindered by the need to build up a physical presence, PPI banks can easily scale up their operations. PPI banking's strategic innovation is to use the combination of low cost and easy scalability to capture market share fast. Founding father Hans Verkoren stated that ING Direct aims to: "quickly reach sustainable size in large mature markets

[1] This section draws on *Arnold/Van Ewijk* (2011).

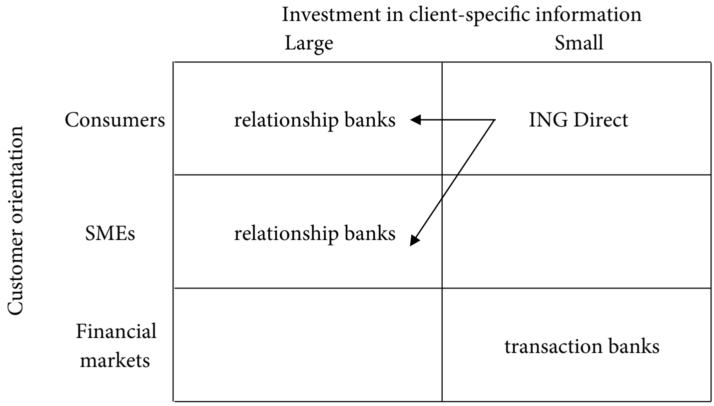
by offering best value for money, achieved by means of cost efficiency and effectiveness in marketing with the lowest acquisition costs" (*Verkoren* 2001).

The special nature of PPI banking becomes evident in a comparison with more traditional business models in banking, such as relationship and transaction banking. Relationship banks focus on obtaining proprietary client information by transacting regularly with clients, both across products and over time (*Boot* 2000). In this way, banks can overcome problems arising from asymmetric information and create value from establishing a long-term relationship. Transaction banks take the opposite approach, by conducting most of their business via the financial markets using commoditized financial instruments. Dubbed "finance at arms' length" (*Rajan* 1992; *Boot/Thakor* 2000), this business model does not require a bank to establish a long-term bank-client relationship or to invest in client-specific information.

Superficially, PPI banking has more in common with relationship banking than with transaction banking. Both PPI and relationship banks operate in the retail segment and have a strong reliance on deposit funding. Yet the bank-customer relationship is less intimate in the case of PPI banks. At PPI banks, decisions involving clients are made using "hard information" (*Petersen* 2004), which can be easily processed through the internet. The absence of a physical branch network hinders a PPI bank in gathering "soft information" about clients. This is especially a handicap in lending to small and medium-sized enterprises (SMEs), which often requires banks to make a judgement call on the quality of an entrepreneur. The implication is that the assets of PPI banks will predominantly consist of commoditized loans (mortgages) and securities. PPI banks also differ from transaction banks, who typically do not serve retail customers but transact in the financial markets. PPI banks fund themselves in the savings markets. Unlike transaction banks, they do not need wholesale funding. However, they may still be active in the financial markets in case their lending lags behind the commercial success in the savings markets, by parking surplus funds in securities. PPI and transaction banks share their easy scalability and potential for fast growth.

In Figure 1, which is adapted from *Arnold/Van Ewijk* (2011), the three business models are positioned according to customer orientation and client-specific information. It shows that PPI banks, such as ING Direct, use a hybrid business model, sharing the focus on retail savers with relationship banks but being unable to serve the lending needs of SMEs, as relationship banks typically do. Not withstanding their different customer orientation, PPI banks share with transaction banks their low investment in client-specific information. As will be discussed below, the arrows in Figure 1 indicate the responses of ING to the global financial crisis and the evolution of ING Direct's business model.

As the strategic value of PPI banks derives from their ability to substantially reduce the overhead costs by economizing on physical branch offices, it is no



Note: arrows indicate the strategic response since the crisis.
Source: Adapted from *Arnold/Van Ewijk* (2011).

Figure 1: The Positioning of PPI Banking

surprise that the PPI literature focuses on costs and profitability (*DeYoung* 2001; *DeYoung* 2005; *Delgado* et al. 2007). Counterintuitively, *DeYoung* (2001) finds that US PPI banks are less profitable and have higher overhead costs, due to higher marketing costs, more expensive ICT and a more expensive workforce. This finding is corroborating by *Delgado* et al. (2007) using a global sample of PPI banks. More recently, *Cyree* et al. (2009) compare PPI banks to newly chartered traditional banks. They find that PPI banks have lower net interest margins and higher wage and physical capital rates, but better profit efficiency. The lack of firm empirical evidence confirming the cost advantage of PPI banks contrasts with the praise with which this business model has been greeted in case studies (*Dermine* 2005; *Güttler/Hackethal* 2005; *Verweire/De Grande* 2008).

Arnold/Van Ewijk (2011) discuss two risks pertaining to PPI banking. First, the ability of PPI banks to quickly expand their deposit base, unconstrained by the need to build a branch network, may also be a pitfall. Strong commercial success in the savings markets creates the challenge to quickly invest those funds at a profitable rate. Lacking an infrastructure for high-yielding corporate lending, a PPI bank may be tempted to invest in risky securities, potentially introducing instability onto its balance sheet. This risk resembles the risk of aggressively growing transaction banks, as discussed by *Onado* (2009) in the context of the Northern Rock failure. Analyzing balance sheet data of ING Direct, *Arnold/Van Ewijk* (2011) find that the securities-to-assets ratio of ING Direct entities is positively related to their growth in deposits, suggesting that commercial success in the savings markets may push a PPI bank towards the transaction model.

Second, the clientele of a PPI bank may differ from that of traditional banks, as PPI banks do not build a long-term relationship based on personal contact. This selection effect may result in PPI banks attracting the more financially savvy "hit-and-run" customers (*DeYoung* 2001; *DeYoung* 2005), who search the web for high interest rates on deposits. Lacking strong customer loyalty, they may withdraw their savings when interest rates decline or when they become concerned about the safety of their money. Traditional banks attract savers with high teaser rates, which, over time, start to lag behind market rates. This marketing strategy may not work as well on the hit-and-run clientele of PPI banks. *Arnold/Van Ewijk* (2011) find evidence to support the hypothesis that the clients of PPI banks are more interest-sensitive. Regarding sensitivity to risk, *Arnold* (2019) finds that Google search volumes for PPI banks in the UK respond more strongly to crisis indicators than search volumes for traditional banks. When clients of PPI banks are more sensitive to interest rates or risk, their deposit funding will be less stable. In the remainder of this paper, we will examine whether the financial stability concerns identified above were recognized by ING and had an impact on the development of ING Direct.

III. ING Direct: From Past to Present

The rise of ING Direct to global prominence has been described in detail in *Arnold/Van Ewijk* (2011). Below we will briefly discuss the main developments, which are also summarized in Table 1. Since the start in Canada in 1997, the ING Direct formula was launched in quick succession in a number of major markets over the period 1998–2004. In Canada, Australia, Germany and the US, ING has set up subsidiaries, which are supervised by the host authorities. Clients in these markets are protected by the local deposit guarantee scheme. In the UK, Spain, Italy and France, ING Direct has entered the market using branches of its Dutch legal entity ING Direct NV. Savings collected in these markets are protected by the deposit guarantee scheme of the Netherlands. In 2004, ING Direct entered the Austrian market through ING-DiBa, its German subsidiary. With the exception of the German activities, which resulted from the acquisitions of DiBa in 1998 and Entrium in 2003, all foreign activities were greenfield operations. Both ING Direct NV and the foreign subsidiaries were part of ING Group, a financial conglomerate based in the Netherlands, which before the crisis encompassed both banking and insurance activities.

The selection of large, mature banking markets has been a deliberate choice of ING, as their well-developed financial infrastructure enabled easy market entry using the PPI business model. The case studies by *Dermine* (2005), *Heskett* (2005), *Sequira* et al. (2007) and *Verweire/Van den Berghe* (2007) document the early strategic success, which resulted from the introduction of simple banking

Table 1

Timeline of Main Events

1997	Launch of ING Direct in Canada
1998	Partnerschip ING and DiBA (Allgemeine Deutsche Direktbank) in Germany
1999	Launch of ING Direct in Australia
	Launch of ING Direct in Spain
2000	Launch of ING Direct in France
	Launch of ING Direct in the USA
2001	Launch of ING Direct in Italy
2002	ING acquires majority ownership in DiBA
2003	DiBa acquires Entrium Direct Bankers
	ING acquires 100% ownership in DiBA
	Launch of ING Direct in the UK
2004	ING-DiBa enters the Austrian market
2008	On October 19, the Dutch state provided ING with a capital injection of € 10 bln
2009	On January 26, the Dutch state guarantees 80% of the risk of ING's Alt-A RMBS portfolio
	Cancellation of the launch of ING Direct in Japan
	Agreement with the European Commission on the restructuring plan
2011	Announcement of the sale of ING Direct USA to Capital One
2012	Announcement of the sale of ING Direct Canada to Scotiabank
	Announcement of the sale of ING Direct UK to Barclays
2014	Final repayment of the capital injection by the Dutch state
	Unwinding of the Illiquid Assets Back-Up Facility
2017–	Phasing out of the ING Direct brand name. Replacement by the ING brand.

products, aggressive pricing, low-cost operations and strong marketing via direct channels (the internet, telephone and e-mail).

The rapid expansion of ING Direct in the decade before the crisis made a major contribution to the growth of ING's consolidated banking activities. Figure 2 plots the total consolidated assets of ING Bank NV over the period 2001–2018, along with a number of other balance sheet items (all in log of millions of euro). These data are taken from the annual reports of ING Bank NV and include the activities of all ING Direct branches and subsidiaries. Figure 3 separately plots the development of deposits and mortgages in the so-called "challengers" markets. These are the mature banking markets that ING has entered using the ING Direct formula. From these figures, we can discern three phases in the development of ING, which we label "rapid growth", "crisis and restructuring" and "return to growth".

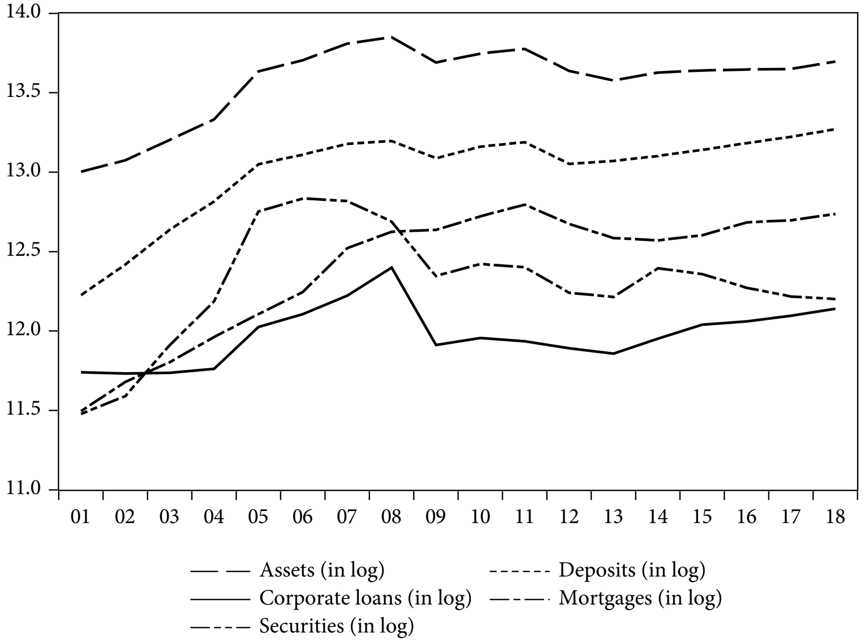


Figure 2: Consolidated Balance Sheet ING Bank NV

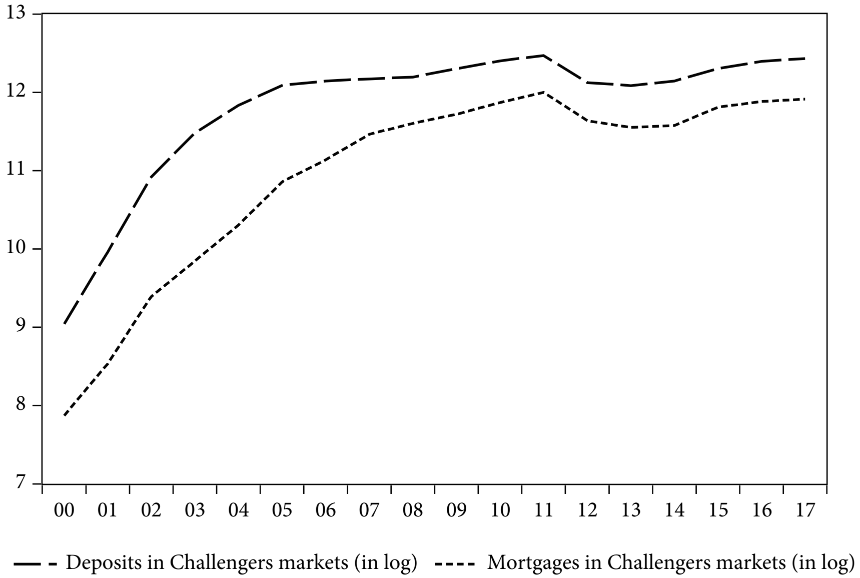


Figure 3: Deposits and Mortgages in ING's Challengers Markets

1. *Rapid Growth (2001–2008)*

The first phase is characterized by strong growth, with total assets growing to an all-time high of € 1034.7 bln in 2008. Deposits at ING Direct branches and subsidiaries also increased rapidly. Germany developed into a major market, with deposits at ING-DiBa rising from € 3.5 bln in 2000 to € 64.4 bln in 2008. In the US, savings collected by ING Direct USA rose from € 3.3 bln in 2001 to € 51.6 bln in 2008, making the US the second biggest market (behind Germany) outside the Benelux home market. In the remaining challenger markets (Australia, Canada, France, Italy, Spain and the UK), ING Direct was able to collect savings in the range of € 10–20 bln per country. Total deposits in the challenger markets rose from € 8.4 bln in 2000 to close to € 200 bln in 2008. This number shows the importance of ING Direct in shaping ING.

Already during this period of rapid growth, two developments pointed to the vulnerabilities of the PPI business model. First, ING had first-hand experience of the interest-sensitivity of PPI savers in the UK market. Between 2006 and 2008, UK deposits at ING Direct decreased by almost 40 %, due to strong price competition. Second, the data in Figures 2 and 3 show that the rapid growth in deposits was not instantaneously mirrored by an equally rapid growth in corporate or mortgage lending. In the challengers markets, the growth in mortgage lending lagged behind deposit growth, forcing ING to invest its surplus funds in the capital markets. This effect was especially pronounced in the US. In just a few years, ING Direct USA built up a sizeable exposure to residential mortgage backed securities (RMBS). This exposure has been an important factor in destabilizing ING Group during the crisis.

2. *Crisis and Restructuring (2009–2013)*

The collapse of Lehman Brothers in the fall of 2008 preluded a period of severe banking instability throughout the world. The Netherlands was no exception. October 2008 saw the dismantlement of the Belgian-Dutch financial conglomerate Fortis, following substantial subprime writedowns. After the collapse of the Icelandic banking system in the same month, Dutch savers faced uncertainty regarding the safety of their deposits at Icesave, the PPI brand of the Icelandic bank Landsbankki. For ING, the collapse in financial markets led to large asset writedowns. The impairments on its American RMBS portfolio amounted to € 1,876 mln in 2008, affecting the stability of ING Group.

The size and structure of the Dutch financial system, dominated by a small number of internationally active systemic banks, compelled the Dutch government to take measures to maintain confidence in the system. One of the considerations was the large amount of foreign deposits at ING Direct, making it imperative to prevent a foreign bank run. At that time, little was known about how PPI savers would react to a financial crisis. A prudent assumption would be that depositors of online-only banks could seek safety close to home. A PPI bank might then be more vulnerable to deposit withdrawal than a "bricks-and-mortar" bank. With hindsight, an analysis of Google search volumes in *Arnold* (2019) indeed suggests heightened depositor attention for UK PPI banks during the crisis. Understandably, the Dutch authorities decided to play it safe by taking far-reaching measures. In October 2008, the level of the deposit guarantee was raised to € 100,000, in line with other European countries. The Dutch state also set aside € 20 bln to stabilize its financial institutions with extra capital. ING accepted a capital injection of € 10 bln in October 2008. In January 2009, 80 % of the risk of ING's RMBS portfolio was transferred to the Dutch state under the so-called Illiquid Assets Back-Up Facility. In order to obtain approval for this state aid from the European Commission, ING had to submit a restructuring plan. Key ingredients of this plan were the reduction of the complexity of ING Group, the unwinding of the "bancassurance" model through a complete separation of banking and insurance activities and the divestment of activities, including ING Direct USA.

The crisis, state aid and forced restructuring had a major impact on ING Direct. In addition to completing the sale of ING Direct USA to Capital One, ING Direct divested its Canadian and British subsidiaries in 2012. The plan to enter the Japanese savings market was shelved in 2009. As a result of divestments and balance sheet optimization, total assets dropped from € 1034.7 bln in 2008 to € 787.56 bln in 2013. Savings entrusted to ING Direct initially increased to about € 260 bln, mainly due to continued success in the US and German savings markets, but dropped to € 188 bln following the divestments. Of the ING Direct branches in continental Europe, only the Spanish branch showed strong growth (from € 15 bln in 2009 to € 25 bln in 2014). In contrast, funds entrusted in France and Italy stagnated.

3. *Return to Growth (2014–2018)*

The year 2014 proved a turning point for ING, with the completion of the restructuring, the repayment of the capital injection to the Dutch state and the unwinding of the Illiquid Assets Back-Up Facility. Growth returned, albeit at a slower pace than before the crisis. Total assets of ING Bank increased from € 787.56 bln in 2013 back to € 887.01 bln in 2018. Figures 2 & 3 also suggest a better alignment of deposit and lending growth since 2014, taking away the need to invest surplus savings in securities. Below we will examine whether this development has been in accordance with ING's strategy. Anticipating the strategic reorientation discussed below, a final noteworthy event was the gradual replacement of the ING Direct brand with the ING brand from 2017 onwards.

IV. Strategic Responses to the Crisis

This section examines statements in the annual reports of ING Bank NV. The statements originate from the report of the management board preceding the financial statements, in which management gives an overview of business developments and the strategic direction. The aim of this exercise is to identify changes in the position of ING Direct within the group and to assess the strategic importance of the PPI business model. We also want to find out whether ING management has been aware of the challenges to the PPI model and, if so, how it has responded to these challenges.

Table 2

Selected Statements From Annual Reports of ING

2004	ING introduces a new structure of business lines. ING Direct is one of three business lines. "ING Direct operates direct retail-banking activities for individual clients in the United States, Canada, Australia, United Kingdom, France, Italy, Spain, Germany and Austria. Main products offered are savings and mortgages." "ING Direct, with 11.5 million customers worldwide, continued on its rapid growth trajectory."
2005	"ING Direct is a leading direct bank with 15 million customers in 9 countries."
2006	"ING Direct, the world's leading direct bank, continues to attract customers in mature markets" "Leading the transformation of direct banking"
2007	"ING Direct celebrated its tenth anniversary in 2007 as the world's leading direct bank." "Growth remains the underlying theme of our vision to become the world's most preferred consumer bank."
2008	"ING Direct is focusing on different sources of future growth. First, it aims at continued growth in customer numbers and savings deposits in countries where it is already present. Another source of growth is via an expansion of the product range. ING Direct aims to address the five major consumer needs: savings, mortgages, payment accounts, investment products and consumer lending."
2009	"ING is bringing together all its retail banking activities. As a result, ING Direct became part of the newly-formed Retail Banking Direct & International division on 1 January 2010." Announcement of back-to-basics programme, which include cost-cutting, deleveraging and derisking.
2010	Organization into two business lines, which ING Direct being part of retail banking.

	Ambition is "to be the preferred bank for our customer." ING Bank "will follow a selective approach to growth by bringing loan growth in line with deposit growth."
2011	"We also intend to continue to selectively evolve our various ING Direct units into more mature full service banking models." "Our ambition is to transform ING Direct into a full-service bank."
2012	"We will also continue to evolve our various ING Direct units into more mature full-service banking models." "Much of this was achieved by the transfer of Commercial Banking loans and securitised mortgages from the Dutch legal entity to funding-rich countries like Belgium, Germany, Spain and Italy. These transfers support ING's strategy of using local funding to finance local assets."
2013	"ING want to be a leading domestic full-service bank in attractive stable home markets." "We are becoming the primary bank for customers. ING Spain, for instance, started 14 years ago savings; now it is well on its way to becoming the primary bank for many customers, and a multi-product bank."
2014	Introduction of three market categories: market leaders, challengers and growth markets. "We believe we have strong deposit gathering capabilities across Europe, a significant position in European digital banking and a successful commercial bank." "In the past few years, Retail Banking has been working towards converging its traditional banking model to a digital-first model." "Our focus is on becoming the primary bank for customers."
2015	"Our appeal to customers was demonstrated in 2015 by the growing number of primary relationships – customers with current accounts and at least one other product with us."
2016	"Challengers markets are Australia, Austria, the Czech Republic, France, Germany, Italy, and Spain where we aim to build a full bank relationship, digitally distributed at low cost." "In most markets ING offers a full range of retail banking products and services, covering payments, savings, investments, and secured and unsecured lending. ING pursues a digital-first approach, complemented by advice when needed, with omnichannel contact and distribution possibilities." "… progress in earning an increased number of primary relationships."
2017	"Our Challengers businesses are in Australia, Austria, the Czech Republic, France, Germany, Italy and Spain. Here we aim to build a full bank relationship." "The growth in overall customer numbers is being outpaced by even faster proportional growth in the important category of retail primary relationships, those customers with a current account and recurring income and at least one other product with us."

(continue next page)

(Table 2 continued)

2018	"Our Challengers markets are Australia, Austria, Czech Republic, France, Germany, Italy and Spain. Here we're aiming for a full bank relationship, digitally distributed through low-cost retail platforms. We are also using our direct banking experience to grow consumer and SME lending, and our strong savings franchises to fund the expansion of Wholesale Banking in these markets." "Primary relationships, where customers have a current account with recurring income and at least one other product, increased by more than a million to 12.5 million in 2018."

Note: quotes are from the annual reports of ING Bank NV.

In 2004, following the successful launch of ING Direct in a number of major banking markets, ING recognized its strategic importance by turning ING Direct into a separate business line. During the period 2005–2008, a recurring theme in the management report is the importance of its global leadership position in direct banking, as evidenced by the repeated use of the phrase "leading direct bank". Another pre-crisis theme is the continuation of rapid growth at ING Direct.

The annual report of 2009 announces a change to the internal organization of ING, as a result of which ING Direct becomes part of the retail banking division. In its 2010 annual report, ING management implicitly acknowledges the risk of lending growth lagging behind deposit growth by stressing that ING "will follow a selective approach to growth by bringing loan growth in line with deposit growth." From 2011 onwards, two phrases enter the management report repeatedly: "full-service bank" and "primary bank". While the concept of a full-service bank is ill-defined, it is usually interpreted as a bank that offers a whole range of retail banking services, including lending to corporates. This interpretation is also supported by a statement from 2012, according to which ING would aim to use local savings to fund local assets, including commercial loans. This is a first indication of a shift back to the relationship model. A second indication is the use of the terms "primary bank" and "primary relationships". As can be seen from multiple statements in Table 2, the term "primary" implies that customers have multiple products with ING. For primary customers, ING is their main bank. The focus on primary customers thus also signals a return to relationship banking. In Figure 1, the strategic reorientation is visualized by two arrows. The upper arrow signifies the larger investment in client-specific customer information resulted from the intention to develop primary relationships, where the lower arrow signifies the expansion of lending to include commercial loans, resulting from the intention to develop into a full-service bank.

The increased emphasis on corporate lending and on the alignment of deposit and loan growth addresses the problem that a PPI bank may invest surplus savings in risky securities, potentially destabilizing its balance sheet. The focus on developing primary relationships addresses the problem that PPI banks may attract "hit-and-run" savers that have a high sensitivity to interest rates and risk. After all, customers with multiple products are less likely to switch in search of higher rates. In theory, these strategic shifts thus seem to be appropriate responses to the weaknesses of the PPI business model identified in *Arnold/Van Ewijk* (2011).

Since 2014, the management reports include the term "digital-first". The digital-first model can be seen as a way of combining ING's strength in employing digital channels to offer simple banking services at low cost, with the need to develop fuller customer relationships, including personal advice and SME lending. It is not fundamentally different from a "clicks-and-mortar" strategy, apart from a greater emphasis on digital channels. Below we will discuss whether the transformation from internet-only to digital-first has had an effect on the balance sheet composition of ING.

V. Balance Sheet Analysis

This section discusses whether the strategic responses identified above have been effective, in the sense that they have alleviated the stability risks of the PPI business model. A lack of publicly available data prevents us from testing the hypothesis that the clients of ING Direct have become less sensitive to interest rates and risk, due to the bank's policy to focus on developing primary relationships. The claims in the annual reports that the number of primary relationships has been growing steadily (see Table 2) have to be taken at face value and cannot be verified independently. Any estimate of the interest elasticity of ING Direct deposits (compared to that of traditional banks) would require the use of proprietary data and is therefore not feasible.

Instead, we will use publicly available data on the balance sheet composition of ING and its ING Direct subsidiaries to examine two hypotheses. First, we expect that the strategic ambition to transform ING Direct activities into full-service banks has a visible impact on the balance sheet composition. In particular, we expect an increase in the share of (corporate) lending and a decrease in the share of securities. We will compare the foreign ING Direct subsidiaries with the activities of ING Bank excluding these subsidiaries. For these separate legal entities, data are more readily available than for the branches. We will include some data for the ING branches in Spain, France, Italy and the UK. Unfortunately, these data run until 2015, when ING stopped publishing separate data for these markets. Second, we hypothesize that ING's awareness of the risk of misaligning deposit and loan growth has weakened the positive pre-crisis relationship between deposit growth and the securities-to-assets ratio. The idea behind this relationship is that differences in scalability between deposits and loans can lead to a situation in which high deposit growth forces a bank to temporarily store savings in securities. *Arnold/Van Ewijk* (2011) found a significant positive relationship for the pre-crisis period. We hypothesise that, due to ING's strategic reorientation and the wish to prevent a repeat of the impairments at ING Direct USA, this relationship has weakened since the crisis.

In an earlier analysis of balance sheet data, *Arnold/Van Ewijk* (2011) conclude that ING Direct's foreign activities hardly include any corporate loans. This is in marked contrast to the home market, where corporate lending makes up a non-trivial part of total assets. They also observe that most ING Direct branches and subsidiaries are active in local mortgage lending. Finally, they show that the ING Direct subsidiaries in Germany and the US hold a large share of total assets in the form of securities, which may result from the misalignment of deposit and lending growth and the requirement by host supervisors to balance local assets and liabilities. *Arnold/Van Ewijk* (2011) conclude that the liability side of ING Direct's balance sheet resembles that of a relationship bank. In contrast, the asset side resembles that of a transaction bank, with its large amounts of securities and standard mortgages and the virtual absence of corporate loans.

Tables 3 and 4 provide an update of this work, allowing us to assess whether the transformation from PPI bank to full-service bank has taken place. Table 3 compares the balance sheet composition of foreign ING Direct subsidiaries to the rest of ING Bank. We compare the balance sheet composition in the year before the crisis, 2007, to the data in the final available year as part of ING Bank. The final year is 2017 for the German and Australian subsidiaries and 2011 for the US and Canadian subsidiaries, which were sold in 2012. As a first observation, it can be noted that the US and Canadian subsidiaries were sold before a meaningful transition to full-service banking could be set in. Their balance sheets do not include any corporate loans or consumer loans (other than mortgages). The only visible change since the start of the crisis has been a reduction in the share of total assets invested in securities and an increase in the share of mortgages. The picture is different in Australia and Germany. The share of corporate lending on the balance sheet of ING Direct Australia increased from 8 % in 2007 to 13 % in 2017. In Germany, this share went up from 0 % in 2007 to 19 % in 2017, which comes close to the share of corporate lending at the rest of ING Bank. A statement in Table 2 indicates that at least part of the transformation in Germany has resulted from reshuffling items within the consolidated balance sheet, by transferring German commercial loans from the wholesale bank to the German retail subsidiary. This means that it is still an open question whether the German subsidiary has an adequate independent infrastructure for generating sufficient corporate lending in an environment of strong deposit growth.

Table 3

Balance Sheet Composition of ING Direct Subsidiaries

	Subsidiaries								*Rest of ING Bank*	
	Germany		*United States*		*Canada*		*Australia*			
	2007	*2017*	*2007*	*2011*	*2007*	*2011*	*2007*	*2017*	*2007*	*2017*
Assets										
Mortgages	48 %	43 %	33 %	44 %	70 %	77 %	73 %	77 %	23 %	35 %
Corporate loans	0 %	19 %	0 %	0 %	1 %	0 %	8 %	13 %	24 %	22 %
Consumer loans	0 %	5 %	0 %	0 %	1 %	1 %	0 %	0 %	3 %	2 %
Securities	34 %	21 %	65 %	45 %	15 %	13 %	17 %	7 %	37 %	26 %
Other	19 %	12 %	2 %	10 %	12 %	9 %	2 %	3 %	13 %	15 %
Total assets	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Liabilities										
Deposits	82 %	82 %	76 %	90 %	87 %	77 %	74 %	69 %	48 %	61 %
Other	18 %	18 %	24 %	10 %	13 %	23 %	26 %	31 %	52 %	39 %
Total liabilities	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

Note: own calculations based on annual reports of ING Bank NV and its subsidiaries.

Table 4

ING Direct Branches

	Spain		*France*		*Italy*		*United Kingdom*	
	2007	*2014*	*2007*	*2014*	*2007*	*2014*	*2007*	*2012*
Funds entrusted	12,947.90	25,227.00	12,870.68	10,417.00	14,207.54	15,236.00	16,348.61	14,208.00
Mortgages	6,478.51	9,949.00			3,332.43	7,924.00	1,408.73	6,613.00
Other lending		961.00		9.00		137.00		

Note: annual and quarterly reports of ING Bank NV; in € mln.

Table 4 shows data for the European ING Direct branches. For the UK, the data end in 2012, when ING Direct UK was sold. For Spain, France and Italy, the data end in 2014, when ING stopped reporting separate geographical data on a country basis. With the exception of Spain, post-crisis growth in funds entrusted has been low or negative. Up to 2014, lending by the ING Direct branches has been dominated by mortgages. The amount of other lending has been either small (Spain) or negligible. In a recent investor presentation (ING 2017), ING Direct Spain has been heralded as a poster child of the transformation from PPI to full-service banking. Due to the transfer of commercial loans from wholesale banking, ING Direct Spain has been able to show a more diversified balance sheet. The presentation also reports strong growth in the number of deposits from primary customers. Lacking geographical data beyond 2014, it is impossible to verify these claims in this paper. The data in Table 4 do suggest, however, that it remains a challenge to emulate the German and Spanish transformations in the French and Italian markets.

We next examine the issue of scalability in more detail. Using a longer sample of ING data, we rerun the test in *Arnold/Van Ewijk* (2011) of the hypothesis that strong deposit growth leads to a higher securities-to-assets ratio, due to the misalignment of deposit and loan growth and the resulting need to invest surplus funds in securities. To the end we estimate a panel model using a cross-section of geographical ING entities which publish annual reports. These are the entities in Australia, Belgium, Canada, Germany, the United States and the rest of the world (mainly Dutch). Due to non-stationarity in the securities-to-assets ratio, we run the panel regression in first differences. The panel specification is as follows:

$$(1) \quad dlog(secur/assets_{i,t}) = \beta_{i,0} + \beta_{1,t} + \beta_2\, dlog(dep_{i,t}) + \beta_3\, dlog(hp_{i,t}) + \beta_4\, log(assets_{i,t}) + \beta_5\, dlog(secur/assets_{i,t-1}) + \varepsilon_{i,t}$$

where $dlog(secur/assets_{i,t})$ denotes the growth in the securities-to-assets ratio and $dlog(dep)_{i,t}$ denotes deposit growth for entity i at time t. Equation (1) includes three intervening variables. First, we include housing price growth in market *i*, denoted *dlog*($hp_{i,t}$), to account for the possibility that the state of the housing market affects the ease with which entities can generate new mortgage lending. Second, we account for possible size-effects by including *log*($assets_{i,t}$). We finally include the lagged dependent variable. We estimate a second panel model using the mortgages-to-assets ratio, denoted *dlog* ($mortg/assets_{i,t}$), as our dependent variable. Equation (1) includes cross-section and period fixed effects. It is estimated using pooled least squares. White standard errors are used to account for possible serial correlation and time-varying variances in the disturbances. The sample period runs from 2001 to 2017. All estimates are done for the full sample period and for two subsamples: the period before the global financial crisis (2001–2007) and the period since the start of the crisis (2008–2017). We hypothesize that, due to ING's awareness of the need to balance deposit and lending growth following the crisis, the positive relationship between deposit growth and the securities-to-assets ratio breaks down after the crisis. For the mortgages-to-assets ratio, we expect a post-crisis weakening of the negative relationship that was found in *Arnold/Van Ewijk* (2011).

Table 5 reports the estimation results. For the full sample period, *dlog*$(dep)_{i,t}$ is positively related to *dlog*($secur/assets_{i,t}$) and negatively to *dlog*($mortg/assets_{i,t}$). The β_2 coefficients are significant at a level of 5%. However, the sample split shows that the significance and explanatory power of *dlog*$(dep)_{i,t}$ is entirely due to the pre-crisis subsample. For the post-crisis subperiod, the β_2 coefficients are insignificant and much smaller than for the pre-crisis period. It thus appears that the scalability issue, resulting from a misalignment of deposit and lending growth, has disappeared since the start of the crisis. We cannot prove that this is the direct effect of ING's strategic reorientation, as market circumstances may have played a role too. Yet this result is in line with ING's intention to bring "loan growth in line with deposit growth".

Table 5

Panel Estimation on Balance Sheet Composition and Deposit Growth

Panel A: Dependent Variable is *dlog(secur/assets)*

	2001–2017		*2001–2007*		*2008–2017*	
	coefficient	*p-value*	*coefficient*	*p-value*	*coefficient*	*p-value*
intercept	–0.983	0.401	–0.765	0.746	1.841	0.398
dlog(dep)	0.591	0.002	0.721	0.004	0.191	0.515
dlog(hp)	–0.113	0.850	–1.902	0.190	0.686	0.309
log(assets)	0.077	0.455	0.064	0.763	–0.168	0.374
lagged dependent	–0.137	0.416	–0.099	0.473	–0.304	0.177
N	79		31		48	
Adj. R-squared	0.316		0.667		0.095	
DW	2.115		2.324		1.071	

Panel B: Dependent Variable is *dlog(mortg/assets)*

	2001–2017		*2001–2007*		*2008–2017*	
	coefficient	*p-value*	*coefficient*	*p-value*	*coefficient*	*p-value*
intercept	1.148	0.193	–1.283	0.604	–0.089	0.930
dlog(dep)	–0.523	0.019	–0.953	0.016	–0.026	0.897
dlog(hp)	–0.766	0.155	0.234	0.855	–0.755	0.126
log(assets)	–0.090	0.244	0.142	0.535	0.014	0.876
lagged dependent	0.244	0.030	0.183	0.229	–0.248	0.138
N	79		31		48	
Adj. R-squared	0.385		0.559		0.204	
DW	1.911		2.069		2.181	

Note: estimates include cross-section and period fixed effect and use White standard errors.

VI. External Validation

As discussed in the introduction, ING Direct is an extreme case, due to its fast growth, its size and the central place that PPI banking held in its global strategy. This implies that the stability issues identified by *Arnold/Van Ewijk* (2011) were potential existential threats to the bank and needed to be addressed by management. While the use of such a polar case has the advantage of highlighting the key features of and possible issues with the PPI business model, it also raises the question of external validity. This concerns the question whether the lessons of the ING Direct case are valuable outside the context of ING Direct.

As a first observation, the extremity and rarity of the ING Direct case may be related to the stability issues. ING has been the only large global financial institution that has put PPI banking at the core of its strategy. In most cases, direct banks that are active in the savings markets are relatively small subsidiaries or brands of large financial institutions. ABN AMRO and Rabobank, two large Dutch competitors to ING, have tried to emulate the success of ING Direct by establishing the brands MoneYou and Rabodirect. Compared to their core activities, these activities have remained small. In the Austrian and German savings markets as well, various direct banks are active that are part of a larger financial group. For example, Comdirect is majority-owned by Commerzbank; DKB is fully owned by Bayerische Landesbank; Easybank is a full subsidiary of BAWAG and Generali Bank is part of the Generali insurance group. In these examples, the direct banking activities are part of a multi-channel strategy. From the perspective of the parent company, it is more appropriate to label this as a clicks-and-mortar strategy than as a PPI strategy.

It goes without saying that the stability issues identified in *Arnold/Van Ewijk* (2011) are less severe when direct banking activities do not constitute the core of the business. Within a larger financial institution, strong growth in internet deposits may be more easily absorbed in the core activities, such as corporate lending. This may prevent an overexposure to risky securities. The higher interest-sensitivity of internet savers also poses less of a threat to stable funding when internet savings are sufficiently balanced by a large funding base of traditional savers. In case of disappointing performance, it is also relatively easy to close down or divest a direct banking subsidiary or withdraw from a market.[2] A bank's decision to offer direct banking as part of a multi-channel strategy thus reduces its vulnerability to the risks of the PPI business model.

In the remainder of this section, we will assess the external validity of the ING Direct case by making a comparison with Comdirect, one of the largest direct banks in the German market. Comdirect bank was founded in 1994 by Commerzbank, which has remained the majority shareholder since. It went public in 2000. Compared to other direct banks, it has a strong position in online brokerage. In 2019, Commerzbank announced the integration of Comdirect into Commerzbank by means of a direct merger.[3]

Accounting data on Comdirect are available on the bank's website.[4] The balance sheet of Comdirect AG conforms to the hybrid nature of the PPI business

[2] Witness for example the recent withdrawal of MoneYou from the Belgian and Austrian markets.

[3] See https://www.commerzbank.com/en/hauptnavigation/presse/pressemitteilungen/archiv1/2019/quartal_19_04/presse_archiv_detail_19_04_85706.html.

[4] See https://www.comdirect.de/cms/ueberuns/de/investorrelations/veroeffentlichungen.html.

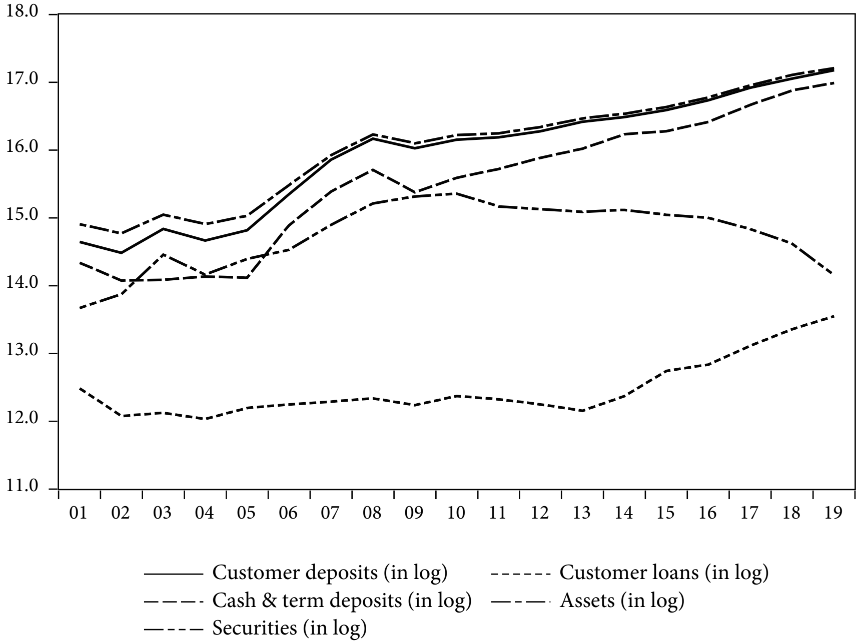


Figure 4: Balance Sheet Comdirect A.G.

model. On the liability side, Comdirect resembles a traditional relationship bank. The share of customer deposits to total liabilities has consistently been in excess of 75 %. In the past decade, this share has been higher than 90 %. On the asset side, however, Comdirect strongly resembles a transaction bank. Lending to customers (both corporations and consumers) makes up a small share of total assets (lower than 5 % in the past decade). More than 80 % of total assets are channeled through financial markets or financial institutions. In the early years of Comdirect, the securities-to-assets ratio hovered between 30 and 50 %. In recent years, however, this share has declined to less than 10 %. This reduction has been offset by an increase of cash and term deposits of Comdirect at other financial institutions. Figure 4 plots times series of the most important balance sheet items of Comdirect AG over the period 2001–2019 (all in log of thousands of euro).

Compared to ING Direct, a number of similarities and differences stand out. First, ING Direct and Comdirect share the typical structure of the PPI balance sheet, combining high deposit funding with low corporate lending. Second, Figure 4 shows that strong deposit growth at Comdirect was not mirrored by a growth in lending, resulting in a misalignment of deposit and loan growth similar to that of ING Direct. A third similarity is the reduction of the securities-to-assets ratio after the crisis, resulting from efforts to de-risk the balance sheet. A notable difference between ING Direct and Comdirect relates to the asset composition. In contrast to ING Direct, Comdirect has put a larger share of its assets in cash and term deposits at other financial institutions and a lower share in securities and mortgages. By holding more liquid assets, Comdirect may have reduced its risk profile compared to ING Direct, at the expense of interest income. A possible explanation for this difference is the strong position of Comdirect in online brokerage, which generates high fee income and reduces the dependence on interest income. In contrast, interest income was the dominant source of income at ING Direct.

We finally discuss the recent strategic reorientation of Comdirect. In communicating its intention to integrate Comdirect and Commerzbank, the management of Commerzbank highlighted the closer alignment of the business models of the two banks, the advantage of Commerzbank's branch network to Comdirect and the advantage of Comdirect's digital innovation to Commerzbank. This motivation resembles the reasons to integrate ING Direct into ING's retail division following the crisis.

VII. Discussion and Conclusions

This paper has documented the journey of ING Direct from a small but fast-growing strategic innovation to a separate business line and back to being part of the retail banking division. Over the years, ING's strategic ambitions have been adjusted from wanting to be "the world's leading direct bank" to becoming a full-service bank with a growing number of primary customer relationships. This adjustment has not been completely voluntary, as ING had to restructure its portfolio of activities after receiving state aid during the crisis. The post-crisis regulatory environment has also become less benign, as host supervisors have started to pay more attention to the protection of domestic savers using foreign internet banks. However, throughout the transformation of ING Direct, digital channels have remained a key priority at ING, as it moved from an online-only to a digital-first strategy.

This paper has examined the transformation of ING Direct using statements in the management reports and accounting data from the annual reports of ING Bank NV and its subsidiaries. The preceding analysis allows us to reflect on the four research questions raised in the introduction. The first research question relates to ING's awareness of the challenges that the crisis presented to the PPI business model. It is clear from the analysis above that in 2009 ING recognized the need to de-risk and deleverage, after a decade of fast growth that was driven for a large part by the expansion of ING Direct. More specifically, the statement in the 2010 annual report that ING Bank "will follow a selective approach to growth by bringing loan growth in line with deposit growth", shows an awareness that the easy scalability of the PPI business model may have a serious downside, as the impairments on the American RMBS portfolio have made clear. Regarding the second challenge, that the PPI business model may attract savers that are more sensitive to interest rates and risk, yielding a less stable funding base, we find no explicit expression of awareness in the management statements.

The second research question relates to the responses of ING to these challenges. This paper identifies two strategic shifts which, together, signal a move away from the PPI business model back to the relationship model. First, from 2011 onwards ING mentions its aim to develop the ING Direct entities into full-service banks, offering the whole range of banking services including corporate lending. By opening up more possibilities for lending, the move towards full-service banking may address the misalignment of deposit and loan growth. Second, from 2013 onwards ING stresses the importance of developing primary relationships with customers, involving more than one banking product. The development of a more intimate bank-customer relationship could reduce the sensitivity of clients to interest rates and risk. We conclude that, in theory, both strategic shifts are fitting responses to the challenges created by the PPI model.

The third research question asks how the strategic responses have transformed ING Direct. Outwardly, the transformation seems radical, as the ING Direct brand has been dropped and all foreign ING Direct activities have become part of the retail banking division. However, when one looks at the underlying activities, the evidence is mixed. In some markets, such as Spain and Germany, steps have been made in the direction of full-service banking. The balance sheet in these markets has become more diversified and includes more corporate lending. According to ING, progress also has been made in increasing the number of primary customers. However, the balance sheet diversification in Spain and Germany has been partly the result of transferring commercial loans from ING's wholesale bank division to the regional retail operations, under the principle that local assets should be funded by local savings. It remains to be seen whether lending growth will be able to keep up with deposit growth in the future, as ING lacks a strong local corporate network in the Spanish and German markets. Following the collapse of the Commerzbank-Deutsche Bank merger talks in the spring of 2019, ING was briefly rumored to have an interest in acquiring Commerzbank, which is strong in corporate banking. Such a strategic move would have accomplished a sustainable transformation into a full-service bank. In other major banking markets in which the ING Direct formula has been launched prior to the crisis, such as France and Italy, progress towards full-service banking is not evident.

We next discuss the fourth research question, whether the strategic responses have been effective in addressing the weaknesses of the PPI business model. To the extent that the responses entail a movement away from the PPI model to the relationship model, as indicated in Figure 1, the weaknesses have been addressed. In addition to showing the increased focus on diversifying the balance sheet and building primary relationships with customers, our evidence indicates that in the post-crisis period deposit growth at ING entities no longer led to an increase in the securities-to-assets ratio. The problem of what to do with excess savings thus seems to have been tackled, both by de-prioritizing fast deposit growth (compared to the pre-crisis period) and by developing corporate and consumer lending. The move back to relationship banking thus has mitigated the balance sheet risks inherent to the PPI model. Having said that, this strategic reorientation, together with the increased digitization of traditional "bricks-and-mortar" banks, may have reduced the competitive edge that ING had in the early days of online banking.

The fifth research question relates to the external validity of the ING Direct case. We have shown that the PPI balance sheet structure and the misalignment of deposit and loan growth are not unique to ING Direct, but can also be witnessed at Comdirect, a large German direct bank. We have also concluded that the incorporation of direct banking in a multi-channel strategy reduces the vulnerability to the risks of the PPI business model.

We conclude with two general observations. As a first lesson, the ING Direct case shows that while technology is a forceful driver of strategic innovation in the financial sector, it may have unintended side effects. The successful introduction of ING Direct in a number of developed banking markets was a major feat, but may have blinded ING to the risk of decoupling loan and deposit growth.

Second, the case of ING Direct implies that it is unlikely that online-only banking is the solution to the lack of cross-border banking in the euro area, as suggested by Enria (*Financial Times* 2019). At best, it can be viewed as a market penetration strategy, rather than as a full-blown business model that is tenable in the long run. ING is a strong challenger in the German and Spanish markets, where the transformation from PPI to full-service banking has advanced most. In contrast, its activities in France and Italy remain modest. Unless PPI banks complete their transformation into full-service banking, they will contribute little to improve the competitive conditions in corporate lending. Worse still, PPI banks may siphon off savings from traditional relationship banks, and thereby reduce credit availability for SMEs. The latter effect cannot be the objective of stimulating cross-border banking in the euro area.

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