

# Functions of Expressions of Futurity in Professional Economic Texts

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*The aim of this corpus-based study is to identify the functions that selected expressions of futurity can express in professional economic texts. The classification of functions is established on the corpus of seven economic books. Excerpted instances of futural constructions are analysed with respect to textual and interpersonal functions as defined by Halliday. Futurity is interpreted broadly to include all lexical and grammatical means referring to the future. This approach makes it also possible to analyse futurity as a means of text coherence. Hence the core grammatical means are interpreted along with co-occurring lexical means under the two categories of functions to provide a comprehensive model of text coherence with regard to futurity. Frequency analysis shows that core futural expressions are not distributed equally throughout the corpus. While some expressions (e.g., will and the present simple tense) dominate, others prove to be rather insignificant (e.g., be on the point/verge of, the present progressive tense). In addition, both lexical and grammatical constructions regularly co-occur in clusters, contributing to the coherence of the economic texts.*

## Keywords

Economic discourse; English for academic purposes; function; futurity; modes of meaning; textual coherence

## 1. Introduction

The aim of this article is to classify the functions of lexical and grammatical means expressing futurity in economic texts. The word function has been used in a number of ways in both linguistics and language teaching theories. This article follows Lock's concept of functions as realizations of particular speech acts and Halliday's system of experiential, interpersonal and textual modes of meaning (Halliday, 2003)<sup>1</sup>. The affiliation form – meaning – function will be considered. This approach is required by Lock: "As we have seen, each clause simultaneously embodies three kinds of meaning – experiential,

interpersonal, and textual and they all need to be taken into account to understand how the clause functions in context” (Lock 10). Thus, in order to classify the functions of futural expressions I will underscore one of the three meanings and define functions with respect to the highlighted meaning as follows:

- experiential meaning → experiential functions  
(i.e., futurity primarily as a means of expressing temporality)
- interpersonal meaning → interpersonal functions  
(i.e., futurity primarily as a means of conveying speech acts)
- textual meaning → textual functions  
(i.e., futurity primarily as a means of coherence and other properties of text)

Hence, for the purpose of classification, we distinguish the experiential, textual and interpersonal functions of propositions. This differentiation may look rather artificial as each proposition bears all the modes of meaning. For example, an instance of intratextual reference expressed by means of *will* (e.g., *We will be concerned with the topic in the last chapter.*)

- reflects human experience (e.g., linear sequencing of the text that a reader has to process chronologically),
- conveys interaction between the author and the reader (expresses the author’s commitment, will and intention to deal with the topic; in addition, the author helps the reader find a better orientation throughout the text and assures the reader that more will be explained later), and
- delimits the organization of the text (intratextuality).

This article focuses only on the interpersonal and textual functions of the expressions of futurity as detected in the corpus of the economic texts presented below. Due to space constraints, the analysis of experiential functions will not be provided here but may be found in Mikuláš (2015).

I selected the futural expressions as delimited by Quirk et al., who distinguish the following means of expressing future time (hereinafter referred to as core expressions): *will/shall* + infinitive (simple, progressive and perfect); *be going to* + infinitive; present progressive; present simple; *be to* + infinitive; *be about to* + infinitive; *be on the point/verge of* + gerund. All instances of the core expressions of futurity were excerpted from the source books enlisted below by means of the tlCorpus2013 software (version 8.1.0.1087).

## 2. Source of data

The corpus-based research covers economic texts, published as books after the year 2004. Employing Halliday's concept of register (1989, 44) featuring the categories of tenor, mode and field, our source text (corpus) can be outlined as follows:

Tenor	<ul style="list-style-type: none"> <li>– texts produced by professional economic experts for other professional economic experts (advanced graduates, undergraduates and researchers declared explicitly by authors)</li> <li>– authors are native British speakers (in the case of co-authorship, at least one author declares him/herself to be a native speaker) lecturing at prominent British universities and research institutes: University of London, Lancaster University, Institute of Economic Affairs London, University of Aberdeen, University of Bristol and University of Exeter</li> </ul>
Mode	– books (comprehensively written professional/academic texts)
Field	<ul style="list-style-type: none"> <li>– the academic subject of economics</li> <li>– various disciplines of economics included to extend the field (macroeconomics, microeconomics, financial studies, political economy)</li> <li>– various topics included to extend the field (general economics, economics of education, economics of healthcare)</li> </ul>

*Table 1: Description of the corpus: tenor, mode and field*

Hence, the explored samples correspond to what Halliday calls “texts for information” (1989, 40).

The following English professional books were selected on the basis of the above-mentioned criteria (hereinafter, the source materials will be referred to as PRB and their number):

[PRB 1] Elliott B. and J. Elliott. *Financial Accounting and Reporting*. Harlow: Pearson Education Ltd, 2011. Print.

[PRB 2] Fine B. and D. Milonakis. *From Political Economy to Economics*. Abindgon: Routlege, 2009. Print.

[PRB 3] Johnes G. and J. Johnes (Eds.). *International Handbook on the Economics of Education*. Cheltenham: Edward Elgar Publishing Ltd., 2004. Print.

[PRB 4] Johns H. and P. Merod. *Happiness, Economics and Public Policy*. London: Institute of Economic Affairs, 2007. Print.

- [PRB 5] McGuire A., J. Henderson and G. Mooney. *The Economics of Health Care*. London: Routledge & Kegan Paul, 2005. Print.
- [PRB 6] Sloman J. and A. Wride. *Economics*. Harlow: Pearson Education Ltd, 2009. Print.
- [PRB 7] Witztum A. *Introduction to Economics*. London: University of London, 2011. Print.

As the purpose of the text is to provide an exhaustive list of functions relevant for the context of professional and academic economic texts, the categories of field and tenor are diversified to comprise as many futural instances and their functional categories as possible. Hence, the tenor includes professional and theoretical economists (academics), and the field comprises various economic topics (economics of health care, political economy, accounting, education, public policy) and genres (introduction, handbook, theoretical papers).

### 3. Analysis of results

On the basis of the excerpted instances of the core expressions of futurity, certain tendencies and preferences can be observed throughout the corpus.

Futural construction	Absolute no.	%
will	6001	92.57
be to	239	3.69
shall	177	2.73
be going to	45	0.69
be about to	15	0.23
present progressive	6	0.09
be on the point/verge of	0	0
Total	<b>6483</b>	<b>100%</b>
present simple <sup>2</sup>	481	---

*Table 2: Statistical occurrence of futural expressions in the corpus*

Firstly, frequency analysis shows that futurity was predominantly conveyed by the verb *will*. All the remaining expressions were rather infrequent. The column of frequency reveals that some expressions were more appropriate in terms of their statistical occurrence. No instances of *be on the point/verge of* were detected in the corpus. Thus, some expressions appear to be absent from and thus irrelevant to the context of economic texts. Analogously, the present progressive forms were almost negligible. On the other hand, even though the *be going to* construction is declared to be used in informal and spoken contexts, it was found to convey all the textual and interpersonal functions throughout all the corpus sources<sup>3</sup>.

Still, in accordance with Huddleston et al. (208) and Aarts (305) futurity was interpreted broadly as lexical and grammatical means referring to the future. Although only core grammatical means were excerpted and quantified, they were analysed together with co-occurring lexical means. The excerpted instances of core expressions helped detect a broader co-text including other means of futurity. Within the co-text, we analysed the co-occurring nouns, adjectives and lexical verbs as all these parts of speech are able to create, trigger and govern a modal/futural context (Aarts, *ibid*).

Certain nouns can create a context in which intention, insistence and other modalities are presupposed and can be implied. These nouns can thus be followed by modal/futural verbs: *So I drew the inference that the intention was that the media should reproduce the programme*. In this clause, *be* is governed by the modal insistence and the context of *should* is triggered by intention. Similarly, the noun *wish* creates a modal/futural context for the subjunctive clause: *We respect the judge's wishes that we do not raise the temperature further*.

Adjectives create modal/futural context to varying degrees. It always depends on how the writer or speaker views the situation expressed by the complement (lexical verb). Examples of modal/futural adjectives are *able, advisable, anxious, bound, concerned, crucial, desirable, essential, fitting, imperative, important, likely, necessary, possible, supposed, sure, vital* and *willing* (Aarts 306): *Survivors are likely to experience adverse physical and psychological effects*.

Verbs expressing futural/modal meaning comprise *advise, intend, propose, recommend, require, suggest* and *wish*. These verbs can be complemented with a direct object, mandative *should* or a mandative subjunctive clause: *We intend that this bank should provide stimulus for private investment in Eastern Europe*.

The lexical means were not quantified; they were only enlisted to support the depiction of the futural co-text and to provide the means of establishing temporal space and cohesion (Hoffmannová, 1983) in the economic text.

## 4. Analysis of the textual functions of temporal expressions

### 4.1 Probability clusters

Instances of core structures excerpted from the corpus indicate that expressions of futurity tend to co-occur regularly in text units. We will refer to this co-occurrence as a futurity cluster<sup>4</sup>. In the vast majority of instances, these clusters are used by the author to convey hypotheses for a problem so that a more general axiomatic proposition can be formulated. These clusters mostly comprise futural expressions conveying various degrees of epistemic modality: (1) *A rich person **may** well favour a much higher degree of inequality than **will** a poor person. Likewise socialist governments **will** generally be in favour of a larger redistribution of income from the rich to the poor than **will** [...]* [PRB 6] As we can see, *may* and *will* are used to refer to the same reality, almost as synonyms.

Probability can also be expressed by other structures such as *be likely to*, which can combine with *will*: (2) *Only if countries believe that the other countries **will** a) ratify the agreement and (b) stick to it once it is ratified **will** the agreement **be likely to** succeed.* [PRB 6] While authors hypothesize about certain regularities, they gradually come to conclusions relevant to economic theory. They formulate new theory and new axioms: (3) *The price paid for bills **will** depend on demand and supply. For example, the more Treasury bills that the Bank of England **offers** for sale at its weekly tender of bills (i.e., the higher the supply), the lower **will** be their equilibrium price, and hence the higher **will** be their rate of return (i.e., their rate of interest, or 'rate of discount'). Normally, a bank **will** buy commercial bills only if they **have been** first 'accepted' by another financial institution (typically an investment bank). This means that the investment bank **will** redeem the bill (i.e., pay up) on the maturity date, if the firm issuing the bill **defaults** on payment. Of course the investment bank charges for this insurance (or 'underwriting'). Bills that have been accepted in this way are known as bank bills.* [PRB 6].

It is *will* that is frequently used in theorems, lemmata and various propositions whose aim is to generalize empiric economic reality and research findings: (4) *Profit is maximised at the point where an additional unit of output **will** add no more to profit – that is, where [...]* [PRB 6] These propositional statements, whose truth value is declared to be true, can form a separate section of a text. If the proposition is of great theoretic value, they can even be numbered, lettered or highlighted in frames. Axiomatic propositions often have an *if... then* structure, in which *will* is used as a superordinate temporal framework for present simple: (5) *The budget deficit refers to the debt that the government incurs in*

one year. *If the government runs persistent deficits over many years, these debts will accumulate. The accumulated debt is known as the national debt.* [PRB 6]

The *be to* structure can also be used in axiomatic *if-then* propositions even as an expression of subordinate futurity. It conveys particular general or future requirements: (6) *If an economy is to achieve sustained economic growth over the longer term, there must be a sustained increase in potential output.* [PRB 6] The *be to* structure can be found in larger probability clusters together with other grammatical (*may*) and lexical means (*be likely to*): (7) [...] *more borrowers are likely to default on payment and thus a higher CAR may be necessary if the bank is to avoid becoming insolvent. Also, in such times, borrowing companies or other banks may have their credit rating downgraded, giving them a higher risk.* [PRB 6]

Considering the following probability cluster, it is obvious that the author states hypotheses about the relations of people's confidence and the course of an investment curve. This hypothesising produces another hypothesis which appears to be almost axiomatic. The author ends with a conditional statement which might also be interpreted as a new economic postulate. Futurity is also expressed by means of a lexical means (*to be likely to*): (8) [...], *their confidence may well decrease. The investment curve will shift to  $I_3$  and the level of investment will actually fall to  $Q_3$ . Monetary policy is likely to be effective, therefore, only if people have confidence in its effectiveness.* [...] [PRB 6] The author's degree of certainty is so high, that the conditional clause can be interpreted in two different ways:

**i/ postulate:** Whenever people have confidence in the effectiveness of a monetary policy, the monetary policy is effective.

**ii/ hypothesis:** Probably, monetary policy will be effective, but people will first have to have confidence in its effectiveness.

We can thus claim that probability clusters are used to vary the degree of the probability of statements to come to conclusions that seem to be true and universal, enriching the theory of economics. To reach this goal, futurity expressions with other modal and lexical means were employed. Axioms often comprise numerical expressions that compare various economic variables: (9) *If  $LRMSC < MSC$ , it will be desirable to invest in additional capacity.* [PRB 6]

#### 4.2 Textual reference

The function of textual reference will be used to designate instances that refer to another part of the text (intratextual reference) or as a means of external

intertextuality (intertextual reference). In most instances, it is *will* which is used as a means of intratextual reference: (10) *Their significance as far as the group income is concerned will be explained when we refer to the preparation of the annual statement of comprehensive income in the next chapter.* [PRB 1] Subordinate present simple is also used in the instance above as a means of intertextual reference.

Intratextuality may refer to different sections or chapters, but it may also convey imminence: (11) *As far as this statement is concerned, the figures presented will be based on the cumulative amounts. The gross amounts due from customers will be as follows: [...]* [PRB1]

Similarly, intratextual reference can be used to refer to various figures (tables, grids and graphs): (12) *To aid the exposition we will refer to Figure 3.1, which schematically indicates various kinds of individual work history information, [...]* [PRB 3]

Besides *will*, *shall* is frequently used to convey intratextual reference. Instances of the progressive aspect were also found in the corpus: (13) *From this one problem stem all the other economic problems we shall be looking at throughout this book. This central economic problem is the problem of scarcity.* [PRB 6] The progressive aspect is used to highlight repetitiveness as well as duration of the action *throughout the book*.

Like *will*, *shall* also refers to immediate futurity in intratextual reference as can be seen in the following instances: (14) *Later, we shall have to ask ourselves what exactly we mean by 'true', but we shall not be dealing with this question here.* [PRB 7]

Intratextual reference is also expressed when defining new economic terms. It is often accompanied by the adverbial *hereinafter* to make readers aware of the fact that a new term has just been defined. Both *will* and *shall* are used in such instances: (15) *Let us consider for a moment the two extremes of the 'balanced diet line'. At the one end there is point (0, 0) which I shall call point O and at the other end there is point F (for Full) where  $F = (10, 5)$ .* [PRB 7]

Besides *will* and *shall*, this defining reference is often expressed by the present simple tense (which could therefore be replaced by *will* or *shall*): (16) *We call a curve which exhibits such a property convex to the origin.* [PRB 7] Still, present simple is used when referring to terms that are well-established: (17) *In order to produce these commodities, we need a means of production, another economic good which we call labour.* [PRB 7] While the present tense refers to omnitemporality (*generally speaking, in any text we call a curve [...]*), *will* or *shall*



refer to non-past (*hereinafter, we will/shall call a curve [...]*). Some instances of *be going to* detected in the corpus convey the author's intention to deal with a particular problem directing the reader to a particular part of the text: (18) *In this chapter and the next, we **are going to** look at the special role that money plays in the economy.* [PRB 6] In comparison with *shall* and *will*, these instances were fairly rare. In addition, they seem to be a feature of an author's idiolect (in the PRB corpus, the textual reference of *be going to* was found only in PRB 6).

Instances of intertextual and intratextual references were identified that were expressed by means of the *be to* structure: (19) *But possibly most revealing of the differences in approach between Marshall and Keynes **is to be found** in a letter from Marshall to – of all people – the historical economist Foxwell, 19 [...]* [PRB 2] This use of *be to* with an appealing function co-occurs with comparative and superlative forms. Analogously, it is part of the collocation *it is to be noted* that is used as a means of intratextual reference in cleft sentences and parentheses and is fairly formal: (20) *First, there is participation altruism: this arises because individuals gain utility from participating in social acts. This utility, **it is to be noted**, is in the participating, not in any utility from the consumption which the individual's contribution provides.* [PRB 2] Thus *be to* is used as a means of textual reference to emphasize the importance of dealing with certain concepts in the subsequent text or to emphasize what must be stated according to the author.

### 4.3 Questions and assignments

*Will* can often be found in several functions of questions. Firstly, it can be included in assignment questions, which authors use to assign problems to potential readers: (21) *What determines the shape of the IS and LM curves? \*8. Under what circumstances **will** a) a rise in investment and (b) a rise in money [...]?* [PRB 6] Assignments can also be expressed by means of the imperative referring to the future: (22) ***Show** how Grabbit plc. will account for the above transaction in its statement of financial position at 31 December 2008, and in its statement of comprehensive income for the year, and [...]* [PRB 1]

Opening questions call for solutions to problems, but they are answered by the author. They are asked to make readers premeditate wider aspects of some problems without having to reply. They usually open new sections of an economic text so that the author can develop the ideas necessary to find appropriate explanation. Opening questions are asked to provoke readers and draw their interest through deeper thoughts on the theoretic problem. It is *will*

that is used to open new hypothesising sections: (23) *This may require government investment in education and training. But **will** a reduction in unemployment in the long run also lead to higher inflation?* [PRB 6]

In questions and assignments, the construction *be going to* is often selected where certain “life situations” and “case studies” are introduced (non-factual/imaginary futurity). They express the fact that a certain person (a virtual personality) has some plans and intentions and it is the reader’s task to imagine such a person and deal with their problems: (24) *Question 1: Jane Parker **is going to** set up a new business on 1 January 2001. She estimates that her first six months in business **will** be as follows: (i) She **will** put £150,000 into a bank [...] [PRB 1]* As we can see, *be going to* co-occurs with *will*. While *going to* expresses the aim of the virtual Jane Parker, *will* is used to make hypotheses (*She estimates ...*). Similarly, *be going to* expresses a virtual Mr. Norman’s intention to set up a business. While *be going to* introduces the situation, it is *will* that is then used to convey his other aims: (25) *Question 2: Mr Norman **is going to** set up a new business in Singapore on 1 January 2008. He **will** invest \$150,000 in the business on that date and has made the following estimates [...] [PRB 1]*

In such virtual instances, some authors convey imminence by means of the *be about to* construction: (26) *Question 6 Harry **is about to** start negotiations to purchase a controlling interest in NX, an unquoted limited liability company. [PRB 1]* To conclude, authors use the less frequent and more informal expressions of futurity when setting and describing informal virtual models and illustrations.

Another type of futural question is a rhetorical question, which the author does not answer immediately. It is simply asked to make points that are worth mentioning. It opens a discussion and encourages the reader to a message or viewpoint. In such questions, it is *will* and *going to* futures that prevail. As we can see, the author starts such questions with the *be going to* construction<sup>5</sup>. As more and more questions are generated, *be going to* is replaced by *will*, even though their functions seem to be the same. Let us consider the following beginning of a chapter:

(27) *Microeconomics and choice*

*Because resources are scarce, choices have to be made. There are three main categories of choice that must be made in any society:*

*What goods and services **are going to** be produced and in what quantities, since there are not enough resources to produce all the things people desire? How many*

*cars, how much wheat, how much insurance, how many video games, etc., will be produced?*

*How are things going to be produced? What resources are going to be used and in what quantities? What techniques of production are going to be adopted? Will cars be produced by robots or by assembly line workers? Will electricity be produced from coal, oil, gas, nuclear fission, renewable resources or a mixture of these? [PRB 6]*

Within assignments, prerequisites and conditions are set to better delimit the situation and to state the requirements that readers should consider. Such future requirements may be conveyed by the *be to* construction: (28) *If the government is to adopt a target, which one should it choose? If a money supply measure is to be chosen, which one? [PRB 6]*

#### 4.4 Performative prefix

Futurity is used in explicit speech acts as a segment of performative prefixes (Yule, 1996). Analogously with textual references, futural constructions in performative prefixes can be replaced by present simple forms of the same verbs. A large number of prefixes detected in the corpus introduce assumptions explicitly: (29) *In each case, we will assume that the market is in other respects perfect. [PRB 6]* (30) *We assume that input prices are given, that is, the firm is not a monopsonist. [PRB 3]* Together with *will*, *shall* can be part of performative prefixes: (31) *We shall assume that at least in one dimension the baby develops over time. [PRB 7]*

Even though the preference of *shall* and *will* seems to be a matter of idiolect, one author can use both the forms in the same text (as can be seen in the PRB 6 instances). In addition, the author uses the *be going to* construction to prefix an assumption in another section of the text: (32) *We are going to assume that consumers behave rationally, but that does not mean that they have perfect information. [PRB 6]*

Hence, textual functions can be classified into two groups with respect to the internal-external time dichotomy (Halliday and Hasan). While probability clusters (hypotheses and axioms), questions and assignments refer to external time (time of events), textual reference and performative prefix are categories of internal time. It is the extracting of temporal meaning that enables us to establish such a sharp internal-external distinction of the functional categories.

## 5. Analysis of interpersonal functions

In this section, various interpersonal functions detected in the corpus will be enumerated<sup>6</sup>. As proposed above, the analysis will include grammatical means (core expressions). Lexical means co-occurring with the core expressions will be enlisted to explain the meaning of the core expressions and to demonstrate other means of temporal cohesion<sup>7</sup>. These will only be enlisted and a few exemplars excerpted from the corpus will be provided.

### 5.1 Purpose, aim, plan

This category of communicative functions referring to the future is based on the fact that future actions can be planned. Futurity arises from purposes that need to be fulfilled. Frequently, purpose is conveyed by means of what is known as the purpose infinitive (together with *in order to*, or *so as to*) and lexical phrases: *organise*, *aim to*, *objective to*, *project to*, *proposal to*, *purpose to*, *reorganisation to*, *strategy to*, *tactic to*, *oriented to*, *plan*, *prepared to*, *projected to*. The category of purpose, aim and plan also covers instances of intratextual reference as a means of organizing an author's writing and expressing his/her aims and plans: (33) *In short, our **aim is to trace** the route from political economy to economics and the corresponding, and to some extent subsequent, [...] [PRB 2]* Thus all the instances of textual reference presented above would also belong to the category of aim, plan and purpose.

Instances of lexical means can also occur where complex grammar forms might be used, such as the future perfect form in the following example: (34) *The **aim is to progressively reduce** these emissions to 5.2% below their 1990 level by 2012. [PRB 2] ~ It is our goal that these emissions **will have been reduced** progressively to 5.2% below their 1990 level by 2012. The infinitive may also be replaced by other non-finite verb forms, such as the gerund: (35) *A scientific enquiry with **the aim of identifying** new strains of antibiotics for future use [...] [PRB 1]* Moreover, the infinitive may be replaced by a that-clause with another verb referring to the future: (36) *This will presumably be clarified when a revised standard is issued. The **proposal** is that these **should** be based on the lessee's best estimate of the expected lease payments over the term of the lease. [PRB 1]**

### 5.2 Effort, desire, willingness

The category of effort, desire and willingness refers to events, actions and states

that are objects of (human) will. In other words, such events are intended or should be realized in the future as they arise from one's volition. The negation of such volitional expressions then results in a lack of volition.

The core expressions of futurity convey various degrees of willingness (deontic modality). In addition, some of the expressions can vary with respect to the intention they deliver. *Will* + the simple infinitive can have a strong volitional colouring, but *will* + the progressive infinitive states facts devoid of volitional interpretation. In general, effort, desire and willingness can be expressed by the present progressive, *be going to*, *be to*, *will* and *shall*. For instance, the intratextual function of the expressions also bears the author's effort and willingness to deal with particular topics in the particular part of the text: (37) *To aid the exposition we **will** refer to Figure 3.1, which schematically indicates various kinds of individual work history information, [...]* [PRB 3] (38) *From this one problem stem all the other economic problems we **shall be looking at** throughout this book. This central economic problem is the problem of scarcity.* [PRB 6] (39) *In this chapter and the next, we **are going to** look at the special role that money plays in the economy.* [PRB 6]

Core expressions of futurity, such as *be on the point of* and *be about to*, whose main purpose is to convey imminence, reduce the volitional meaning. Similarly, the present simple futurate that expresses immutability lacks any volitional meaning. The present simple form conveys volitional meaning, particularly as an expression of the subordinate future:

(40) *Moderate Keynesians argue that economies will probably eventually pull out of recession even if governments **do not boost** demand. There will be a natural upturn in the business cycle.* [PRB 6] ~ governments do not want, they are not willing to

(41) *If, however, you **paint** the room yourself, it will not.* [PRB 6] ~ you want to paint, you are willing to paint

or in (defining) textual reference<sup>8</sup>: (42) *We **call** points like A, which require sacrificing one commodity in exchange for more of the other commodity, an efficient allocation.* [PRB 7] ~ we will call, we shall call, it is our will/aim to call, we want to call.

In the economic contexts, a number of lexical means were identified that convey effort, desire and willingness: *act*, *afford*, *allow*, *agree*, *argue*, *attempt*, *cause*, *choose*, *compel*, *contribute*, *decide*, *deserve*, *enable*, *encourage*, *expect*, *fail*, *have an incentive to*, *hesitate*, *hope*, *determine*, *intend*, *invite*, *lobby*, *involve*, *make*

*an effort to, make it possible to, make somebody do something, motivate, offer, permit, persuade, prevent from, prompt, require, seek, serve, struggle, support, tempt, tend, try, want, wish, work, account to, attempt to, choice to, commitment to, concern to, desire to, force to, gain to, imperative to, incentive to, intent to, intention to, interest to, need to, permit to, power to, pressure to, requirement to, right to, struggle to, support to, tendency to, willingness to, desirable to, desired to, encouraged to, invited to, keen to, required to, treated to, willing to.*

After some verbs and adjectives, a *that* clause can be used to convey futurity. Thus, besides the infinitive form, lexical expressions can be followed by modal verbs or the subjunctive implying future events, actions and states. Lexical means conveying effort, desire and willingness co-occur with the core futural expressions and other modal verbs, enhancing temporal cohesion: (43) *Audit tests should vary so that employees cannot anticipate what **will** be audited. It is **not desirable** that audit staff **be transferred** to senior positions in a client company. This happens but it does mean that they **will** continue to have close relationship [...]* [PRB 1]

Lexical expressions can also be postponed after core futural expressions. Then the matrix as well as the complement time refer to the future. The time of performance of the matrix action is postponed towards the future: (44) *For reasons of profitability, the banks **will want to 'borrow short'** (at low rates of interest, as are generally paid on current accounts) and **'lend long'** (at higher rates of interest, [...])* [PRB 6] In such instances, the volitional interpretation of *will* is reduced as one can hardly “want to want” or “want to intend”. *Will* only serves as a “postpone” of the lexical volition. Such examples also indicate that *will* as an auxiliary is able to express pure future.

### 5.3 Change and stability

Futurity can be a result of changes or a result of stability. Analogously to other communicative functions, such a resultant meaning can be conveyed in many ways. Change and stability were expressed by various lexical means, for instance, phrasal verbs, but also other lexical phrases: *begin, carry on, cease, change, come, come into, continue, go on, lead, keep, proceed, result in, start, stop, turn out, change to, effect to, emergence to, implication to, impulse to, incentive to, waiting to, shift to.*

Analogously to other functions, the matrix time of lexical verbs can be postponed and modalized by core futural expressions and modal verbs: (45) *Do you think that after a couple of years people **might begin to base** their expectations*

*differently?* [PRB 6] In such cases, the complement time of the non-finite verb form is subject to the matrix time of the lexical verb. As a consequence, the complement time also has to refer to the future. In the case of a gerund, the duration of the action is prolonged towards the future. In the case of the infinitive, the action is triggered in the future: (46) *If people believe that a deflationary policy will cause a recession, firms **will stop investing** and will cut their workforce.* [PRB 6] (47) *If this happens, the LRAC curve **will begin to slope upwards again.*** [PRB 6]

#### 5.4 Means, ways, methods and results

Various instruments can be used to realize future events, states and actions. Thus, instances of this instrumental expression of futurity were identified in professional economic texts such as research means, ways and methods. Such instruments are always used for a particular purpose. Thus the infinitive forms can be interpreted as purpose infinitives.

Besides all the core expressions of futurity, there were also lexical means detected such as *adjust, develop, design, intervene, lead, lobby, monitor, reconstruct, regulate, stimulate, take actions, action to, alternative to, barrier to, intervention to, means to, measure to, mechanism to, mobility to, option to, policy to, regulation to, resistance to, solution to, tactic to, technology to, way to, better to, careful to, designed to, difficult to, easy to, eligible to, extended to, free to, hard to, important to, misleading to, normalised to, reasonable to, used to, stimulated to, worth, useful to/for*. Particular methods can also be expressed by means of lexical verbs: (48) *This will tend to **stimulate** firms to **increase** output, thus reducing slack in the economy.* [PRB 6] Similarly, various ways of reaching particular goals can also be specified by nouns: (49) *This means that a deflationary **policy to cure** inflation will not in the long run cause a fall in output or a rise in unemployment.* [PRB 6] Many adjectives with the infinitive complement can also convey qualities of various ways and methods. Thus, they can also be included in the category: (50) *For example, a policy **designed to accelerate** the rate of economic growth may result in a higher rate of inflation and a balance of payments deficit.* [PRB 6]

The futural meaning of the complement time becomes apparent in the context of other (core) expressions of futurity: (51) *In our example, speculators **may** anticipate that the central bank **will** raise interest rates or take some other **measure to reduce** inflation. They thus believe that the exchange rate **will** appreciate again.* [PRB 6]

Particular means and methods can be conveyed through core futural

constructions and the meaning of lexical verbs: (52) *If people believe that a deflationary policy will cause a recession, firms will stop investing and will cut their workforce. If they believe that it **will cure** inflation and restore firms' competitiveness abroad, firms **may increase** investment.* [PRB 6] ~ the cure to reduce inflation, the method to cure inflation; (53) *It may increase the happiness of politicians to tell us that they **are going to maximise** our wellbeing, but it is a task that is beyond their capacity.* [PRB 4] ~ the maximization of our wellbeing to increase the happiness.

In addition, immediate futurity is also conveyed by performative verbs when authors perform certain methods for or together with the reader: (54) *If we now **divide** the top and bottom of equation (4) by  $\Delta D$ , we **get**  $m = \Delta D / \Delta D + \Delta C / \Delta D$   $1 + c = \Delta R / \Delta D + \Delta C / \Delta D$   $r + c$  (7).* [PRB 6] Such performatives can also be presented to the reader in a more straightforward way by means of the imperative referring to immediate future: (55) *[...] if we increase the consumption of bread by 1 slice ( $dX = 1$ ), the consumption of eggs ( $Y$ ) will have to change by adding 1/2 an egg ( $dY = 1/2$ ). **Divide** both sides by  $dX$  and we **get**: [...], which is exactly the slope of the line (the function).* [PRB 7]

### 5.5 Seeming, certainty, probability and prediction

One of the most frequent functions of futurity constructions in professional economic texts proved to be the expression of probability conveying various degrees of certainty about the future. Economic texts contain a number of authors' predictions or hypotheses. These instances are often marked explicitly as formulations of probability: (56) *In determining whether '**it is probable** that future economic benefits **will** flow to the entity' there could still be uncertainties as to both costs and revenues.* [PRB 1]

It has been shown above that these expressions form clusters and regularly co-occur to form higher text units<sup>9</sup>. Besides *will*, the clusters can comprise other modal verbs expressing a degree of epistemic modality (*may* or *would*), but also the *be going to* construction. In the following instance, the author presupposes some present evidence that enables them to use the phrase: (57) *Accountants **will** become increasingly involved with its development and this chapter provides a brief oversight of a development that **is going to** make a major impact internationally on the availability of financial data for comparative analysis.* [PRB 1]

Lexical means also include phrases that can serve as hypothetical prefixes or that can be complemented by non-finite verb forms: *apt to, likely to, seem likely that, expected to, supposed to, apparent, assumed to, believed to, certain to, possible*



*to, seem to, suppose to, appear, estimate, necessary to, tendency to, possibility to.*

As has been said, these lexical phrases are used as pragmatic prefixes introducing other futural expressions, namely *will*: (58) *It is likely that 2010 will see further changes in the accounting standards in response to the financial crisis, not only for measurement of financial instruments that [...]* [PRB 1] One of the advantages of the use of lexical items is the anticipatory *it* that affects the communicative dynamism of the clause. In addition, it is possible to modify the degree of certainty by means of quantifiers: (59) [...] *to establish the fair value of an option at grant date the market price could be used (if the option is traded on a market), but it is much more likely that an option pricing model will need to be used.* [PRB 1]

The lexical phrases can also be used together with modals of epistemicity: (60) *But what are the objectives of managers? Will they want to maximise profits, or will they have some other aim? Managers may be assumed to want to maximise their own utility. This may well involve pursuits that conflict with profit maximisation. They may, for example, [...]* [PRB 6] In some instances, the degree of certainty is modified by multiple means: (61) *However if the issue is serious enough for one or more independent directors to resign it is likely that the market will certainly take note.* [PRB 1] The variety of means also enables authors to express their hypotheses in rather complicated syntactic structures: (62) *Radley and Taylor (2002) focus on the impact of the quality of rival schools' output (i.e., exam performance) on a school's own exam performance. It is expected that, the better the exam performance of rival schools, the more likely it is that a school will attempt to improve its own performance to encourage...* [PRB 3]

## 5.6 Potentiality, disposition and capability

Unlike the previous category, the meaning of potentiality and capability does not necessarily convey epistemicity (the author's own judgements). Certain actions and states may be realized in the future due to their properties, qualities and nature. The author can then keep his/her judgements and hypothesizing aside. Unlike certainty, I will mark as potential what is capable of being or becoming. It is an inherent property that is pre-evident and indicated at the time of utterance due to its predestination and inherence. The potentiality can be latent or evident. Thus, a scale of potentiality can be determined. Analogously to certainty, authors of economic texts hypothesize about the potentiality of economic states and actions, expressing the various degrees of possibility: (63) *By balanced budget, Oates calculates the impact of raising the*

*effective property tax rate from 2 per cent to 3 per cent on the median house value. He also determines how much additional revenue this **will** yield for education and what impact the additional revenue **will** have on educational spending per student. Then the impact of this increase in educational spending on property value, plus the impact of the tax increase, give the balanced budget increase. [PRB 3]*

While certainty can be expressed for both animate and inanimate subjects, potentiality is predominantly limited to inanimate subjects. The *be going to* construction with inanimate subjects expresses some present evidence indicated at the time of utterance and increasing an author's certainty which makes the utterance about the future more constative than hypothetical: (64) *This is a perverse effect given the intentions of those who initiate such sanctions. Of course, this perverse effect **is not always going to** arise, but, as stated above, the possibility that it does is greater for a poorer household. [PRB 3]* The term possibility in this instance is a synonym for probability. The author simply expresses the higher probability of the effect for poorer households. Hence, the occurrence of the effect is hypothesized in terms of probability rather than potentiality.

Besides purely grammatical means, I detected lexical constructions and phrases that convey the potential meaning: *able to, possible to, set to, destined to, necessary to, determined to, doomed to, potential to/for, possibility to, ability to, capacity to, opportunity to, right to, capable of*. Lexical means can also serve as a potentiality prefix introducing a grammatical construction of potentiality: (65) *It **is possible** that a multi-product enterprise **will** expand output non-proportionally, in which case ray economies of scale are not applicable. [PRB 3]* If a degree of certainty is prefixed, *will* and the lexical verb refer to potentiality rather than possibility. Otherwise, possibility would be expressed twice. The potentiality can also be expressed by the subjunctive: (66) *If information is to represent faithfully the transactions and other events that it purports to represent, it **is necessary** that they **be** accounted for and presented in accordance with their substance and economic reality and not merely their legal form. [PRB 1]*

Some potentiality can be determined by external factors based on adjustment: (67) *The Bank is charged to deliver price stability, but operationally it has a symmetrical target around a 2 per cent inflation rate. Interest rates **are set to** meet this target 24 months hence. If current inflation exceeds or undershoots this target by more than one percentage point then [...] [PRB 6]*

Immediate potentiality may be expressed by *be about to*, such as the capacity of the Internet in the following instance: (68) *The Internet **is about to** change this by focusing on how to report rather than what to report. It has **the capacity to** give investors the means to readily analyse the financial. [PRB 1]* The core grammatical

means (*be about to*) occurs together with the lexical phrase (*the capacity to*) in order to express the potentiality of the Internet.

No occurrences of *shall* expressing potentiality were found. It is other modal verbs such as *can* that are used besides *will* and lexical means as potentiality expressions: (69) *Machin and Manning (1997) and Acemoglu (1998, 2002a, 2002b) argue that increased supply can actually stimulate future demand.* [PRB 3] Together with *will*, *can* occurs in states and events with a clearly futural meaning.

The potentiality of an action, event or state to be realized is often related to another variable. Such relations are conveyed by means of comparative clauses. Subordinate futurity conveyed by the present simple form was identified in such potential expressions as (70) *The stickier wages and prices are, the longer it will take for internal balance to be restored.* [PRB 6]

## 6. Conclusion

This corpus-based study shows that futurity is a frequent grammatical feature in economic texts, which (apart from experiential functions) takes a number of textual and interpersonal functions. In the corpus, all the core futural expressions have been detected except for *be on the point/verge of*. The vast majority of instances were represented by *will*. Due to the high frequency of complex sentences in the corpus (namely featuring conditional clauses), the present simple tense referring to the future (subordinate futurity) turned out to be fairly frequent. The use of other core expressions proved to be limited to very specific situations (such as case studies). The variability of both grammatical and lexical expressions was found to be typical of probability clusters, which makes these text units temporally consistent and coherent. In the corpus, it was observed that authors tended to distribute tenses and relevant time expressions in accordance with some specific functions of text units. Tense is a deictic category in relation to the time of speaking (Matthews 90), and deixis is a means of coherence. Hence the co-occurrences of grammatical and lexical futural constructions provided adequate temporal cohesion throughout the investigated economic texts. In the corpus, a number of text units (clusters) coherent in terms of temporality were identified, most of which represented the authors' hypotheses about economic theories. In addition, futural clusters proved to refer to internal as well as external time (Halliday and Hasan). Internal time was conveyed by the functions of textual reference and performative prefixes whilst the functions of probability

clusters, questions and assignments referred to external time. In this manner, authors of economic texts constructed the futural space of economic texts (Hoffmannová, 1983).

Each core futural expression contributed to only one aspect of the discursive flow and fulfilled a particular textual function (probability clusters, textual reference, question and assignment, performative prefix). Hence, the proposed categories of textual functions proved to be consistent and disjointed (i.e., each exponent conveys a unique textual function). The categories of interpersonal functions (i.e., purpose, aim and plan; effort, desire and willingness; change and stability; means, ways, methods and results; seeming, certainty, probability and prediction; potentiality, disposition and capability) turned out to be rather inconsistent. Firstly, every proposition bears all the modes of meaning (Halliday, 2003). Thus, the categories of textual and interpersonal functions overlap. For instance, the textual function of intratextual reference also includes an author's willingness and effort realized in another part of the text. Secondly, the interpretation of complement time is always subject to the meaning of matrix time (Huddleston et al.). Hence, the interpretation of *will* analysed through the functional approach reflects the meaning of lexical verbs. For instance, lexical verbs can convey a means or method to be used in the future (complement time), but the core futural structure expresses prediction or potentiality of the means and method. These overlaps follow from the fact that authors of economic texts provide information and offers, but also express their judgements and attitudes, such as likelihood, necessity and desirability, at the same time. Finally, exponents of some functional categories may inherently be embedded in other categories. For instance, the act of planning may also express an agent's willingness to meet the planned target.

### Notes

1. Halliday (2004, 31) uses the term "metafunction" to emphasize that functionality is intrinsic to language. In addition, the term is used to distinguish "metafunctions" from "functions", which Halliday (ibid) uses for a purpose or a way of using language.
2. Instances of the subordinate present simple can be discriminated more unequivocally. Adverbial clauses introduced by *if, unless, provided that, supposing that, on condition that, when, until, before, after, the more, the -er* were detected and excerpted. As over ten thousand cases were identified, only the first two hundred cases were analysed from each category. The present simple tense was interpreted as futural if the main clause predicate comprised a modal verb (*will, shall, may, might, can, should, would, could, need*) which can all refer to the future or, at least, non-past. Hence, the statistics of the present

- simple would be only of limited relevance in comparison with the other constructions and therefore were omitted.
3. From the functional pragmatic perspective, Simpson (2004) observed the use of *be going to* (as an item of formulaic language) in spoken academic discourse. She also expressed her surprise that *be going to* was found on the list of formulaic expressions as it is known to be a rather informal futural expression.
  4. This terminology is introduced with respect to the assumption that expert writers tend to use epistemic devices together (Hyland 166). The coherent use of a wider range of epistemic expressions preserves modal harmony. Hyland (ibid) calls such co-occurrences epistemic clusters. Clusters in text units can also be identified for other time spaces. A brief outline of various clusters has been provided in Mikuláš (2014).
  5. This property of *be going to* not to be repeated in a text has been described by Quirk et al. and Wekker. For instance, *be going to* is used as an opener in weather forecasts: “Tomorrow **is going to** be another cold day. There **will** be snow on high ground, and many mountain roads will be impassable, [...]” (Quirk et al. 218).
  6. Čmejrková (196) asserts that functions of tenses must be explained not only on the basis of text composition and its type but also on the basis of the communicative purpose and intention of the author.
  7. I agree with the claim that grammatical and lexical means of temporality (futurity) cannot be isolated as they co-establish the time space of a text. In addition, certain patterns of lexical and grammatical temporal (futural) expressions regularly co-occur. Deviation from the mutual co-occurrence can result in incompatible combinations. Such incompatibilities create incoherent text units (Hoffmannová, 1983, 57).
  8. However, some authors claim that such use of the simple present tense conveys immediate futurity: “When referring to work that follows in the same paper, then use the present simple as appropriate to immediate and certain future, while the classical form with *will* is used for future work after this article for predicted events; it is used for events that are relatively certain, otherwise one of the conditional forms might be needed: We explain our method in Sect. 2” (Guide to English editing at Astronomy and Astrophysics). It has been shown above that textual reference is realized across more distant parts of the book. We therefore assume that the present form suggests immutability as the outline of a book is given and unchangeable.
  9. The category of *seeming, certainty, probability and prediction* and the category of *probability cluster* must obviously overlap. Their exponents constitute both the temporal (modal) framework of higher text units (probability clusters) and speech acts (mostly assertives) with hedging interpersonal functions. Hence, both the categories can comprise identical lexical and grammatical instances.

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