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IMPROVING RETAIL BANKING STAFF INCENTIVE SYSTEMS

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Abstract

This Work Project seeks to analyze the viability, utility and best way of implementing mechanisms of double accounting and of insertion of low (or null) sales objectives in an incentives program. The main findings are that both processes are possible and to a certain extent advisable, although in very specific ways and with some limitations. Double accounting processes are especially effective between different segments and networks and should have a greater impact in the first evaluation periods of each case and the null objectives, albeit usable, are recommended to be always substituted by positive objectives, even if quite small. Moreover, it is concluded that the formal structure of the incentives program influences significantly these concepts, namely concerning the duration of the evaluation periods and the interaction of the objectives of different entities for both the vertical (hierarchic) and horizontal (individual and collective) levels.

Keywords: retail banking; low incentive targets; variable remuneration; double accounting in performance valuation.

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Introduction

The institution addressed throughout this Work Project, hereby referred to as bank "A" for the purpose of this document, is a banking institution whose group includes business in several areas, namely retail and corporate banking, investment banking and asset management.[1] It is

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[1] The institution has been listed on Euronext Lisbon and is part of the PSI-20 index, the main benchmark index of the main Portuguese capital market and comprises the shares of the twenty largest value listed companies from Lisbon. It is also one of the "Most Significant" Portuguese banks, classified as such by the Single Supervisory Mechanism of the European Union for its size in terms of assets, exceeding several dozens of billion euros.

among the major financial groups operating in Portugal and, according to the 2014 Annual Report, manages an extensive commercial branch network, with several hundreds of branches, corporate centers and specialists for affluent clients, involving several thousands of employees in its Portuguese activities, from which the majority is included in the commercial network. These network dimensions, required to serve more than one million clients, demand an incentive system that is both flexible and efficient so that it is allowed to fulfill its role without any flaws, whose severity would be naturally proportional to the organization's scale.

Any system of incentives in place may be presented with challenges of uncertain resolution, dependent on the specificities of the industry, the external market and the institution itself. Two of those challenges are the implementation of double accounting of the sales production in different entities who are associated to said sales, and how to properly book null (or very small) sales objectives.

Double accounting arises in the context of seeking a way to motivate and reward the employees in the presence of client resources' transfers between entities, be they different employees, branches or types of commercial network, in the sense that the clients are not registered in their sphere of influence *de jure* by the system but are the responsible or co-responsible ones *de facto* for the initial wealth reception and for a relationship with the bank that may be lasting and very prolific but that shall be recorded only in the other entity's incentive structure.

Through this description, a misalignment between the incentives program of the employees and the strategy delineated by the organization stands out, in as much as distortions may arise at the level of the policies for cooperation between employees, teams' motivation and customer segmentation according to the respective financial and socioeconomic profile. The principle of the duplicate accounting assumes that there shall exist more than one registry log of the capital

received (or granted as a loan) so that two entities may be covered.[2]

The need for a preliminary analysis on the feasibility of inserting very low (or null) objectives in a system of incentives arises from the existence of cases where it might become justifiable through a pertinent assessment to attribute such objectives, given the persistent low degrees of fulfilment of very specific products in a few agencies. This phenomena is allegedly attributed to the singular composition of the area potential which would be less favorable to that kind of products due to factors as varied as seasonality of certain products, the population socio-economical profile, corporate profiles in the region or the geo-demographic characteristics. For the integration of the null and very low objectives concept in the performance variables of the incentives program, it becomes necessary to perform a delimitation of its potential and impact in the system as a whole as well as an analysis on how to effectively process such objectives.

This work project is organized as follows. The ensuing section reviews the academic literature appropriate to sustain the conclusions to the presented issues. The 3rd section presents a summary of the best practices hailed among other organizations in the national retail banking industry stemming from interviews conducted with staff from such institutions. The rationalization of the recommended procedures to be adopted alongside their advantages, limitations and potential is presented in the 4th section. The last section defines the main conclusions and indicates the core limitations encountered and future recommended research.

Literature Review

For any organization using sales teams for its operational activity, the academic community and especially the experts in incentives and compensation policies are unanimous in considering

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[2] The tenets of double accounting recommend that a percentage of a production be naturally attributed to the officially associated manager of the transaction, as currently in place. However, another percentage is attributed to another entity, which differs depending on the cases described in the next pages. The sum of the percentages may, in some cases, exceed the 100% of production.

the existence of some form of incentive system imperative for the achievement of optimal performance (Bartol & Hagmann, 1992; Doyle, 1992; Geber, 1995; Johnson, 1996; Sisco, 1992). If such a system is not included for the commercial teams, their performance is expected to swiftly derail away from the theoretical optimum point. There are many parameters regarded by academics and experts as crucial for the development of variable remuneration schemes. Although most of them are brought up throughout the document in line with the approaches discussed, some central archetypes that configure the paradigm under which incentives programs should operate are presented below.

An incentives system holds two main objectives. The first is the alignment of the employees' incentives to the organizations' needs. The second is the judicious management of performance of the human resources of the organization while safeguarding healthy levels of good relationship between the employees (Oliver 2011). Specifically in a retail program, the focus is linked to the matters of acquiring new customers, retention of existing customers and their respective accounts and the cross-selling of new products to the already existing customers.

To satisfy these requirements, it is necessary to ensure that any structural improvements to incentive systems obey to certain prerequisites, namely that the system must be fair among all entities (specialized commercial networks, regions, branches, employees) since, according to Noe *et al.* (2010), besides the level of pay employees also care greatly for the fairness compared to what others earn. Noe *et al.* (2010) find also necessary that the system is fairly comprehensible in its outlook because it is important to have the employees focused on the fulfilment of sales and improving the client experience rather than deciphering a complex incentive system. On this topic, Oliver (2011) goes even further, believing that the incentives representing less than a meager 5% of the total compensation should be eliminated since the administration of the compensation plan is already very costly as it is and very distracting to the staff as well, while Maxwell *et al.* (2014) warn about the danger of overwhelming staff by

setting too many different goals. Oliver (2011) further states that eradicating incentive structures with low impact allows employees to emphasize more on the customer experience. Finally, Noe *et al.* (2010) find it equally important that there is coherence, which helps the staff to better understand the strategic trajectory of the bank and their expected role within it since, as reiterated by HRFocus (1993) and by Pritchard *et al.*, (1989), the incentive guidelines send a message to the staff of how their team's production and achievements are valued to the organization.

McHardy (1987) advocates the power of direct monetary motivation, and the current national economic outlook further bolsters his statement. The article clearly states that, in spite of the budget strains imposed at the organizational level, the amount of the awarded monetary prizes should be valuable enough to the employee to motivate him to apply an exceptional effort into achieving certain goals, although that effort must clearly result in sizeable improvements comparatively to the last performance. It is, in fact, consensual among related literature that the objectives must be hard to accomplish, objectively measurable and specific. However, as a counterpoint to the effort above average requested, Northway e Caravella (2014) consider that the objectives of variable remuneration should be first and foremost realistically attainable to fully accomplish their purpose, otherwise the effect on staff may be nefariously demoralizing.

Regarding the amounts of incentive, according to MichaelPage's "Estudo de Remuneração 2015", the variable compensation salary percentage practiced by the Portuguese retail banking organizations at the level of account managers and branch managers represents on average 10-20% in terms of their annual fixed income. In terms of compensation related to the fulfilment of sales objectives, Oliver (2011) mentions that a cap on earnings higher than the typical incentive plan is considered a best practice among banks by keeping a ceiling of around 200% - 300% of initial targets while incentive designs featuring sales quotas with discrete bonus echelons are the prevalent structure of sales compensation (Larkin 2013 and Oyer, 1998).

Additionally it is mentioned that while computing the goals for the sales and commercial lender teams the expected average percentage of employees that would receive a compensatory bonus should be set starting at the 65th percentile of the evaluated staff and upwards, counting from the worst performances to the best.

Benchmarking Digest

A competitive benchmarking analysis was deemed important to test the proposed hypotheses, its limitations and ultimately other approaches to solve the same problems. Having rejected the use of the methods of "mystery shopper" and "surveys to employees"[3], several former and current employees with adequate roles in the branches and central services of other institutions were interviewed[4], with an aim towards institutions with at least a nation-wide range of activity and comparable activity area and network size to the main institution focused in this study.[5] In the Annexes, three of the interviews conducted are included, which have been selected for the relevance of the insights offered and internal perceived satisfaction with the respective system. Due to the confidential information within them, and upon request of the interviewees, the organizations identifications were not disclosed, and are referred to in the interviews as Banks B1, B2 and B3 respectively.

Beyond the transcriptions of those interviews (in the Appendix, figures A.1, A.2 and A.3), and references to them throughout this document, a comparison between the *affluent* segments of said institutions was compiled, for its usefulness concerning the double accounting taking place

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[3] The uses of the occult client method and of surveys are discouraged for obtaining internal and undisclosed information such as the employees' incentives computation policy. In fact, as the type of questions approached refers to internally specialized knowledge and an in-depth explanation of the functioning methods of the incentives teams, neither the approach as a client nor the massive use of surveys to the branch employees would be appropriate.

[4] Regarding the former employees, only the reports in which it was possible to ensure that the relationship had not ended prior to 2010 were kept, to ensure the inexistence of biases resulting of outdated information.

[5] Among the institutions possessing those requirements, Caixa Geral de Depósitos, Millenium BCP, BancoBPI, NovoBanco, SantanderTotta, Barclays and Banco Popular were selected.

between segment networks applied to the different banks.

Table 1 Characterization of the *affluent* segment in the approached banks.[6]

	CGD	**NB**	**MBCP**	**BPI**	**S. Totta**	**Popular**	**Barclays**
Premium Program Designation	Caixazul	NB 360º	Prestige[7]	Centro de Investimento	Select	Banca Pessoal	Premier
Level of resources required	50m€	35m€	50m€	(50-) 100m€[8]	100m€[9]	45m€	50m€
Access to a private account manager	Yes, 24/7	Yes	Yes	Yes, also in conventional segment	Yes	Yes	Yes

Double Accounting development

Identified problems, current procedures and hypothesis to be tested

The main identified problems are the misalignment of the individual and organizational objectives and the potential injustice in the design of variable remuneration to different entities. The present procedures determine that, apart from well justified exceptions, sales accounting within the incentives systems framework takes always place in a single entity. The migration from one entity to another is corrected so that the initial entity does not undergo a negative variation resulting from the departure of the client's capital which migrates to the other entity within the bank.[10] There is no compensation for the future business that the client might establish with the bank in its new entity, independently of the reason that caused the migration.

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[6] Beyond the offer of the account manager, the program includes many products in more advantageous conditions as well as custom services adapted to the client.

[7] The "Prestige" status and associated advantages are within reach of all the clients upon payment of a monthly fee. The right to be exempt to this fee comes with having the determined level of resources deposited in the bank. There is also the right to be exempt through the domiciliation of salary or pension worth over 2500€ paid monthly.

[8] The minimum value of the funds deposited in the bank to have premium status is allowed to be quite inferior for younger clients.

[9] It is also possible to benefit from the "Select" status with an approved housing loan worth over 300'000€.

[10] Specifically, all the accounting corrections undergone between two entities must always have a zero sum game of results (i.e. the amount of gains and losses coming into entity X must have mandatorily left an entity Y and vice-versa.

Consequently, in all cases only one entity is ever affected by the results of a sale – which means that, in terms of customer acquisition with a profile that fits best being served by another entity, there is no present or future incentive for the employee to proceed with the client's forwarding. The posed hypothesis is that the issue can be corrected by valuing other participants in a transaction, with the perspective of a double accounting with deliberate intent.

For a fit test to be successful, it must be attested that the participants affected by double accounting do have a direct or indirect responsibility in the recorded transaction. Moreover, the procedural rules recommended must be farsighted in order to prevent inappropriate or unexpected scenarios, including the prevention of the use of this mechanism in ways contrary to the aims of the organization, accidentally or not.[11] Finally, it is necessary that the processes development holds the adequate patterns of quality and simultaneously adapts to the existing system in an even manner.

Ramifications of duplicated accounting

Table 2 Distinct scenarios verified with potential application

Level of the relationship	Between commercial networks	Between branches	Between employees
Network Specialization	Conventional and premium client profiles (Customer Segmentation)	Same area or distinct areas (and respective regions).	Commercial assistants Managers of personal (individual) or corporate clients
Type of Operation	Partial transfers, migrations, referrals, customer acquisitions for the benefit of a different entity.		

The levels of relationship (Table 2) refer to the different types of entities eligible for double accounting. Situations between employees arise when one employee is absent and another

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[11] An emerging bulk of literature shows that explicit performing goals encourage not only productivity but also distortions in the form of gaming responses (Harris and Bromiley, 2007; Larkin, 2013; Oyer, 1998; Pierce, 2012).

employee is asked to fulfil the needs of clients whose production is in reality linked to the first employee. The second employee may feel discouraged to spoil the time he would dedicate to his own clients to do this without any personal benefit or incentive.

Situations between branches arise when a client's account is switched from one branch to another one, by virtue of several motives, including closer proximity to the client's residence or workplace. Finally, situations between networks arise when a wealthy client hits a high level of funds deposited in the bank or its branch detects the client's potential in terms of future sales. The client is then identified in one of the segments of affluent clients and is invited to change his account manager, being then served by a specialist in financial assistance. The account manager the client will abandon has no incentive to promote this otherwise recommendable change, because it shall miss out any future sales or capital inflows from that client, which will henceforth be accounted for the specialist account manager.

Variables common among different commercial networks

Double accounting of sales performed between commercial networks (Table 2) is subject to the disparities of the strategies and objectives chosen for each network. Moreover, the respective incentives systems function independently and therefore may be radically different and vary autonomously of each other. Hence, there are matrixes of distinct financial products, adequate to each segment and reflected in the incentive frameworks.

To record a duplicated transaction into both segments without resorting to the creation of a new variable for referral and forwarding of clients[12] would require finding a direct correspondence of accounting treatment and the product must be common to both frameworks. An analysis

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[12] Such an additional variable would yield one-off extraordinary points for forwarding or referring clients in all the forms expressed in Table 2 but, in a dissimilar fashion to what is described in the Interview A.2, it would be delayed by a given period so as to have this bonus be computed according to the volume of profitability or production said client is verified to bring to the bank in the meantime at the other entity. This constitutes a valid alternative to deal with the challenged proposed.

evaluating the characteristics of the offered products in both segments has been made, in order to minimize the disparities demanding differentiated treatment, and a list of variables in common as been compiled, with each segment's weights to them.

Table 3 Identical products and variables and their weights in the respective networks.

Variables for the same period of 2015[13]	Conventional Segment	Premium Segment
Net Funds Collection	**5%**	**10%**
Funds Collection (specific products) Net inflow of medium and long term funds; Indexed Deposits; Retirement Savings Plans without capital guarantee Capitalization Insurance without capital guarantee	17%	15%
Credit Products Housing Loans; Personal Credit; Car Loans; Lending; Leasing Furniture / Real Estate;	22%[14]	15%

The weightings (in percentage of the total points demanded) attributed to the fulfilment of different variables and products vary independently, even in the products whose primary specifications of accounting are the same (Table 3). There is no risk of impairing the process as long as the weightings of the amounts being accounted twice only happen at the final entity for which they are being accounted. For example, 20m€ deposited by a client who was migrated to the premium segment would be registered in that segment with the weighting of 10% and (partially) accounted again in the conventional segment with the weighting of just 5%.

The most obvious variable included (Table 3) is the "Net Funds Collection". Not only it is a variable valued in all the segments' incentives programs, as it is also the most basic in terms of

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[13] Short-selling would also qualify, should it find its way back into both segments appraised variables.

[14] Assuming only Credit for individuals. – Another 22% assigned for the corporate credit.

the activities of any retail bank, as mentioned in an interview (figure A.1). The other Fund Collection variables (Table 3) are also accounted in both segments in fairly similar conditions.

The loan variables typically imply a considerably higher administrative burden and longer negotiation of the contract conditions with the client than the funds collection variables before managing to close the deal, as is also mentioned in the same interview.

Therefore, these accrued difficulties make the client acquisition and forwarding to the right segment take on a lesser importance in proportional terms for the sake of compensation. This would be enough reason to determine the removal of the double accounting between segments for the credit products (Table 3). However, the granting of credit is unequivocally part of the mid and long-term relationships forgone in goodwill by the branch to cooperate with the strategic directives of the bank. To completely withdraw that aspect is to take out part of the incentive of the employees to act in a certain way, whereby at most a reduction of the duplication ratio (α) for those products should be considered in the algorithms developed below.

Algorithms for the implementation

For a seamless integration of double accounting in the automatized central systems of accounting, the creation of an analytical model is necessary, to accommodate all the previously approached considerations through appropriate algorithms.[15] The assignment of a production percentage of the migrated client in his new entity is reflected through the inclusion of a duplication ratio (α), i.e. the percentage of the production in the old entity that is attributed as a duplication. The volume of this ratio depends on the percentage of responsibility that one would want to attribute to the second entity envisaged within the sale. It is the parameter that would

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[15] As discussed in the Journal of Applied Corporate Finance (1996) and in Mangold (2013), it is necessary to have the sensibility to accommodate all the changes to the consumption trends regarding the technological evolution in the sector, especially in terms of growing computerization of the management aiding tools, whereby the alterations to the incentive systems should respect this tendency of automatizing as much information processing as possible.

be affected, for example, if it were decided to attribute a smaller percentage of double accounting to the credit products due to the concern raised in the previous page.

The farther apart should the evaluation periods become from the client's transfer moment, the lesser influence should be recognized to the former entity regarding its role in forwarding the client. The inclusion of a depreciation factor (∂)[16] allows that the higher the factor is, the faster the amounts duplicated from other entity degrade from period to period after the client's transfer moment.

The simple algorithm for double accounting for product j considers the following structure:

$$x_{i,j} = \frac{\alpha \times \Delta u_{i,j}}{(1 + \partial)^i}$$

$$s.t \begin{cases} x_{i,j} \geq 0 \,; i = \{1,2,\dots,I\} \\ u_{i,j} \geq 0 \,; i = \{1,2,\dots,I\} \end{cases}$$

[1]

In which:

$u_{i,j}$ – production verified in period i for product j in the official segment.

$x_{i,j}$ – production duplicated to the former segment, from which the client was migrated.

∂ – factor of depreciation.

α – duplication ratio.

i – period in analysis. (I – cap on number of time periods for double accounting)[17]

j – product in analysis.

Monte Carlo method

The parameters that can be defined by the bank are α, ∂ and I. For their definition, it is important to take into account the expected capital flows to be duplicated in relative terms

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[16] The philosophy behind the application of the factor of depreciation is similar to a discount to presente value, in which to receive X today is more valuable than to receive X tomorrow.

[17] The duration of the periods under analysis has important implications in the accounting algorithms, and this will be approached further on.

compared to the collection in the official entity. Consequently, the parameter E(X) represents the effective global percentage accumulated throughout the periods that is expected to be handed out to the former entity.

The expected value of the effective global percentage for the old entity is the following:

$$E[X] = \frac{\sum_{i=1}^{I} \frac{\alpha \times \Delta u_i}{(1+\partial)^i}}{\sum_{i=1}^{I} \Delta u_i} \qquad [2]$$

To test the behavior of these algorithms before various situations, simulations through the method of Monte Carlo have been performed, basing the simulations on massive random samplings that should allow us to meet the numerical outcomes to different business performances and its implications. 1200 samples of sales of a product have been generated, spread over 100 clients in 12 time periods.

Table 4 Accumulated average results of the Monte Carlo simulations[18]

			I	2	4	8
			$\sum_{i=1}^{I} u_i$	201	386	787
α	0,5		$E[X]$	46%	43%	36%
∂	0,1		σ	0,592	0,774	1,05
			$\sum_{i=1}^{I} x_i$	93	165	282
α	0,5		$E[X]$	37%	29%	20%
∂	0,3		σ	0,023	0,033	0,025
			$\sum_{i=1}^{I} x_i$	73	113	155
α	0,8		$E[X]$	74%	69%	57%
∂	0,1		σ	0,017	0,029	0,027
			$\sum_{i=1}^{I} x_i$	149	264	452

The simulations are presented in nine different scenarios, depending on three combinations of the ratio of duplicate percentage (α) and depreciation factor (∂), each showing the results for

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[18] A simplified graphical representation of this may be found in the Annexes (Graphic A.1).

two, four and eight periods of double accounting post-migration. The global results are expressed in form of average of all the clients' results and present the nominal value of the global expected objective sales accounted ($\sum_{i=1}^{I} x_i$) and its percentage compared to the objectives sales accounted in the official entity ($\sum_{i=1}^{I} u_i$). It also presents the standard deviation of those percentages among the clients to control for large differences (σ). Regarding the choice of parameter I, the decision focuses on how many periods should the double accounting feature take place after the moment in which the client migrates from one entity to another.[19]

The results are helpful in the process of deciding the best parameters, as they show the expected results upon said choice. As mentioned in the introduction, more important than the initial lump-sum may be the matter of the long-term lost advantages: the relationship with the client may have promising prospects for the branch (especially for the clients that become profiled as premium clients) so compensation for one period may not be enough.

Negative variations in the production segment post-migration

Since the calculation of production is made as variation of the product from the period start to the period end, it is entirely possible that the production of a client is negative after his migration to a new entity (It would be enough for him to take money out of the bank and don't do anything else). Should that happen, the algorithm [2] would inflict duplicated losses in the entities that are actually meant to be compensated for the customer acquisition and forgoing of the client to another network. This has the potential to undermine the efficiency of the stimulus to motivation that is meant to be introduced in the system because the former segments become liable of negative productions perpetrated in the new segment. The integration of a mechanism that keeps the original concept by avoiding this problem attributes any negative results to a

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[19] The decision is directly related to the duration of the evaluation period of the system itself. For example, I=4 as a double accounting parameter with trimestral evaluations occupies the same timeframe as I=1 with annual evaluations. However, it is interesting noting that the expected value of $x_{i,j}$ in these two cases is not the same (shown in the annexes).

buffer that limits gains from future periods, but does not directly harm the former branch in its own incentives framework, is therefore needed.

An algorithm with a buffer of double accounting for product j is present below:

$$f(x_{i,j}) = \begin{cases} x_{i,j} = 0, & \Delta u_{i,j} < 0 \\ x_{i,j} = \dfrac{\alpha \times \Delta u_{i,j}}{(1+\partial)^i} - \lambda_{i-1,j}, & \Delta u_{i,j} \geq 0 \end{cases}$$

$$If\ \Delta u_{i,j} < 0 : \left| \frac{\alpha \times \Delta u_{i,j}}{(1+\partial)^i} \right| \rightarrow \lambda_{i,j}$$

[3]

$$s.t \begin{cases} x_{i,j} \geq 0 \ ; i = \{1,2,\dots,I\} \\ u_{i,j} \in \mathbb{R} \ ; i = \{1,2,\dots,I\} \\ \lambda_{i,j} \leq 0 \ ; \ i = \{1,2,\dots,I\} \end{cases}$$

In which:

$u_{i,j}$ – production verified in period i for product j in the official segment.

$x_{i,j}$ – production duplicated to the former segment, from which the client was migrated.

∂ – factor of depreciation.

α – duplication ratio.

i – period in analysis. (I – cap on number of time periods for double accounting).

j – product in analysis.

λ_i – buffer of non-depleted losses cumulative until period i.

This buffer accumulates the negative variations per period after they are discounted by the duplication ratio and factor of depreciation. If gains take place in posterior periods, to that result (already discounted) it is subtracted the losses contained in the accumulated negative buffer until that point in time. Only the remaining value, if any, can revert to the incentive calculations of that period. If the buffer still has losses after being deducted to the gains, since it is not yet depleted, the rest of the losses remains in the buffer to be deducted to the next period's gains.[20]

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[20] Since the prize attribution may not be retroactively changed after it has been announced, positive sales in the first period will always be accounted regardless of any negative variations filling the buffer in the subsequent periods. Only by deferring winnings would this not hold true.

Additionally, the former entity may be held liable for the negative variations at the new entity in the first period, if both parties are in agreement that the client migrated with the withdrawal of capital already in mind.

Limitation to the fulfilment of sales goals only through double accounting

To protect the incentive of searching and obtaining production within the own activity of the branch, regardless of the performance of external agents, the bank "A" admits the need to limit the fulfilment of goal sales of a product exclusively through double accountings of other segments. This limitation may be implemented, among other ways, through the condition expressed below:

$$\begin{aligned} z_{i,j} &< G_j * x_{i,j} \\ \text{s.t. } G_j &\leq 1 \end{aligned}$$
[4]

In which:

G_j − Degree of objective fulfilment of product j obtained with internal sales.

$z_{i,j}$ − Prodution $x_{i,j}$ (duplicated), limited to the internal degree of fulfilment (G_j).

Consequently, the contribution to the variables through double accounting stays limited to the percentage of the objective fulfilment obtained internally with the own branch production. For example, if the agency fulfils 70% of the sales goal, it shall receive 70% of the double accounting contributions ($x_{i,j}$).

Vertical aggregation of the results and analysis of evaluation timeframes

Gains of productivity tend to be higher when the management is highly committed to the management by objectives (Noe *et al.* 2010). For that reason, all the hierarchy levels in each commercial network should be covered by any mechanism approached. Since the performance appraisal affects hierarchies via the aggregation of the results of the subordinates, double accounting fits seamlessly in the structure, directly boosting the usual results of the employees.

In terms of the evaluation timeframes, it becomes important to grasp the advantages and disadvantages of the different periodicity options since it impacts the "I" parameter of the double accounting algorithms, mainly due to differentiated appraisal periods between segments.

Table 5 Typical evaluation periods for performance appraisal.

Mid-term periods		Short-term periods[21]	
Annual	Biannual	Triannual	Quarterly

The position of an institution covered by one of the interviews (Figure A.3) on this topic is that short term objectives are considered to have too small of a horizon, leading to the possible existence of very low objectives that may not make much sense (this theme is further developed in the low/null objectives development) and to the risk of having a bigger intransigence and unavailability from the employees to help one another, due to the urgency imprinted by such low periods of evaluation. This institution officially uses the annual horizon, although there are also opinions within the organization that it is quite large, namely in respect to the regular customer network, and that a biannual evaluation would serve its purpose quite well.

The prospects for a biannual objectives time window therefore could be interesting, especially as it affects positively both the situation of double accounting within segments with different time windows and the situation of very low objectives as these would become quite higher.

Null and Near-Null Objectives development

Review of the organizational challenge

The approach to the use of null or very low objectives reflects on how data can be recorded for insertion in the incentives system and on which reasons the responsible entities for the decision

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[21] Smaller sub-periods may be considered as constituting an evaluation period within the evaluation scheme in their own right, due to the existence of systems with additional rewards in, for instance, a monthly periods basis.

should rely upon to grant exemptions. It is important to make the distinction between them and to reflect on the limitations of each.

Both concepts apply to very specific product/branch bundles, which have such a reduced external market potential that it becomes admissible to set very low or even null sales goals for them. Requests for this action carried out by the branches and their network hierarchies have been bolstered by the persistent low degrees of fulfilment of very specific products in a few branches, constituting a symptom of the situation.

According to Boufounou (1995) and L.E.K. Consulting (2015), it is clear that the incentive systems are significantly affected by factors outside of the local management's influence (namely area, client demographic and socioeconomic profiles, etc.) and a fair incentive system should always adjust for these factors. This is corroborated by Noe *et al.* (2010), who add that the evaluation of results (while tougher to deceive) can have problems with validity since results are affected by circumstances beyond the performance of the employees.

Table 6 Products/Variables typically reported as problematic.

| Housing Loans	Absence of clients with the right profile for this product in the area. Absence of housing construction in the area.
Small Business Loans	Very small entrepreneurial density zones. Zones with few exporting companies: lower interest in export related products (namely credit insurance and trade finance).
Non-Residents Products	Areas with a small representation of non-resident communities (especially important in specific situations, namely seasonal holiday campaigns, etc.).

Endemic volatility in the lowest sales goals

The glaring problem that may arise with very low sales goals is the arbitrariness that may arise in the computation of the scores. If, for example, the average value of evaluation of the

apartments traded in 2014 in Portugal is 81.590€, (114.701€ in urban areas)[22], to have a very low objective of, for example, 100m€ in the "Housing Loans" product in a branch means that, with the fulfilment of a single fortuitous client requiring an average loan the branch would immediately have a skewed degree of fulfilment of around 100% in this product.

The volatility that may therefore happen in the branches with the least external market potential verified (and thus, smallest sales goals) would suggest a smaller reflection of continued and assiduous work and conversely a higher reflection of the casual fluctuations of the external market deriving from the unpredictable client behaviors in comparison to a branch with large sales goals, where one more or one less fortuitous client mean nearly nothing in the grand scheme of things. This obviously presents a challenge to the fairness and consistency of the system and of the attributed sales goals.

Graphic 1 Correlation between sales goals and volatility in the fulfilment of Housing Loans' objectives.
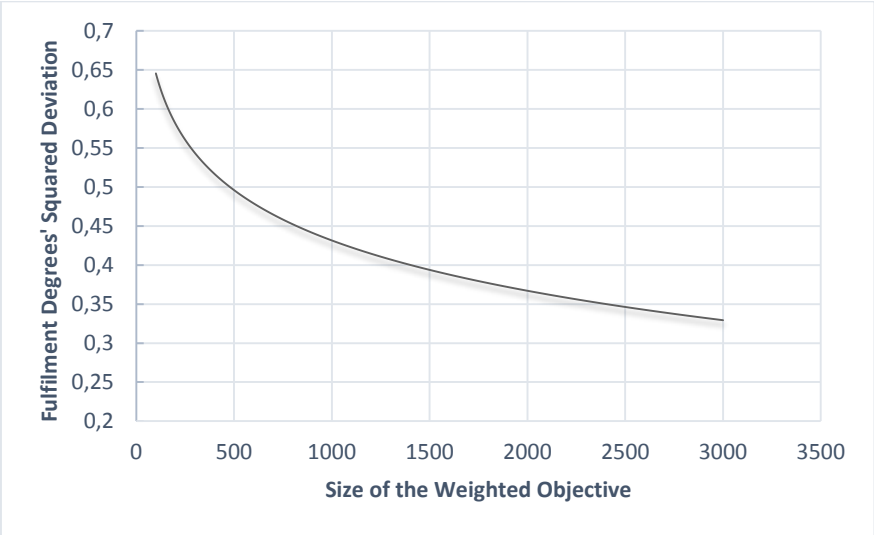
The graphic I represents the correlation trendline obtained between the weighted objectives of housing loan sales attributed to each branch (X-axis expressed in thousands of euros) and the squared deviation from the mean of the associated degrees of goal fulfilment of such

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[22] According to data from DGPJ/MJ on "Valor médio dos prédios transacionados e hipotecados: total, urbanos e rústicos de 2014" published in the Pordata database (contemporaneous Portugal statistics compilation by Fundação Francisco Manuel dos Santos.)

objectives[23] (Y-axis expressed in percentages) in the analyzed period of 2015. The number of observations (branches) randomly chosen included in the sample for this analysis was 501 and the generated relationship was Y=-0.093ln(x) + 1.0738.

As it becomes obvious, branches with smaller objectives are subject to a higher statistical dispersion in its degree of fulfilment of the objective. This represents a challenge to the consistency desired for the system and for the attribution process of objectives. The data stems from information of housing loans, one of the most common variables (Table 6) to purport the situation of null or near null objectives and the data results check out with the preliminary ideas.

The high dispersion of degrees of fulfilment introduces a nefarious arbitrariness sense, in which it may seem that the luck to have a few sizeable clients in a given evaluation period is what determines the result for the incentive system, rather than the work and consistent endeavors of the branches in the proactive search of market opportunities. Given that the sales goals are defined already taking into account the potential of what each branch can produce, the expected deviation of the degrees of fulfilment to the average should be the same for all the branches, independently of the respective sales goal size. The volatility verified thus violates the principles of sense of fairness and consistency prescribed in the literature references as essential.

Northway and Caravella (2014) believe that for the incentive systems to thoroughly fulfil their role, the goals asked should be more than anything attainable in practice. Applied to this situation, this means that, despite the situation described, there should be no restrain in reducing the objectives more than up to a certain point when it is fair to do so, even if there are problems of volatility that arise and must be solved, because ignoring the situation by just setting higher (read: unrealistic) objectives for the branch is potentially very harmful in itself as well.

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[23] Degree of goal fulfilment = (Sales Accomplished / Sales Goals)

Therefore, for the inclusion of the very low objectives aforementioned, it is necessary to integrate measures that minimize anomalous values for the smaller goals' degrees of fulfilment.

Minimization of the Fulfilment Degrees' allowed range

The abolishment of penalties attributed to the evaluated entity for failure to fulfil the minimum threshold of the goal for the product[24] constitutes in practical terms an increase to the minimum floor of the overall achievable points. The requirement of maximum points smaller than what is typical in a regular product, in which the degree of fulfilment accounted for the goal may not surpass the 100% should constitute a tighter ceiling to the points in the product.[25]

The measures are destined to make the range of points possible to gain (or lose) in a low-objectives product tighter, so as to minimize the major flaw in low-objectives products: extreme fluctuations in the score attributed for the fulfilling of goals that, for their own nature of pettiness, may suffer from a larger volatility driven by the market's external factors.

Integration of a Compensation Coefficient

The alternative of using null objectives (instead of very low objectives) is not without flaws either. While it may be inconvenient to have nearly anecdotal sales values, objectively, with zero sales goals in the current degree of fulfilment accounting system[26], the product becomes irrelevant to earn incentives, which means there won't even exist an attempt to obtain sales in that regard.

Nevertheless, when implementing null objectives, the removed product/variable must have its

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[24] The degrees of fulfilment for sales goals raise additional penalties that are deducted to the final entity evaluation score, coming through as an additional penalty added to the points not obtained by fulfilling the sales goal in the first place, and that must be offset by exceeding the expectations in other products.

[25] This values ceiling is tighter in comparison to the 200-300% suggested in Oliver (2011) on purpose, by limiting the potential points obtain through that variable in case of extreme values.

[26] Remember that degree of goal fulfilment = (Sales Accomplished / Sales Goals). With 0 sales goals, a degree of fulfilment would never be found, which in practical terms would at best correspond to a zero degree of fulfilment.

former weight allocated throughout the other products or variables proportionately so as to respect the strategic emphasis[27] and commercial orientations reflected in the weights, and to ensure the conservation of the same points thresholds required for the variable compensation.

The aforementioned full removal or, in the case of low goals, the partial removal of weight to the product/variable, are both compensated soundly with the weight increase of the other products/variables in the incentive package through a compensation coefficient.

This coefficient advocates the use of the removed points to a variable in redistributing them proportionally, by relating the necessary weight for accomplishing 100% of the total points threshold ($E[P_t]$) with the quantity of points removed in the odd product/variable (P_v).

$$\frac{E[P_t]}{(E[P_t] - P_v)} \times \begin{cases} Sales\ goals \\ Weights \end{cases} \tag{5}$$

This coefficient can then be multiplied by the sales goals and the weights of the other products/variables. It therefore allows the partial or full removal of weight (read: removal of importance) to the product/variable with very low sales goals[28]. The proportional increase in weight of the other products/variables reflects the additional effort that must be required in the other products to compensate the removal of the variable with low sales goals.

Replacement of Sales Goals per Product by suitable alternatives

One of the institutions screened in the interviews (figure A.2) deals with this in yet another way.[29] The incentives framework does not include quantities of sales required product by product, at least for the branches regular staff. Instead, it just maintains a goal of total points

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[27] As Pritchard *et al.* (1989) advocates, the weights show to the employees the strategic focus of the bank concerning each product vis-à-vis, according to the relevant characteristics of the products: profitability, risk in the typical client profile for that product, duration of the relation with the client (higher for housing loans, etc.), and more. The re-weighting of the variables/products in a non-proportional way may therefore be nocuous.

[28] With a full weighing points' withdrawal, the product/variable becomes for all intents and purposes one with null sales goals.
[29] The extension of the evaluation periods with higher objectives, the reduction of the volatility of the objective degrees of fulfilment by minimizing the fulfilment degrees' allowed range and the integration of a compensation coefficient to reduce or eliminate the weight of the product/variable with very low objectives are the alternatives previously mentioned.

per employee. The products are prioritized by being included in three groups of products, each with a different weight. The points from any sale are simply obtained through multiplying the volume of the transaction by the weight of the group to which the product belongs (with details regarding cross-selling and other situations in the full interview). The points are then obviously summed to try and reach the threshold required for receiving monetary prizes.

There are no product by product objectives and degrees of fulfilment prescribed to the branches teams (although these are obviously analyzed for management purposes) in this institution. In a way, the aim is to let the employee focus only in serving the wills of the client, naturally giving primacy to the products within the group with the largest weighting. Essentially, it allows to them to try and sell as much as possible of whatever they can and inherently outline their competitive advantages (both individually and as a branch) through the performance appraisal tools without the sales goals per objective bias, albeit subordinated to the current group weights.

Under this paradigm, the branch does not depend on predefined objectives per product, independently of their external market potential for each of them, which makes the null and low objectives problem inexistent, and receives a less constricted (thus more reliable) perspective of the branch's area potential for each product. According to the same interview, the incentives management team relies on the usage of campaigns to correct for products which they feel are being undersold at each moment[30]. The evaluations are individual, unlike institutions covered in other interviews[31] (transcribed in the annexes) which include a strong collective component.

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[30] The campaigns make it easier for the employees to sell more of such product (either because the conditions offered to clients are better, the client awareness becomes higher or, in purely internal campaigns, the product is temporarily placed in a group with a higher weight offered).

[31] Much to McHardy (2010) and Oliver (2011) agreement, the purely individual plans have traditionally a reduced emphasis in terms of cross-selling and communication (symptoms of poor information sharing of the business development between employees) and in terms of service quality and search for positive experiences for the consumer. The prevalence of a communicative climate encourages collaboration and a culture of mutual help and, as Arrowsmith and Marginson (2011) also advocate, inclusively helps preventing team members to feel encouraged to abandon the organization in favor of some competitor. An hybrid evaluation is hailed as a best practice with a weight of ~30% for collective production and ~70% for individual production for all the branch employees, with a possible inversion of the weights for the branch managers.

Limitations and Further Research

If the double accounting accrues points in excess to what is currently awarded rather than taking a share of the official entity's goals, all the results become artificial, as products goals and sales would get exceed the real totals. The natural shock of the values with the accounting of real production would be problematic, and the solution would involve ensuring that these values are merely internal for the Incentives team and are discounted if used for any results analysis.

Also, for a discerning decision on which branches and products should be affected by the exceptional changes proposed for null and low sales goals, it would be necessary to apply two instrumental inputs, so far underdeveloped, especially the second:

Definition of conditions for the issuing of periodic appreciations from the hierarchic network management in the field in order to collect the knowledge of the regions that they cover in all its diverse angles (demographic, entrepreneurial, etc.), which allows for a valuable input into the branch selection.[32]

Secondly, a compilation of periodical external market studies of regional scope, made by the internal data-mining team or another consulting organism (either internal or external) with relevant information regarding the demographic indicators and directed towards competition, population, construction, credit, emigration and seasonality. This collection would encompass some difficulties, namely the fast outdating of the dynamic demographic and economic indicators and the needed disaggregation of the data (at least up to county), but is of utmost importance not only for low/null objectives but for the sales goals computation as a whole.

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[32] As Arrowsmith and Marginson (2011), McHardy (1987) and Noe *et al.* (2010) state, the objectives ought to be defined alongside the evaluated structure and the involvement of the network results, which is corroborated by Interview A.3. Noe et al. (2010) further consider that the entity managing the incentives plan and the evaluated elements should work together to define the appraisal methods and objectives since when employees and the whole network are questioned on how their jobs can be done in a better way, the standards are set higher due to a perception of possession of the work. Naturally, in a bank with thousands of employees operating in the domestic market (Annual Report "A" 2014), the dimension of the commercial networks makes this possible only through the commercial network hierarchies and the entity managing the incentives plan.

Conclusions

This research with a hands-on approach intends to present an analysis over the viability and the best ways of implementing mechanisms of double accounting and low/null sales objectives to solve the problems for which these concepts were conceived.

The main findings regarding the low/null objectives are that the core strains of the problem at the origin are made worse by short evaluation periods and the use of degrees of fulfilment per objective (which is not deemed necessary by other institutions). Additionally, the ways of circumventing the issue without touching those aspects revolve around containing the levels of volatility of the degrees of fulfilment (in case of using low objectives) or by reducing the weight of the product and allocating it proportionally to the other products – with an increase to their sales goals by the same margin (for both low and null objectives). All in all, small objectives are favored since they do not imply a removal of the strategic importance of the product through the incentive system in the way null objectives do.

Regarding the double accounting mechanisms, they are possible and advised to implement, being especially effective between different commercial networks and, due to the complexity required, they are best used at the levels of the automatized information processing. These mechanisms aim at duplicating a part of the production in other entity and are able to show an increasingly smaller impact of the current production in the other entity for the subsequent evaluation periods counted since the client migration.

According to several remarks in the appropriate academic and corporate literature, it becomes obvious that these processes definitely help aligning the individual and collective incentives according to the organization's goals and promoting principles of effort and mutual support while increasing the effectiveness of evaluation of the meritocratic system.

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