# Research Proposal


**Title:** *Connected Stocks via Business Groups: Evidence from an Emerging Market*

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## Research Objective

Related literature points out that common ownership and business groups are non-fundamental factors that lead to co-movement in stock returns. Using unique Iran's financial market context, this paper attempts to find which factors intensively and extensively affect co-movement.

## Motivation

The phenomenon of "co-movement" has been observed by researchers and analysts. There is an increase in interest in risk models, notably after the financial crisis of 2008. According to these models, price correlation plays a significant role in risk measurement. While first coming investigations attributed the companies' return co-movement to their fundamentals, (e.g. Shiller (1989)), recent findings have focused on the role of non-fundamental characteristics. Barberis and Shleifer (2003) and Barberis et al. (2005) provided theoretical models for predicting the co-movement between fundamentally unrelated companies. Trying to explain factors affecting co-movement, Anton and Polk (2014) suggest that common ownership positively affects co-movement[1]. Subsequently, Koch et al. (2016) provides evidence that even

[1]There are some factors like, Index inclusion (Barberis et al. (2005)), investors' attention to the companies (Wu and Shamsuddin (2014)), Investment banks' underwriting

owners' liquidity needs' correlation can result in co-movement independent of direct common ownership.

As emerging literature, the pros and cons of business groups have been the subject of the debates. [Khanna and Palepu (2000)] While the co-movement in business groups is accepted, the co-movement channels remain undiscovered. Both Cho and Mooney (2015) and Kim et al. (2015) studied the South Korean market and suggested two different sources for the co-movement in business groups. The first paper attributed co-movement to the companies' fundamentals. However, the second paper presents that the investors' category/habitat behavior is responsible for co-movement.

Measures of common ownership have been categorized into two types in the literature. First of all, model-based measures that capture common ownership base on a proper model. These measures have a better economic interpretation, but most of them are bi-directional or industry-level measures.(e.g, Harford et al. (2011); Azar et al. (2018); Gilje et al. (2020)) In addition to model-based measures, some ad hoc common ownership measures are used in the empirical literature. There is significant doubt on how these measures capture common ownership's impact on the management, and many of them have unappealing properties.(e.g, Anton and Polk (2014); Azar (2011); Freeman (2019); Hansen and Lott Jr (1996); He and Huang (2017); He et al. (2019); Lewellen and Lowry (2021); Newham et al. (2018))

# Data

We use our unique data set, including the daily ownership table that reports all end-of-the-days block-holders of listed firms with their changes in that day. Block-holder is a shareholder who owns at least 1% of the total shares outstanding. We also gathered industries index and stock returns, trading volume, and other relevant market and accounting data from the Codal website [2] and the Tehran Securities Exchange Technology Management Co (TSETMC)[3] database.

(Grullon et al. (2014)), correlated beliefs (David and Simonovska (2016)), shareholders' coordination (Pantzalis and Wang (2017)), and preference for companies' dividends (Hameed and Xie (2019)) that have been identified by researchers.

[2] www.codal.ir

[3] www.tsetmc.com

# Methodology

We use the same methodoloy as Anton and Polk (2014) to compose pairs, define control variables, and calculating co-movement. A method wildly used in the Emperical asset pricing is the two-step approach of Fama and MacBeth (1973). In the first step, for each time period, cross-sectional regressions are used to obtain estimates of the parameters of interest. Then, in the second step, the time series of these estimates are used to obtain final estimates for the parameters and standard errors so that t-statistics can be computed. [Skoulakis (2008)]

# Contribution

According to the restrictions of data in the US that quarterly fund ownership data is available, investigations in this area are limited to the fund ownership impact on co-movement. This type of owners perform particular types of behavior due to their needs and the fact that they are intermediates. Nevertheless, in Iran, the block holders' daily ownership data, including mutual fund ownership, is publicly accessible. So research through this data can show whether common ownership other than mutual fund ownership can lead to co-movement or not.

In this paper, we consider the co-movement of the companies in business groups. Best of our knowledge, it is the first study that compares direct and indirect common ownership. Also, a modified measurement is introduced in this paper to calculate the common ownership of the companies.

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