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LANGUAGE AND INTERNATIONAL TRADE: THE IMPACT OF FUTURE TIME REFERENCE ON FIRMS' EXPORT PERFORMANCE

Abstract

This study examines the potential impact of cross-linguistic differences in Future Time Reference (FTR) on firms' export performance and explores the role of language as an informal institution influencing international trade decisions. Drawing on a systematic review of the literature and a conceptual analysis of previous research, the study synthesizes evidence on the effects of FTR on economic behavior, innovation, financial decision-making, entrepreneurship, and corporate strategies. Existing research suggests that weak-FTR languages, which do not require explicit grammatical marking of future events, reduce the psychological distance between present and future outcomes and encourage greater future-oriented behavior. As a result, they are associated with higher levels of savings, innovation, financial development, entrepreneurial activity, and long-term investment. Given that exporting requires firms to undertake current costs in anticipation of future benefits, manage uncertainty, and commit resources to long-term international market development, these linguistic effects are highly relevant to export performance. The findings indicate that language structure may influence firms' internationalization strategies by shaping managerial perceptions of future rewards and risks, thereby affecting export-related decisions and outcomes. Overall, the study highlights future time reference as an important yet understudied determinant of international trade behavior and contributes to the growing literature on language and economic performance.

Keywords: future time reference, Weak-FTR, Strong-FTR, export performance, language and international trade.

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Introduction

The relationship between language and economic outcomes has increasingly attracted attention in international economics and corporate finance. A growing body of literature suggests that linguistic structures, particularly the grammatical treatment of future time reference (FTR), may shape economic behavior by influencing how individuals and firms perceive time, uncertainty, and future rewards. The distinction between weak-FTR languages, which do not require explicit grammatical marking of future events, and strong-FTR languages, which do, has been widely used as a proxy for differences in temporal cognition and intertemporal decision-making [4].

The foundational idea stems from the Sapir-Whorf hypothesis, which argues that language shapes cognitive frameworks and decision processes. Building on this perspective, Chen demonstrates that speakers of weak-FTR languages tend to exhibit more future-oriented behavior, including higher savings and better health outcomes, due to a reduced psychological distance between present and future outcomes [4]. Subsequent studies extend this argument to firm-level outcomes, showing that language structure influences corporate savings behavior [5], innovation [9], and disclosure practices [7]. However, despite the extensive literature on finance and corporate behavior, the implications of linguistic structure for international trade and export performance remain relatively underexplored.

This paper positions FTR as an informal institutional factor that may shape firms' export behavior by influencing expectations about future returns, risk tolerance, and strategic investment decisions in foreign markets. Given that exporting requires sustained investment, long-term planning, and exposure to uncertain international environments, linguistic differences in temporal perception may systematically affect firms' willingness and ability to engage in international trade.

Linguistic time perception and economic behavior. A central strand of literature argues that FTR influences intertemporal decision-making by altering perceived psychological distance to future outcomes. Thoma and Tytus show that linguistic structure affects intertemporal choice behavior, although their findings challenge the directionality of Chen's original hypothesis by suggesting that strong-FTR speakers may, under certain conditions, exhibit greater patience [1]. This indicates that the relationship between FTR and economic behavior is more nuanced than initially proposed.

Chen, however, provides strong cross-country and within-country evidence that weak-FTR languages are associated with greater savings, healthier behavior, and higher retirement wealth, implying stronger future orientation [4]. Extending this framework to firms, Chen et al. demonstrate that firms in weak-FTR countries hold higher cash reserves, suggesting that language structure affects corporate precautionary behavior [5].

Language as an economic institution. Recent research increasingly treats language as an informal institution that shapes macroeconomic and firm-level outcomes. Chi et al. argue that weak-FTR languages enhance R&D investment and innovation by increasing the perceived value of long-term returns [6]. Similarly, Kong et al. find that strong-FTR languages reduce innovation outputs such as patents and citations, highlighting the role of linguistic structure in shaping productive investment decisions [9]. Guan et al. further show that language influences management forecasts, with weak-FTR environments associated with more extensive forward-looking disclosure practices [7].

At the macro level, Caskey and Dutta document that weak-FTR languages are associated with higher financial development, suggesting that linguistic structure influences the broader financial environment in which firms operate [10]. These findings collectively support the idea that language affects not only individual cognition but also institutional and organizational outcomes relevant to international trade.

Language and international economic activity. Although direct evidence on trade is limited, related studies suggest strong channels through which language may influence export performance. Asasongtham and Wichadee highlight that foreign language ability is a crucial determinant of export success among SMEs, particularly in terms of market selection and international communication efficiency [8]. This suggests that linguistic capabilities, broadly defined, affect firms' ability to engage in international markets.

Moreover, Hechavarria et al. show that linguistic structure interacts with institutional environments to shape entrepreneurial behavior, particularly under uncertainty [2]. Since exporting involves similar uncertainty and reliance on long-term cross-border relationships, these findings provide indirect support for a potential FTR–export performance relationship.

Extended evidence on FTR and firm-level economic outcomes. Recent evidence further demonstrates that the influence of future time reference extends beyond individual decision-making and affects a wide range of organizational and macro-financial outcomes. Studies show that linguistic differences shape firms' financial contracting behavior, with weak- and strong-FTR environments exhibiting systematic variation in financial development patterns and long-term investment incentives [14]. At the firm level, language structure has been found to influence debt renegotiation processes, where strong-FTR language environments are associated with lower renegotiation frequency and reduced contractual flexibility [3]. Similarly, evidence from entrepreneurial settings indicates that speakers of weak-FTR languages are more likely to engage in self-employment and future-oriented economic activities, reflecting differences in how individuals perceive and value future outcomes [12]. In addition, FTR has been linked to corporate capital structure decisions and leverage adjustment dynamics, suggesting that linguistic structure can shape firms' strategic financial choices and risk-taking behavior [13], while cross-country evidence on stock price crash risk shows that language is also associated with variations in firm-level risk exposure and information environments [11]. Taken together, these findings position language as an important informal institution that systematically influences expectations, risk perceptions, and long-term economic decision-making across both individuals and firms. However, despite this growing literature, limited attention has been given to how linguistic structures affect firms' engagement in international trade, particularly export performance, which requires long-term planning, investment commitment, and forward-looking strategic behavior. This gap motivates a closer examination of the role of future time reference in shaping firms' export outcomes.

Methodology

This study adopts a conceptual synthesis approach based on cross-country and firm-level evidence from the literature. Export performance is assumed to be influenced by both firm-level strategic decisions and macro-level institutional factors, including language structure. FTR is operationalized as a binary classification of languages into weak and strong categories, following Chen [4].

The theoretical framework builds on two complementary mechanisms. First, weak-FTR languages reduce psychological distance to future outcomes, leading firms to value long-term export returns more highly. Second, strong-FTR languages may increase temporal segmentation between present investment and future payoff, potentially reducing willingness to engage in costly export entry. These mechanisms are consistent with evidence from corporate savings behavior [5], innovation investment [9], and financial development [10].

Additionally, institutional moderating effects are considered. Hechavarria et al. demonstrate that institutional uncertainty strengthens the behavioral effects of FTR [2], implying that export environments characterized by weak governance or higher risk may amplify linguistic effects on trade decisions.

Mechanisms linking FTR to export performance. Firms operating in weak-FTR linguistic environments are more likely to perceive export investments as immediately valuable due to reduced temporal separation between present costs and future gains. This cognitive framing encourages long-term commitment to foreign markets and increases willingness to incur sunk costs associated with exporting.

Conversely, strong-FTR languages may increase perceived temporal distance, thereby reducing firms' propensity to invest in uncertain export activities. This is consistent with findings on corporate risk-taking and innovation, where strong-FTR languages are associated with lower R&D investment and reduced innovative output [9]. Similarly, language-driven differences in financial decision-making, such as income smoothing and cash holding behavior, suggest that temporal framing influences a wide range of corporate strategies [5, 15].

Furthermore, communication efficiency in international markets plays a critical role in export performance. As highlighted in SME studies, language competence directly affects firms' ability to negotiate, identify markets, and maintain international partnerships [8]. Therefore, linguistic structure may indirectly influence trade through both cognitive and operational channels.

Strategic implications for firms. From a strategic perspective, firms operating in weak-FTR environments may demonstrate stronger export orientation due to higher valuation of long-term returns. Such firms are more likely to engage in sustained foreign market entry strategies and maintain longer-term international contracts.

In contrast, firms in strong-FTR environments may require additional institutional or financial incentives to overcome temporal bias in investment decisions. Evidence suggests that financial institutions and macroeconomic policies can interact with language structure to shape economic outcomes [10, 16]. Therefore, export promotion policies may need to be tailored to linguistic environments to enhance effectiveness.

Challenges and limitations

Despite strong theoretical and empirical support, the literature on FTR and economic behavior faces several limitations. First, causal identification remains challenging due to potential confounding cultural and institutional factors. Although within-country and instrumental variable approaches have been used, endogeneity concerns persist across studies [4, 6].

Second, the binary classification of languages into weak and strong FTR categories may oversimplify linguistic diversity. Some studies suggest that the effects of FTR may vary depending on context, framing, and multilingual exposure [1]. Third, most evidence is indirect when applied to trade, with limited firm-level export data directly linked to linguistic structure.

Future research directions

Future research should focus on micro-level export data to directly test the impact of FTR on trade entry, export intensity, and market diversification. Additionally, multilingual firms and cross-border managerial teams offer a promising setting to isolate linguistic effects from national institutions.

Further research could also explore interaction effects between language and trade policy, particularly in emerging markets where institutional uncertainty is high. Finally, integrating behavioral trade models with linguistic relativity theory may provide a more unified framework for understanding international economic behavior.

Conclusion

This paper synthesizes a growing body of literature suggesting that future time reference in language plays a significant role in shaping economic behavior across multiple domains, including savings, investment, innovation, financial development, and corporate decision-making. Extending these insights to international trade, the evidence suggests that linguistic structure may influence firms' export performance by shaping temporal cognition and long-term strategic orientation.

The scientific novelty of this synthesis lies in integrating linguistic relativity theory with international trade behavior, highlighting language as an informal institution that systematically affects economic globalization outcomes. The applied significance of these findings is substantial, as they suggest that export performance is not solely determined by financial or institutional variables, but also by deep-seated linguistic structures that shape managerial cognition. This has implications for trade policy, multinational strategy, and international business development, particularly in linguistically diverse environments.

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DİL VƏ BEYNƏLXALQ TİCARƏT: GƏLƏCƏK ZAMAN REFERENSİNİN ŞİRKƏTLƏRİN İXRAC PERFORMANSINA TƏSİRİ

Xülasə

Bu tədqiqat Gələcək Zaman Referansında (FTR) dillərarası fərqlərin firmaların ixrac performansına potensial təsirini araşdırır və dilin beynəlxalq ticarət qərarlarına təsir edən qeyri-rəsmi bir institut kimi rolunu araşdırır. Ədəbiyyatın sistematik icmalına və əvvəlki tədqiqatların konseptual təhlilinə əsaslanaraq, tədqiqat FTR-nin iqtisadi davranış, innovasiya, maliyyə qərarlarının qəbulu, sahibkarlıq və korporativ strategiyalara təsiri ilə bağlı sübutları sintez edir. Mövcud tədqiqatlar göstərir ki, gələcək hadisələrin açıq qrammatik işarələnməsini tələb etməyən zəif FTR dilləri indiki və gələcək nəticələr arasındakı psixoloji məsafəni azaldır və daha çox gələcəyə yönəlmiş davranışı təşviq edir. Nəticə etibarilə, onlar daha yüksək səviyyəli əmanət, innovasiya, maliyyə inkişafı, sahibkarlıq fəaliyyəti və uzunmüddətli investisiyalarla əlaqələndirilir. Nəzərə alsaq ki, ixrac firmalardan gələcək faydaları gözləyərək cari xərcləri öz üzərinə götürməyi, qeyri-müəyyənliyi idarə etməyi və uzunmüddətli beynəlxalq bazarın inkişafı üçün resurslar ayırmağı tələb edir, bu linqvistik təsirlər ixrac performansına çox uyğundur. Nəticələr göstərir ki, dil strukturu gələcək mükafatlar və risklər haqqında idarəetmə qavrayışlarını formalaşdırmaqla firmaların beynəlmiləlləşdirmə strategiyalarına təsir göstərə bilər və bununla da ixracla bağlı qərarlara və nəticələrə təsir edə bilər. Ümumilikdə, tədqiqat beynəlxalq ticarət davranışının vacib, lakin öyrənilməmiş müəyyənedicisi kimi gələcək vaxt istinadını vurğulayır və dil və iqtisadi göstəricilər üzrə artan ədəbiyyata töhfə verir.

Açar sözlər: gələcək zaman referensi, zəif-FTR, güclü-FTR, ixrac performansı, dil və beynəlxalq ticarət.

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ЯЗЫК И МЕЖДУНАРОДНАЯ ТОРГОВЛЯ: ВЛИЯНИЕ РЕФЕРЕНЦИИ БУДУЩЕГО ВРЕМЕНИ НА ЭКСПОРТНУЮ ЭФФЕКТИВНОСТЬ КОМПАНИЙ

Резюме

В данном исследовании рассматривается потенциальное влияние межъязыковых различий в представлении о будущем времени (Future Time Reference, FTR) на экспортные показатели компаний и исследуется роль языка как неформального института, влияющего на решения в области международной торговли. Основываясь на систематическом обзоре литературы и концептуальном анализе предыдущих исследований, исследование обобщает данные о влиянии FTR на экономическое поведение, инновации, принятие финансовых решений, предпринимательство и корпоративные стратегии. Существующие исследования показывают, что языки со слабым представлением о будущем времени, которые не требуют явного грамматического обозначения будущих событий, сокращают психологическую дистанцию между настоящими и будущими результатами и способствуют большей ориентации на будущее. В результате они связаны с более высокими уровнями сбережений, инноваций, финансового развития, предпринимательской активности и долгосрочных инвестиций. Учитывая, что экспорт требует от компаний принятия текущих затрат в ожидании будущих выгод, управления неопределенностью и выделения ресурсов на долгосрочное развитие международных рынков, эти лингвистические эффекты имеют большое значение для экспортных показателей. Результаты исследования показывают, что структура языка может влиять на стратегии интернационализации фирм, формируя представления менеджеров о будущих выгодах и рисках, что, в свою очередь, влияет на решения и результаты, связанные с экспортом. В целом, исследование подчеркивает важность, но недостаточно изученный фактор, определяющий поведение в международной торговле, в контексте представления о будущем времени, и вносит вклад в растущую литературу по взаимосвязи языка и экономических показателей.

Ключевые слова: референция будущего времени, слабая-FTR, сильная-FTR, экспортная эффективность, язык и международная торговля.

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