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Influential assets in Large-Scale Vector AutoRegressive Models*

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Abstract

When a company releases earnings results or makes announcements, a dominant sectoral wide lead-lag effect from the stock on the entire system may occur. To improve the estimation of a system experiencing dominant system-wide lead-lag effects from one or a few asset in the presence of short time series, we introduce a model for Large-scale Influencer Structures in Vector AutoRegressions (LISAR). To investigate its performance when little observations are available, we compare the LISAR model against competing models on synthetic data, showing that LISAR outperforms in forecasting accuracy and structural detection even for different strength of system persistence and when the model is misspecified. On high-frequency data for the constituents of the S&P100, separated by sectors, we find the LISAR model to significantly outperform or perform equally good for up to 91% of the time series under consideration in terms of forecasting accuracy. We show in this study, that in the presence of influencer structures within a sector, the LISAR model, compared to alternative models, provides higher accuracy, better forecasting results, and improves the understanding of market movements and sectoral structures.

Keywords: High-Dimensions, Forecasting, Dimension Reduction, Influencer Structure, Bellwether

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1 Introduction

'What is good for General Motors (GM), is good for America'. This famous misquote of a statement of Charles Wilson, former president and CEO of GM, is used as a quote to describe the function of GM as a bellwether for the US economy. A bellwether firm is one whose reported earning results, stock performance, or fundamentals are a performance indicator for the wider economy or sectors of it. When GM, for decades one of the largest US companies and employers, reports increasing sales, it would indicate good overall results for the US economy given consumers only buy new cars when they have money to spend. This made GM for decades a bellwether for the US economy and stock market.

Naturally, firms acting as bellwethers for the economy should only be of relevance for a short while, otherwise it would constitute a permanent market anomaly. Likewise, companies having information release with market-wide implications should only lead the market for a short while. This may occur during the earnings announcement season (Bonsall IV et al., 2013; Hann et al., 2019; Hameed et al., 2015), when the announced results of a company drive expectations about other companies in the same sector (Aobdia et al., 2014). Thus, when leadership in the price formation within a sector occurs, one would be presented with a large system of N stocks while the relevant time period, T, would be short. Such a data situation challenges the estimation as it would become inconsistent. The estimation accuracy of a large systems with only a few observations can be improved when accounting for underlying data structures. If the structure is sparse and various important asset-by-asset relationships are present, sparsity methods like LASSO (least absolute shrinkage and selection operator), SCAD (smoothed clipped absolute deviation), and Adaptive LASSO (Tibshirani, 1996; Fan and Li, 2001; Zou, 2006) are suitable methods. Several sparse estimators were developed to incorporate observed data structures such as groups, see the group-LASSO (Yuan and Lin, 2006), which aids the estimator in uncovering the underlying structure in the presence of short time periods. In this paper we develop a sparse estimator to account for leadership of stocks on the entire sector, which improves the estimation and forecasting accuracy when such structures are present.

Sectors can be driven by the stock performance of a single or small group of assets in situations which do not classify as bellwether. Recently, during the bankruptcy of Silicon Valley Bank, information concerning troubled banks caused stock prices of other financial institutions, hence within the same sector, to plummet as well (Choi et al., 2023). To avoid mix-ups with bellwether firms which primarily indicate firms predicting the wider economy, we will introduce a different terminology: These leading stocks will be referred to as 'influencers', a term borrowed from the network science literature, as it precisely describes the situation we are confronted with. Contrary to the network science literature though, it can be expected and is observed empirically, that the presence of influential stocks is not persistent given it would constitute a permanent market anomaly. Given a small number of influencer stocks would dominate the large system with short time series available for estimation, it is reasonable to expect the system to be sparse. Indeed we observe such dominance and sparsity in the data, see section 2.

A plethora of estimators have been developed for sparse structures. These estimators, originally developed for linear regression, have been extended to multivariate time series data and proved to outperform their non-sparse counterparts in terms of estimation and forecasting accuracy, see Masini et al. (2023) for a survey. Davis et al. (2016) develop a two-step approach for Vector AutoRegressive (VAR) models to study dynamic interconnections of large-scale systems under sparsity. Depending on the area of application, additional structural assumptions beyond individual sparsity such as LASSO were shown to improve the estimation and forecasting accuracy even further. Messner and Pinson (2019) extended a VAR with LASSO by a time-adaptive approach to account for specifics in wind power forecasting. Babii et al. (2022) developed a regularised VAR for when the time series data occur at different frequencies. Nicholson et al. (2020) consider that the optimal lag length may differ for each time series and develop a sparse estimator accounting for this. Song and Bickel (2011) propose a VAR approach that penalizes the lagged parameter matrix, columns, and individual parameters. Nicholson et al. (2017) consider various structured VAR models with LASSO and sparse group penalty functions (Simon et al., 2013) to construct estimators for improved forecasting performance. Basu et al. (2019) propose a VAR(1) model for reducing the rank and parameter of the underlying structure such as the network structure matrix. Bayesian VAR models have been extensively studied; see, for example, Ghosh et al. (2019).

The outperformance of structural estimators in terms of estimation and forecasting accuracy was further extended by incorporating structures from network analysis into VAR models, also referred to as Network AutoRegressive (NAR) models. Diebold and Yılmaz (2014) propose connectedness measures derived from variance decompositions and shown to be related to weighted, directed networks. Barigozzi and Hallin (2017) studied volatility connectedness with a network inspired methodology which can be estimated via a sparse VAR model. Yin et al. (2023) introduced a general framework for NAR models. Trimborn et al. (2024) introduced a model to jointly regularize the individual parameters and influential nodes in a NAR model to identify influential regions in the Bitcoin blockchain. Trimborn et al. (2022) introduced a model which jointly identifies the relevant lags, influential groups and individual parameter strength via a 3-layer regularization term for sparsity in the lags, groups and individual parameters to model the impact of exchanges on price discovery.

In this paper, we present a sparsity estimator which extends commonly-used ones such as LASSO, SCAD, and Adaptive LASSO by an influencer structure. The influencer structure refers to individual assets past returns impacting a large proportion of other assets whereas the remaining assets only influence a small fraction. This structure infers a dominance of some assets on the system and is inspired by the frequently observed presence of influencers in many networks beyond asset pricing. Essentially we investigate if a stocks' market movements have a comparably stronger influence on the entire system than that of others and assign a lower penalty to that stock in sparse estimation, whereas non-influential ones receive a stronger penalty. Given that the motivation for the structure of the estimator stems from network analysis, we term the model a Large-scale Influencer Structure Vector AutoRegressive (LISAR) model.

The model TriSNAR, introduced in Trimborn et al. (2022), is also designed to identify influencers in a system. However, there are differences between LISAR and the former which make LISAR much more suited for the modelling of stock market data. LISAR is designed to identify influencers and penalise the parameters associated with them less. By this it accounts for the fact that influencers can matter more for the dynamics within a system. The parameters of non-influencers receive a higher penalty. In TriSNAR the parameters associated with non-influencers are disregarded. This difference in the penalty function makes LISAR better suited for the modelling of systems in which non-influencers are not unimportant for the dynamics of the system, such as the stock markets. We show in section 5 that LISAR beats TriSNAR in forecasting the log returns of the stock sectors (Diebold-Mariano test), underscoring this point. LISAR adaptively adjusts the penalty of influencers / non-influencers, whereas TriSNAR disregards the parameters associated with non-influencers via a hard-thresholding function. This difference in the penalty function does not only set the models apart, it also contributes to computational efficiency. TriSNAR is estimated via coordinate-wise descent in combination with an active set algorithm. Since LISAR does not disregard non-influencers, but adjust their penalty, no active-set algorithm is needed for the LISAR estimation. This improves the computational efficiency strongly, see section 4. The difference in the penalty function makes LISAR suited for model estimation when influencers are present and non-influencers are still relevant for the dynamics of the system. This makes LISAR better suited for stock market estimation, which is supported by its forecasting performance.

We illustrate the performance of the method in synthetic data experiments, which show that the method outperforms a number of competing models, namely LASSO, SCAD, Adaptive LASSO, a Bayesian VAR (Bańbura et al., 2010), Dynamic Factor Model (Doz et al., 2011), and TriSNAR (Trimborn et al., 2022) in forecasting accuracy and structural detection even when the model is misspecified and for varying levels of time series persistence. Given that a system-wide influence of a small number of stocks can be expected to occur within asset sectors, as earlier motivated, we illustrate the performance of the method on a dataset of 8 years of high-frequency price observations (5 minute) for the S&P100. The results show, depending on the sector, that the proposed model significantly outperforms or performs equally well for 90-91% of the time series (assets per day over 8 years) in terms of forecasting accuracy, evaluated with a Diebold-Mariano test (Diebold and Mariano, 2002) on 5% significance level. Evaluation for the best model based on the Vuong test for overlapping models (Vuong, 1989), which is essentially a likelihood ratio test evaluated against a sum of chi-squared random variables, showed an even stronger outperformance of the proposed LISAR methodology. Consequently we show that the LISAR models help to better understand market movements, the sectoral structure and improve forecasting accuracy.

The structure of this paper is as follows: In section 2 we describe the S&P100 data. Section 3 introduces the LISAR model framework, the estimator, and the developed algorithm for its optimisation. In section 4 we show the performance of the models in synthetic data experiments. Section 5 is dedicated to the real data application during which we show that the LISAR models improve forecasting accuracy and provide frequently better models as by the Vuong test. Finally, section 6 concludes. The code used in this paper is available at GitHub and we provide the R package NetVAR for convenient usage of the suggest LISAR method.

2 Influential assets

In this section we illustrate the existence of influential assets in stock markets which motivates the development of the methodology suggested in this study. As motivated in the introduction, influential asset structures shall only exist for short time periods otherwise they constitute a permanent market anomaly. Indeed we found that such structures exist for intraday data but we did not observe them for daily data. We illustrate the existence of these structures on a high frequency data set of the 100 stocks comprising the S&P 100[1]. The data were observed in the time period January 01, 2016 to December 31, 2023 at a 5 minute frequency during opening hours of the New York Stock Exchange, namely 9:30 am to 4pm EST. This results for each stock in 78 observed prices per day on a total of 2010 days. We collected the information about the sectoral classification of each stock from the index provider S&P. S&P divides the stocks into 11 sectors and we will analyse if stocks within the sectors act as sectoral influencers for the rest of the system within any given day. Of the 11 sectors we focus on the ones which comprise of at least 10 stocks because for smaller systems an estimation with methods accounting for data structures as LISAR does it, is of less relevance given the small size and amount of data available. Hence we consider systems of large size relative to the number of observations available. 6 sectors consist of more than 10 stocks, namely Consumer Discretionary (CD), Consumer Staples (CS), Financials (Fin), Health Care (Health), Industrials (Ind), and Information Technology (IT). We summarise the constituents contained in the 6 sectors in Table 4.

[1] The data were acquired from alphavantage.co

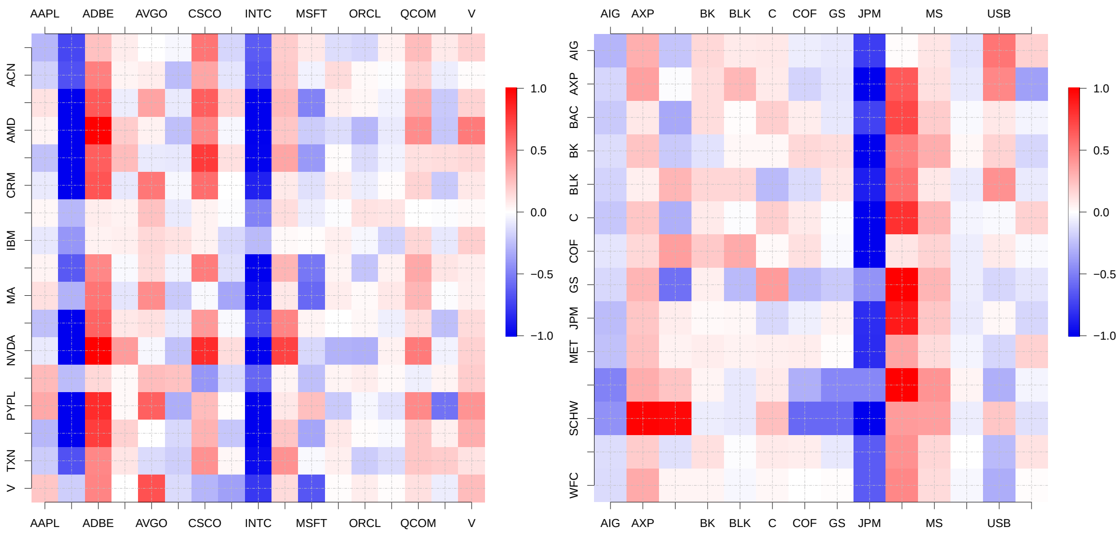
In a first investigation we are interested to determine if it is reasonable to assume that intraday one or several stocks are sectoral-wide influential for the system. For this we determine if in a VAR model the parameters associated with one stock would be much larger in magnitude than the others. For each sector and day we estimated from the intraday log returns a VAR(1) model. We derive then the magnitude of the parameters of the VAR(1) model and compute the sum of the magnitudes per stock to measure the sector-wide influence a stock has on the entire system on any given day. We derive the average over the sums of magnitudes and compute if within any given day a stocks' sum over the parameter magnitudes is larger than the average over the sums of parameter magnitudes plus 1.5 times the corresponding standard deviation. We measure on how many days out of the 2010 at least one stock fulfils this criteria, see Table 1.

Table 1: The table shows the fraction of days out of the 2010 under consideration when the joint magnitude of parameters, estimated from a VAR(1) model, associated with at least one stock surpasses the average joint magnitude of all stocks by at least 1.5 times the standard deviation of the joint magnitude. We observe that on a large fraction of days across the industries dominance of the system by stocks exist. The abbreviations stand for Consumer Discretionary (CD), Consumer Staples (CS), Financials (Fin), Health Care (Health), Industrials (Ind), Information Technology (IT).

	CD	CS	Fin	Health	Ind	IT
Fraction of days	0.83	0.84	0.96	0.93	0.88	0.97

We observe that on the majority of days, at least one stock appears to have a stronger impact on the sector than others. This suggests that a sector-wide influencer structure is indeed present. In a more nuanced analysis, we zoom in on the parameter matrix associated with the VAR(1) models for two days during which the sector-wide influence is particularly pronounced. The two heatmaps are displayed in Figure 1. We observe indeed a structure which leads to the interpretation that some stocks are much more important for the system at that given day. On the 21.01.2022 (left heatmap), we observe the stock Intel (INTC) has a strong impact on the Information Technology (IT) sector. For the abbreviations of the stocks, see Table 4. This observation coincides with the announcement of Intel to build up a processor factory in Ohio, a project worth 20 billion USD, see Intel's website for the press announcement. Likewise, on the 20.02.2020, we observe a strong impact of JPMorgan (JPM) on the Finance sector. This coincides with the onset of the covid-19 recession period.

Figure 1: Left is the heatmap showing the parameters of the VAR(1) model estimated on the log returns of the 21.01.2022. Right shows the corresponding heatmap for the 20.02.2020. For illustration purposes parameters larger 1 or smaller -1 are replaced with 1 and -1 respectively. We observe that the stocks Intel (INTC) and JPMorgan (JPM) have a stronger impact on the systems than others.

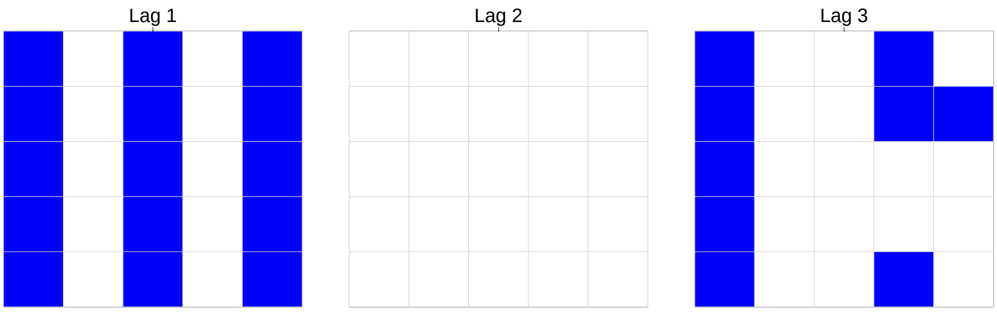


We see from the examples in Figure 1 and the aggregated results in Table 1 that sector-wide influence of stocks is present on the majority of days. However, we also observe that a lot of parameters in Figure 1 are close to zero, hence the system is sparse. When the number of parameters is high, as for high dimensions or when multiple lags are involved, VAR models quickly become overparameterized and experience difficulties in convergence. Even for moderate dimensionality, the model structure is often overparameterized. This leads to potentially inaccurate estimates and also impairs the understanding and interpretation of the model. Basu and Michailidis (2015) argue that meaningful (interpretable) estimation and inference of large-scale VAR models is often not possible without imposing structural assumptions. Given the high dimensionality of the system and the little data available (78 log returns per day), the VAR models estimated here are likely overparameterized. Consequently, we develop a methodology, referred to as LISAR and introduced in the following section, which is designed to model and detect influential assets in high dimensional systems when little data is available for estimation.

3 A Large-scale Influencer Structure Vector AutoRegression (LISAR) approach

Let $Y_t \in \mathcal{R}^N$ denote a vector of observations of a system with N-dimensional processes at time point $t \in \{1, \ldots, T\}$, with the length of the time period denoted T. Assume there are p parameter matrices $\boldsymbol{A}_k$ with $k \in \{1, \ldots, p\}$, which are of dimension $N \times N$ and measure the serial dependence of the N processes. Write $A_{k;ij}$ for the i, j-th entry of the matrix $\boldsymbol{A}_k$. A VAR model describes the serial linear dependencies between these processes. As motivated in section 2 based on the real data, the matrices $\boldsymbol{A}_k$ are assumed to have a sparse 'influencer' structure, and thus some variables have no influence on others at all. This means, the parameters are $A_{k;ij} = 0$ for some k, j and all i. This kind of sparse 'influencer' structure can be represented by time-lag matrices, shown in Figure 2.

Figure 2: Exemplary influencer representation in VAR parameter matrices. In this illustration 5 time series are considered with parameters different from zero in lags 1 and 3. In lag 2, all parameters are equal to 0. Time series 1,3,5 show influencer behaviour upon the entire system originating from lag 1.



Given time lag k, and S be the set of influencers, the columns of $\boldsymbol{A}_k$ have either of the following structures:

$$\boldsymbol{A}_k \begin{cases} A_{k;ij} \neq 0, & j \in S \text{ for some i} \wedge A_{k;ij} = 0 \text{ otherwise} \\ A_{k;ij} = 0 & j \notin S \text{ for some i} \wedge A_{k;ij} \neq 0 \text{ otherwise} \end{cases} \tag{1}$$

In the first case, the influence of variables j on variables i at time lag k are denoted as $A_{k;ij} \neq 0$. If an influential stock is being detected, then in most of the cases, the set of parameters within this group are non-zero. In the second case, some variables do not affect others at all or just a few, which represents a non-influencer stock. These parameters are denoted as zero within the non-influential groups.

This definition relates to Figure 2 and the sparse 'influencer' structure in the corresponding LISAR model. The LISAR is defined as

$$Y_t = A_0 + \sum_{k=1}^{p} \boldsymbol{A}_k Y_{t-k} + \epsilon_t \tag{2}$$

where $A_0 = (a_{1,0}, \dots, a_{N,0})^\top$ is the intercept, $\boldsymbol{A}_k$ is defined as in (1) and $\epsilon_t = (\epsilon_{1,t}, \cdots, \epsilon_{N,t})^\top$ is a vector that is assumed to be independently and identically distributed with $\epsilon_t \sim (0, \Sigma)$. We assume that the model is stationary and ergodic, with all roots of the polynomial $\boldsymbol{I}_N - \sum_{k=1}^{p} \boldsymbol{A}_k Z^k$ lying outside the unit ball. Though the definition is alike to a classical VAR framework, it differs in the described 'influencer' structure of the parameter matrices.

Our interest is in detecting the influential variables in the system to help us analyse if certain stocks have an overall strong impact on all other stocks which would make it an influential stock. For an insightful interpretation, we assume a sparse 'influencer' structure, hence some stocks are not influential at all or just impact a few others but not all of them. To perform regularized estimation, we introduce a penalty function $p_{\lambda_1,\lambda_2,\gamma}(\cdot)$ imposed on the lags, columns (influencer structure) and individual parameters of $\boldsymbol{A}_k$ and estimate the model (2) by solving a regularized least squares optimization problem,

$$\min_{\mathbf{A}} \sum_{t=p+1}^{T} \frac{1}{2} ||Y_t - \sum_{k=1}^{p} \boldsymbol{A}_k Y_{t-k}||_F^2 + \sum_{k=1}^{p} p_{\lambda_1,\lambda_2,\gamma}(\boldsymbol{A}_k), \tag{3}$$

where λ_1, λ_2, and γ are tuning parameters for the sparsity. The form of $p_{\lambda_1,\lambda_2,\gamma}(\cdot)$ will be introduced in the following section.

3.1 LISAR Estimator

Write $A_{k;ij}$ for the i,j-th entry of the matrix $\boldsymbol{A}_k$ and write $||\cdot||_F$ for the Frobenius norm, defined by $||\boldsymbol{A}_k||_F = \sqrt{\sum_{i=1}^{N} \sum_{j=1}^{N} A_{k;ij}^2}$. We extract the diagonal of $\boldsymbol{A}_k$ and consider the autoregressive parameters separately as the $(N+1)$-th group, $A_{k;N+1}$. In other words, we describe the autoregressive effects disentangled from the influencer / non-influencer effects. We use $A_{k;j}$ to denote the column (influencer structure) j with $j = 1, \dots, N$ within the parameter matrix $\boldsymbol{A}_k$, yet without the j-th parameter on the diagonal. Hence, $A_{k;j} = (A_{k;1j}, \dots, A_{k;(j-1)j}, A_{k;(j+1)j}, \dots, A_{k;Nj})^\top$. As such, the groups have $(N-1)$ parameters except for the group of the autoregressive parameters, which has N parameters. We introduce a scaling parameter $N_j = (N-1)$ for $j = 1, \dots, N$ and $N_j = N$ for $j = (N+1)$ to offset the impact of a mismatch between the number of parameters in the columns $(N-1)$ and the diagonal N. The scaling parameter N_j is applied to a threshold parameter κ, which determines if a column belongs to an influential asset or not. We introduce a penalty parameter α which is a mixing parameter for the penalty function, determining how much the individual parameters get penalized in comparison to the overall penalization on the entire system. The parameters $A_{k;j}$ in a group j will receive a stronger individual penalty via α if the group has a comparably low or no impact on the system, meaning $||A_{k;j}||_F \leq N_j\kappa$, then the parameters $A_{k;ij}$ for the respective k, j are penalized with $(1/\alpha)\lambda_2$. Vice versa, a group with a comparably strong influence on the system, meaning $||A_{k;j}||_F > N_j\kappa$, receives a weaker penalty onto its individual parameters, thus the penalty on the individual parameters is $\alpha\lambda_2$. Hence, the threshold κ controls if a group receives weaker or stronger penalty but does not act as penalty term itself. Denote $\gamma \in \{\alpha, 1/\alpha\}$ which entails the value α if $||A_{k;j}||_F > N_j\kappa$, and $1/\alpha$ otherwise. This formulation of the penalty function ensures that influential / non-influential assets receive a diverging penalty applied upon its individual parameters depending on the strength of the influence of the asset upon the system, whereas assets' impact is not penalized out entirely. Therefore, weak but important relationships between stocks which are less relevant for the overall system remain part of the model instead of being penalized out entirely as it would be the case if the assets would be penalized directly via a hard-thresholding function.

We define the methodology so that it extends existing sparsity methods such as

- LASSO: $p_\lambda(\boldsymbol{A}_k) = \lambda \sum_{i=1}^N \sum_{j=1}^N |A_{k;ij}|$
- Adaptive LASSO: $p_\lambda(\boldsymbol{A}_k) = \lambda \sum_{i=1}^N \sum_{j=1}^N w_{k;ij}|A_{k;ij}|$
- SCAD (smoothly clipped absolute deviation):

$$p_\lambda(\boldsymbol{A}_k) = \sum_{i=1}^N \sum_{j=1}^N \begin{cases} \lambda|A_{k;ij}| & \text{if } |A_{k;ij}| \leq \lambda, \\ \frac{2b\lambda A_{k;ij}| - |A_{k;ij}|^2 - \lambda^2}{2(b-1)} & \text{if } \lambda < |A_{k;ij}| \leq b\lambda, \\ \frac{\lambda^2(b+1)}{2} & \text{otherwise.} \end{cases} \tag{4}$$

Note that the LASSO can be extended to SCAD by defining a parameter $b > 2$ and adding the tapering-off threshold $\frac{2b\lambda|A_{k;ij}| - |A_{k;ij}|^2 - (\lambda)^2}{2(b-1)}$ and the non-regularized case $\frac{(\lambda)^2(b+1)}{2}$ to it. Subject to the inclusion of w, LASSO extends to the Adaptive LASSO. Hence, for the sake of brevity, we show the next step only on the example of LASSO. We define the penalty function by

$$p_{\lambda_1,\lambda_2,\gamma}(\boldsymbol{A}_k) = \begin{cases} N^2\lambda_1||\boldsymbol{A}_k||_F & ||\boldsymbol{A}_k||_F \leq N^2\lambda_1 \\ \lambda_2\gamma \sum_{i=1}^N \sum_{j=1}^N |A_{k;ij}| & N^2\lambda_1 < ||\boldsymbol{A}_k||_F \end{cases}. \tag{5}$$

Note that the first case $N^2\lambda_1||\boldsymbol{A}_k||_F$ applies to the layer of lags. It is regularized by the magnitude of all parameters within $\boldsymbol{A}_k$ and scales the regularization parameter λ_1 by the number of parameters, N^2. The 2-nd case constructs the regularization operator for the individual parameters via a soft-threshold, $\lambda_2\gamma|A_{k;ij}|$. Note that γ adjusts the regularization of λ_2. The choice for $\gamma \in \{\alpha, 1/\alpha\}$ depends on $||A_{k;j}||_F$ being larger or smaller than $N_j\kappa$, as earlier defined.

Applying the multi-layer penalty function (5), we obtain the estimator of $\boldsymbol{A}_k$:

$$\boldsymbol{A}_k = \begin{cases} 0 & ||\boldsymbol{A}_k||_F \leq N^2\lambda_1 \\ sgn(A_{k;ij})(|A_{k;ij}| - \lambda_2\gamma)_+ & N^2\lambda_1 < ||\boldsymbol{A}_k||_F \end{cases}. \tag{6}$$

This formulation will be referred to in the paper as the LISARwLASSO model. The LISAR with SCAD model (LISARwSCAD) is defined as follows:

$$\boldsymbol{A}_k = \begin{cases} 0 & ||\boldsymbol{A}_k||_F \leq N^2\lambda_1 \\ sgn(A_{k;ij})(|A_{k;ij}| - \lambda_2\gamma)_+ & |A_{k;ij}| \leq 2\lambda_2\gamma \wedge N^2\lambda_1 < ||\boldsymbol{A}_k||_F \\ \frac{(b-1)A_{k;ij} - sgn(A_{k;ij})b\lambda_2\gamma}{(b-2)} & 2\lambda_2\gamma < |A_{k;ij}| \leq b\lambda_2\gamma \wedge N^2\lambda_1 < ||\boldsymbol{A}_k||_F \\ A_{k;ij} & b\lambda_2\gamma < |A_{k;ij}| \wedge N^2\lambda_1 < ||\boldsymbol{A}_k||_F \end{cases} \tag{7}$$

For LISAR with Adaptive LASSO (LISARwAdapLASSO):

$$\boldsymbol{A}_k = \begin{cases} 0 & ||\boldsymbol{A}_k||_F \leq N^2\lambda_1 \\ sgn(A_{k;ij})(|A_{k;ij}| - w_{k;ij}\lambda_2\gamma)_+ & |A_{k;ij}| \leq 2w_{k;ij}\lambda_2\gamma \wedge N^2\lambda_1 < ||\boldsymbol{A}_k||_F \end{cases} \tag{8}$$

The regularization functions combine the advantages of established individual parameter regularization functions with hard-thresholding functions and adaptive estimation. The result is a tailored regularization function, designed to identify the number of relevant lags in a VAR estimation, as well as aiding the identification of the influential stocks by applying weaker regularization to them and a stronger one to stocks with little or no influence.

3.2 Estimation procedure

The proposed LISAR estimator combines the selection of the relevant lags with sparse estimation of parameters with differing regularization, subject to a stock being influential for the system or not. This setup allows to combine an active-set algorithm (for the lags) and coordinate-wise descent (parameter estimation) with varying regulation parameters to estimate the model.

In the following, we describe the algorithm in more detail. The vector Y_t without the

jth process is denoted by $Y_{t,-j}$, and recall that $Y_{t,j}$ represents the jth process. Define $sort(\cdot)$ as the operator that sorts the variables in decreasing order. First the regularization sequences λ_1, λ_2 and γ are determined. Their maximal values are set so that the algorithm is initialized with completely sparse parameter matrices, meaning that all parameters are set equal to 0. Since we assume that the parameter matrix is sparse, this can be considered an appropriate starting point. Then, we sort the lag parameter matrices according to the proportion of variance explained by them. The sorting ensures that, the algorithm optimizes first the parameters that explain more of the variability of the system. In the algorithm, we iterate over active lags in an outer optimization loop. The individual parameters are estimated with a coordinate-wise descent algorithm and different regularization strength, subject to a stock being influential or not. The coordinate-wise descent algorithm optimizes the LASSO, SCAD and Adaptive LASSO part of the suggested estimator.

The implementations are formulated as Algorithm **LISAR.lag** and Algorithm **LISAR.individual**.

1. LISAR.lag is the outer loop algorithm. It evaluates the tuning parameter λ_1 to identify the lag parameter matrix carrying sufficient information. We sort the matrices in decreasing order according to the explained variance as reflected in the residuals ϵ_k. In each iteration step (m_1), $\boldsymbol{A}_k$ with little or no explanatory power is set to be 0. Otherwise, with a sufficiently large explained contribution to the variance, i.e., $\epsilon_k > N^2\lambda_1$, we continue to estimate the lag parameter matrix with Algorithm LISAR.individual.

2. LISAR.individual is used to optimize the individual parameters inside a relevant lag parameter matrix. It is a coordinate-wise descent optimization under the sequence λ_2 and with residual $\epsilon_{k;ij}$ according to estimator (6) (for LASSO) and (7), (8) for SCAD and Adaptive LASSO respectively. The regularization sequence is going to be $\lambda_2\alpha$ when $||A_{k;j}||_F > N_j\kappa$ and $\lambda_2 1/\alpha$ when $||A_{k;j}||_F \leq N_j\kappa$. Owing to the adjustment of λ_2 with $\{\alpha, 1/\alpha\}$, the parameters within a column can change when the regularisation gets adjusted, hence m_2 iteration step are needed.

3. The algorithms are repeated with iteration steps m_1, m_2 until all parameter matrices have converged.

The implementation rests on the hyperparameters η_1 and η_2, which are user specified. If the difference between the parameter matrices in optimization steps $m_1 - 1$ and m_1, and $m_2 - 1$ and m_2 exceeds η_1 and η_2 respectively, the optimization continues until the difference becomes smaller than η_1 and η_2 respectively. Hence η_1 and η_2 determine the convergence threshold. A small value such as 0.0001 or smaller is recommended. The parameter b for the SCAD estimator of the individual parameters can also be set as a sequence. In the implementation, we follow the recommendation of Fan and Li (2001) and set $b = 3.7$. The regularization sequences remain to be selected, i.e., the values of the tuning parameters λ_1 and λ_2. Usually, cross-validation is used to determine the sequence. However, due to the time dependence in our model, cross-validation is not very suitable. We choose the tuning parameters on out-of-sample data by either using the MSFE, AIC, BIC. The use of information criteria for the evaluation is consistent with Bańbura et al. (2010), Song and Bickel (2011), Nicholson et al. (2017) and Trimborn et al. (2024). The run time depends on the size of the sequence of tuning parameters λ_1 and λ_2. Naturally, a more granular penalization sequence leads to a longer runtime of the optimization procedure. In our case, it is a halving sequence approaching 0 for λ_1 and λ_2. We also tune the threshold parameter κ with a halving sequence approaching 0. The parameter α is to be chosen as a set of values within $(0, 1)$.

Algorithm 1 : LISAR.lag

Input: Data Y_t for all $t = 1, \dots, T$
Output: Adjacency matrix $\boldsymbol{A}$

Initialization $\boldsymbol{A} = 0$, $m_1 = 1$
for $k = 1, \dots, p$ **do**
  $\epsilon.lag_k = \sqrt{\sum_{t=p+1}^{T} (Y_{t-k}^\top (Y_t - \sum_{l=1 \setminus k}^{p} \boldsymbol{A}_l Y_{t-l}))^2}$
end for
$order.lag = sort(\{\epsilon.lag_k\}_{k=1}^{p})$

$\boldsymbol{A}^{(m_1)} = \boldsymbol{A}$; $\boldsymbol{A}^{(m_1-1)} = \boldsymbol{A} + 1$
while $\text{vec}\{\boldsymbol{A}^{(m_1)} - \boldsymbol{A}^{(m_1-1)}\} > \eta_1$ **do**
  for $k \in order.lag$ **do**
    $m_2 = 1$; $\boldsymbol{A}^{(m_2)} = \boldsymbol{A}^{(m_1)}$
    $\epsilon_k = \sqrt{\sum_{t=p+1}^{T} (Y_{t-k}^\top (Y_t - \sum_{l=1 \setminus k}^{p} \boldsymbol{A}_l^{(m_2)} Y_{t-l}))^2}$
    if $\epsilon_k \leq N^2 \lambda_1$ **then** $\boldsymbol{A}_k^{(m_2)} = 0$
    else
      $\boldsymbol{A}_k^{(m_2)} = \boldsymbol{A}_k$; $\boldsymbol{A}^{(m_2-1)} = \boldsymbol{A}_k + 1$
      while $\boldsymbol{A}_k^{(m_2)} - \boldsymbol{A}_k^{(m_2-1)} > \eta_2$ **do**
        LISAR.individual$(\{Y_t\}_{t=1}^{T}, \boldsymbol{A}_k^{(m_2)})$
        $m_2 = m_2 + 1$
      end while
    end if
    $\boldsymbol{A}^{(m_1)} = \boldsymbol{A}^{(m_2)}$
  end for
  $m_1 = m_1 + 1$
end while

Algorithm 2 : LISAR.individual (with LASSO specification)

Input: Data Y_t for all $t = 1, \dots, T$; $\boldsymbol{A}_k$
Output: Adjacency matrix $\boldsymbol{A}_k$

for $j = 1, \dots, N$ **do**
  $\epsilon.group_j = \sqrt{\sum_{t=p+1}^{T} (Y_{t-k,-j}^{\top} (Y_t - \sum_{l=1\backslash k}^{p} \boldsymbol{A}_l Y_{t-l})_{-j})^2}$
end for
for $j = 1, \dots, N$ **do**
  for $i = 1, \dots, N$ **do**
    $\epsilon_{k;ij} = \sqrt{\sum_{t=p+1}^{T} (Y_{t-k,j}^{\top} (Y_{t,i} - \sum_{l=1\backslash k}^{p} A_{l,ij} Y_{t-l,j}))^2}$
    if $\epsilon.group_j > N_j \kappa$ **then**
      if $|\epsilon_{k;ij}| \leq 2\lambda_2 \alpha$ **then** $z = sgn(\epsilon_{k;ij})(|\epsilon_{k;ij}| - \lambda_2 \alpha)_+$
      end if
    else if $\epsilon.group_j \leq N_j \kappa$ **then**
      if $|\epsilon_{k;ij}| \leq 2\lambda_2 1/\alpha$ **then** $z = sgn(\epsilon_{k;ij})(|\epsilon_{k;ij}| - \lambda_2 1/\alpha)_+$
      end if
    end if
    $A_{k;ij} = z / \sum_{t=p+1}^{T} (Y_{t-k,j}^{\top} Y_{t-k,j})$
  end for
end for

{Note that z follows a different specification for SCAD and Adaptive LASSO}

4 Synthetic data experiments

As we showed and motivated in sections 1 and 2, influential assets exist only for short periods of time, such as intraday, otherwise this would constitute a permanent market anomaly. Therefore LISAR was developed to model influencer structures in large systems while the number of observations is small. To understand LISARs performance compared to other models in these environments, we investigate the finite-sample performance of the proposed LISAR estimator with synthetic data experiments. We consider different number of observations in the estimation, varying dimensionality of the system, different signal-to-noise ratios, different persistences of the system, and also test the performance under misspecification. For the simulation of the underlying system we vary the number of lags containing parameters and system-wide influential variables. Further we consider 'dense' systems in which no sparsity is present. We evaluate the ability of each model to detect sparsity and the true structure, together with the accuracy of the parameter estimation and prediction. Three sparse network models, penalized by LASSO (LISARwLASSO), SCAD (LISARwSCAD), and adaptive LASSO (LISARwAdapLASSO) are included in comparison with competing models, namely, LASSO, SCAD, and Adaptive LASSO. Also Bayesian sparsity methods are a promising alternative to LISAR, hence we further consider a Bayesian VAR (BGR) in the analysis, see Bańbura et al. (2010). Sector-wide influencers, as we consider them in this study, could also lead to a common factor being present the system. Hence we also compare against a Dynamic Factor Model (DFM), see Doz et al. (2011) . Also TriSNAR, introduced in Trimborn et al. (2022), is designed to identify influencers in a system, hence we also consider it as a competing model. However, TriSNAR is designed to estimate the parameters associated with the influencers and disregard the ones from non-influencers. LISAR instead applies less regularisation to parameters associated with identified influencers and penalises non-influencers stronger. This make LISAR more suited for systems where idiosyncratic variation is not spurious but structural, such as it is commonly the case in stock prediction. Hence we expect LISAR to perform better than TriSNAR since the latter is not suited for these structures.

4.1 Set up

We consider systems with $N \in \{10, 20, 50\}$ time series and lengths of $T \in \{50, 100, 200\}$ data points. We design several different model specifications and refer to each scenario by an abbreviation. We assign the capital letter A followed by a number to indicate which parameter matrix in the scenario under consideration contains an assigned structure. For example, a model with the first and third lag having an influencer structure is referred to as *A1/A3*. The experiments are conducted for three different strength of persistence. The largest eigenvalue of the companion matrix is 0.75 for weak persistence, 0.84 for medium persistence and 0.94 for strong persistence. This allows to investigate if the performance of a model is related to the systems persistence. The parameters are chosen so that the largest eigenvalue of the companion matrix remains below 1, so that the system is stationary.

- *A1/A3*: Two lags are active, namely the first and the third lags. The diagonal parameters magnitude is set so that it attains to the desired persistence which is either weak, medium or strong.
  - For $N = 10$ time series being simulated, there are 2 system-wide influencers in this setting present, namely time series 1 and 7. Hence, columns $(1, 7)$ contain parameters different from 0 which alternate between 0 and a non-zero value. Further 5 time series contain one parameter different from 0, which represents idiosyncratic asset-to-asset relationships, which are common in asset markets. The non-zero parameters are set so that the 3 strength of persistence are attained by ensuring the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence.
  - For $N = 20$ time series being simulated, there are 6 system-wide influencers in this setting present, namely time series 1,3,7,10,14 and 18. Hence, columns $(1, 3, 7, 10, 14, 18)$ contain parameters different from 0 which alternate between 0 and a non-zero value. Further 8 time series contain one parameter different from 0, which represents idiosyncratic asset-to-asset relationships, which are common

in asset markets. The non-zero parameters are set so that the 3 strength of persistence are attained by ensuring the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence.

  - For $N = 50$ time series being simulated, there are 6 system-wide influencers in this setting present, namely time series 1,3,7,10,14 and 18. Hence, columns $(1, 3, 7, 10, 14, 18)$ contain parameters different from 0 which alternate between 0 and a non-zero value. Further 11 time series contain one parameter different from 0, which represents idiosyncratic asset-to-asset relationships, which are common in asset markets. The non-zero parameters are set so that the 3 strength of persistence are attained by ensuring the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence.

- *A1/A2/A3*: All three lags are active. The diagonal parameters magnitude is set so that it attains to the desired persistence which is either weak, medium or strong.

  - For $N = 10$ time series being simulated, there are 2 system-wide influencers in this setting present, namely time series 3 and 10. Hence, columns $(3, 10)$ contain parameters different from 0 which alternate between 0 and a non-zero value. Further 5 time series contain one parameter different from 0, which represents idiosyncratic asset-to-asset relationships, which are common in asset markets. The non-zero parameters are set so that the 3 strength of persistence are attained by ensuring the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence.
  - For $N = 20$ time series being simulated, there are 4 system-wide influencers in this setting present, namely time series 1,6,14 and 20. Hence, columns $(1, 6, 14, 20)$ contain parameters different from 0 which alternate between 0 and a non-zero value. Further 8 time series contain one parameter different from 0, which represents idiosyncratic asset-to-asset relationships, which are common in asset markets. The non-zero parameters are set so that the 3 strength of persistence are attained by ensuring the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence.
  - For $N = 50$ time series being simulated, there are 6 system-wide influencers in this setting present, namely time series 1,3,7,10,14 and 18. Hence, columns $(1, 3, 7, 10, 14, 18)$ contain parameters different from 0 which alternate between 0 and a non-zero value. Further 11 time series contain one parameter different from 0, which represents idiosyncratic asset-to-asset relationships, which are common in asset markets. The non-zero parameters are set so that the 3 strength of persistence are attained by ensuring the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence.

- *Dense*: We also consider a non-sparse specification, where only the first lag is active, yet there is no system-wide influencer structure present and the parameter matrix is not sparse, hence dense. The magnitude of the parameters decays exponentially away from the diagonal. It starts at a value a chosen so that the largest eigenvalue of the companion matrix is 0.75 for weak, 0.84 for medium, and 0.94 for strong persistence. The off-diagonal parameters take on the values resulting from the formula $A_{i,j} = (-1)^{|i-j|} a^{|i-j|+1}$. In other words, all parameters are different from 0; however, those far from the diagonal become quite small.

In the data generation, the innovations are assumed to be i.i.d. Gaussian with $\epsilon \sim N(0, \Sigma_N)$. Σ_N is a diagonal covariance matrix with all covariances being 0 and standard deviation $\sigma \in \{0.5, 1\}$. By this each experiment is investigated under 2 different signal-to-noise ratios to evaluate the impact of a stronger/weaker noise on the simulation results. For each scenario, we estimate models with $(2, 3, 4)$ parameter matrices. Given each scenario has an influencer structure and parameters different from 0 in the third lag, for 2 and 4 lags estimated, we investigate the impact of a misspecified model on the simulation results and compare it to a correctly specified model, namely lag 3. For the 'dense' specifications we estimate 3 lags as the focus is upon comparing the models performance when the underlying system is not sparse. In all, there are 378 experiments. For each experiment, we carried out 100 simulations and computed the average performance. Moreover, we split each dataset into a training, validation and evaluation dataset, each with length $T \in \{50, 100, 200\}$. The lambda sequences for λ_1 and λ_2 start with the minimum value for which all parameters in the parameter matrices are estimated as 0. Then, the sequence decays by a factor of 0.5 until $1e^{-7}$ is reached. The thresholding sequence κ starts at a value for which no asset is influential, and then decays by a factor of 0.5 until $1e^{-7}$ is reached. Thereby influential assets are being added iteratively. The tuning parameter α is set to $\alpha \in \{0.3, 0.5, 0.7\}$. Following Zou (2006), the tuning parameter γ during the estimation of the adaptive LASSO models is set to $\gamma \in \{0.5, 1, 2\}$. We estimated the models for all combinations of λ_1, and λ_2-sequences, the α, κ and γ-sequences on the training dataset. The best performing model was selected based on the validation dataset with MSFE. The selected model was then evaluated on the evaluation dataset for its forecasting accuracy. We analyse and summarise the results of the experiments with roseplots in section 4.3. For summary Tables of all synthetic data experiments, refer to Appendix III.

4.2 Evaluation Criteria

For each experiment, the performance was evaluated in two aspects: pattern and accuracy.

- To evaluate the pattern identification, we computed the False Negative (FN) and False Positive (FP) rates on the estimated sets. FN refers to active set's being falsely identified as null, namely, under-detection or overly sparse. FP refers to the set's being wrongly identified as active, namely, overdetection or overly dense. It is natural that the lower these two measures are, the better the performance. Given the three-layer sparsity, there are then 6 metrics: FN.l and FP.l for lags, FN.g and FP.g for groups, and FN.e and FP.e for individual elements. In the case of perfect detection, namely, all 6 metrics are zero, we conclude that the true pattern was identified.

- Accuracy is measured using the Mean Squared Error (MSE) and Mean Squared Forecast Error (MSFE). Here MSE refers to the prediction accuracy, which is calculated based on the differences between the true values of the time series and the predicted values based on the model. In other words, it evaluates in-sample on the training dataset. MSFE refers to the forecasting error, an out-of-sample measure based on the testing dataset. In all the accuracy metrics, a low value indicates good accuracy.

We summarise the results in detailed Tables, which we present in Appendix III. Due to the large amount of experiments (378), we summarise the results in roseplots, see Figures 3. We create them so that the comparison is focused upon the effect of the systems persistence and model misspecification. For the persistence and model misspecification, each roseplot shows a summary of 27 and 18 experiments respectively for a specific number of observations ($T = \{50, 100, 200\}$). The roseplots summarise across 10 measurements. The roseplots show the 3 scenarios *A1/A3*, *A1/A2/A3* and 'dense' for 3 dimensions, $N = \{10, 20, 50\}$. Note that the roseplots for model misspecification comparison show the *A1/A3* and *A1/A2/A3* specifications as the 'dense' setting is already embedded in the other 3 roseplots. The simulation study showed that the signal-to-noise ratio did not have s strong effect on the results. Hence the roseplots show results for $\sigma = 1$, the ones for $\sigma = 0.5$ are reported in detail in the Tables in Appendix III. The first 3 roseplots, from the left to right downwards, focus the comparison upon the persistence of the system, namely low, mid, high. The latter 3 focus upon the 3 different lag specifications, $\{2, 3, 4\}$, consequently for $\{2, 4\}$ the model is misspecified. Each combination of specifications is represented by a section with 9 columns of rectangles provided. The first 3 columns are the results for LASSO, SCAD, adaptive LASSO in this order. Columns 4-6 contain the results for DFM, BGR, and TriSNAR in this order, whereas the results for LISARwLASSO, LISARwSCAD, and LISARwAdapLASSO are reported in columns 7-9.

The entire circle has 10 tracks, each of which represents another evaluation criterion. The most outer track is referred to as 1, and the most inner track is referred to as 10. The 6 most outer tracks are for the False Negative and False Positive criteria: FN.l (1), FP.l (2), FN.g (3), FP.g (4), FN.e (5), FP.e (6). The FN and FP rates vary between 0 and 1, whereas the colour palette goes from white (0) to red (1). No False Negatives and no False Positives are the best possible outcomes; hence, the more white or shallow red the rectangles are, the better. For the following evaluation criteria, the differences can be huge, e.g. MSFE and computation time. For visualisation purposes, we display them in the roseplots as percentage of the rank computed for a set of specifications across the 9 models. The actual numbers are reported in the Tables in Appendix III. Then, Track 7 reports the SSE.para as percentages of the rank with a colour palette from white (0) to blue (1). Again, the lower the value, the better; hence, white or shallow blue rectangles are preferable. In track 8 we report the number of parameters per model as percentages of the rank on a similar colour pattern than SSE.para. As sparser models are preferable permitted the MSFE remains equal, we report this statistic for comparison purposes. The MSFE as percentages of the rank is reported via track 9. The colour palette goes from white (0) to green (1). Since these evaluation criteria reflect the error terms, the smaller the values are, the better. Thus, white and shallow green is preferable. The most inner track, 10, reports the average runtime of the models. The color palette ranges from white (0) to black (1). Certainly, a faster runtime of the code is preferred; hence, white and gray rectangles are better.

4.3 Analysis

The synthetic data analysis investigates the performance of the LISAR models and their counterparts under different scenarios and conditions. Two primary scenarios, denoted as A1/A3 and A1/A2/A3, were examined, and the study's focus was on comparing the performance of LISAR models against their counterparts, specifically in terms of MSFE and False Negative/False Positive rates (FN/FP). Detailed Tables summarise the result in Appendix III. For a more concise representation, we further summarise the results in roseplots, see Figures 3.

For the A1/A3 scenario, where $T = 50$, the results indicate that LISAR models consistently exhibit superior MSFE compared to their counterparts, compare Figures 3. Furthermore, they outperform usually in terms of FN/FP as well, regardless of the strength in persistence. Only for $N = 50$ and high persistence, various competing models perform comparable to the LISAR ones in terms of FN/FP. Still, LISAR does better by MSFE. Similar performances were observed for the A1/A2/A3 scenario. For the 'dense' scenario an interesting situation arises. LISAR performs best in terms of MSFE and FN/FP across all dimensions for high persistence. It still does best in terms of FN/FP for the low and mid persistence, but the MSFE of TriSNAR is better for these persistences in the dense case. However, LISAR and TriSNAR outperform all competing models across all persistences. This is remarkable as they were not developed for the dense case where no inlfuencer structures are present. The analysis was extended to include a wider range of dimensions ($N = 10, 20, 50$) and longer time periods ($T = 100, 200$), as shown in Figures 3. LISAR consistently outperformed the competing models across all dimensions and showed robustness against overparameterization, which caused issues for other models, particularly in terms of

FN/FP discrepancies. Across all dimensions, LISAR demonstrated superior performance, with the BGR model performing particularly poorly in comparison. For the highest dimension ($N = 50$), the differences in FN/FP performance between models became smaller, but LISAR still maintained its advantage. Across all evaluated dimensions, LISAR consistently achieved better results in terms of MSFE. Moreover, LISAR consistently performed best in both MSFE and FN/FP in the dense setting across all three persistence scenarios, further establishing its overall superiority.

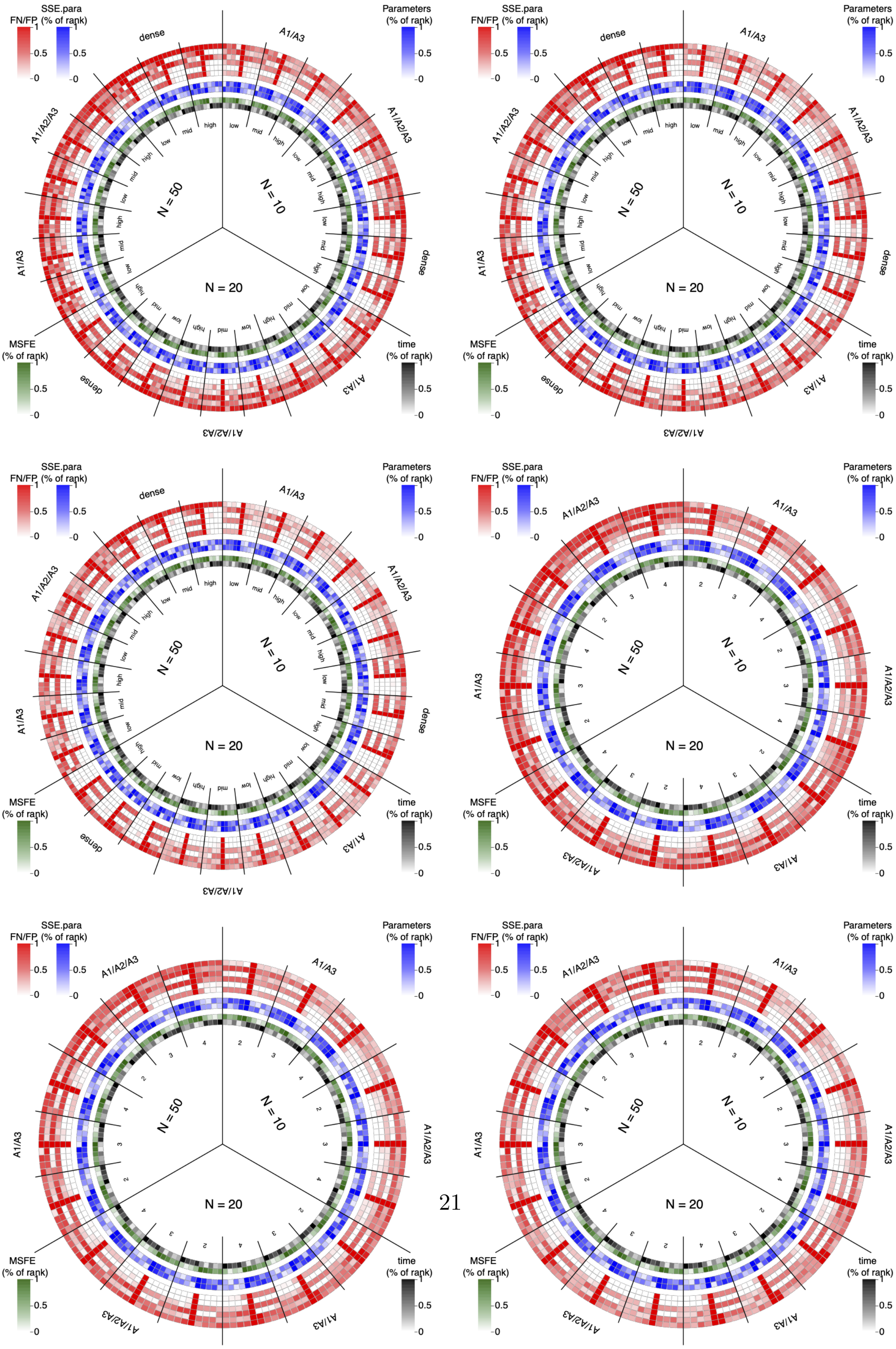
The analysis extended its scope to include different dimensions ($N = 10$ and $N = 20$) and increased time periods ($T = \{100, 200\}$), see Figures 3. Remarkably, LISAR maintained its superiority across dimensions and exhibited resilience against overparameterization – a challenge faced by its counterparts, evident from FN/FP discrepancies. This is particularly noteworthy under misspecification scenarios, where LISAR showcased its ability to outperform its counterparts. That LISAR is able to outperform under misspecification (2 and 4 lags are misspecified), is already visible for $T = 50$ and $T = 100$, but for $T = 200$ it becomes even clearer. For 4 lags the LISAR models do clearly better in terms of MSFE and FN/FP, as they do for 3 lags, which is correctly specified. For 2 lags they perform equally good compared to their counterparts evaluated by MSFE and FN/FP.

We observe across the experiments that the LISAR models tend to have a higher runtime than the competing models. Given the models have a lot more tuning parameters than their counterparts, this observation is driven by this situation. As they provide the better MSFE in almost all of the cases, the longer runtime of the estimation algorithm is the price paid for the better forecasting accuracy.

In summary, the synthetic data experiments underscore the robustness and outperformance in terms of forecasting accuracy (MSFE) of LISAR models across various scenarios, dimensions, and number of observations. Remarkably LISAR showed robustness towards varying levels of persistence in the system. Across the experiments, we observed that the LISAR models perform also well when the models are misspecified. This finding is noteworthy as it suggests that the LISAR models outperform in terms of forecasting accuracy even in situations where the model assumptions are violated. This superiority in MSFE implies that the proposed LISAR models are better equipped to handle data that deviates from the assumed structure, suggesting that they provide better performance in a forecasting exercises on real data where the true data-generating process is unknown.

It is further noteworthy that the LISAR models persisted to outperform even when the signal-to-noise ratio was higher/lower, see the Tables in Appendix III. As in practice these ratios are unknown, it suggest the LISAR models present a robust choice considering the uncertainties one faces in a real data environment.

Figure 3: From left to right downwards: Models evaluations per specification for persistences low, mid, high with $T = 50$ (upper left), $T = 100$ (upper right), $T = 200$ (middle left), and for 2,3,4 lags with $T = 50$ (middle right), $T = 100$ (lower left), $T = 200$ (lower right). Evaluation metrics are expressed as percentages of the ranks to make results visually comparable. The exact metrics are reported in Tables 7 to 48. The models are reported in the order LASSO, SCAD, AdapLASSO, DFM, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO



5 Forecasting and modeling with LISARs

In this section, we analyse the 5-minute high-frequency data for the stocks comprising the S&P100 with the LISAR models and the competing models for detection of lead-lag effects and the overall model performance. We analyse the data sector by sector, following the motivation that intraday sector-wide lead-lag effects would materialize within sectors. We compare the models in terms of forecasting performance (Diebold-Marianno test (Diebold and Mariano, 2002)) and best performing model (Vuong test (Vuong, 1989)). To ensure a realistic setting, we analyse how often a model provided the better or equally good performance on the evaluation dataset when it outperformed the others on the model validation dataset. We show that in terms of forecasting performance, whenever a model performed better than the others on the model validation dataset, it also outperformed or performed equally good than the competing ones on the evaluation dataset. The LISAR models provided for each sector for more than 90% of the assets and across days the better or equally good forecast. Notably the LISAR models provided the better MSFE on the model validation datasets than the competing models. For the sector Financials, the LISAR models performed better for 8655 time series (out of 14 assets over 2010 days) whereas the Non-LISAR ones only performed better for 4883 time series. The Vuong test shows that the LISAR models provided the significantly better models for 87% and 88% of the time series (depending on the sector) when the model had the better MSFE. The Non-LISAR ones only provided the significantly better model for around 50% of the time series (depending on the sector). This shows that the LISAR models property to account for influencer structures leads to improved forecasting and model selection performance given the structure is present.

5.1 Set-up

The dataset and methodologies employed in this study are introduced in Section 2 and 3. The availability of a high-frequency dataset enables us to investigate the intraday relationship within each sector. We analyse the intraday prices of each day separately and fit each model to the data while allowing for a maximum of 6 lags, such that we investigate the effect of the past $\{5, 10, 15, 20, 25, 30\}$ minutes on the present returns of the stocks. The time series are demeanded, scaled with GARCH volatility, and an ADF test rejects the null of a unit root for each intraday time series after the scaling. Note that the LISAR models regularize for the lags, hence the actual number of lags is commonly smaller and even lags in-between others can be regularised. This model feature makes the identification of the lag structure part of the estimation and ensures one does not have to identify the lag structure via repeated model estimations with Information Criteria selection. As a robustness analysis of the results, we also investigate the performance when allowing for a maximum of 4 lags, see section II in the Appendix. Specifically, we have fitted 9 models to the data recorded during the stock market opening hours (9:45 a.m. to 3:45 p.m. EST) on each working day whereas we exclude the first and last 15 trading minutes to avoid start/end trading session effects. The models are the six benchmark models (LASSO, SCAD, Adaptive LASSO, BGR, DFM, TriSNAR) and three influencer structure models (LISARwSCAD, LISARwLASSO, and LISARwAdapLASSO). For model training, validation and evaluation of each model, we divide the data for each individual day into three equal parts: the first 1/3 is used as training data, the next 1/3 as validation data, and the last 1/3 as evaluation data. Subsequently, each model generates predictions of the influencing stocks on that particular day within each sector, which are further analysed and compared. To ensure a realistic setting, we analyse how often a model provided the better or equally good performance on the evaluation dataset when it outperformed the others on the model validation dataset.

To compare the performance of the models against each other, we compare them in terms of their likelihood and forecasting accuracy. Following the discussion in Diebold (2015), we test which model provides the better fit against the other models with the Vuong test for overlapping models (Vuong, 1989) on a 5% level, which is akin to a likelihood ratio test.

$$LR(LISAR, Non-LISAR) = L_{LISAR} - L_{Non-LISAR}$$

with L_{LISAR} and $L_{Non-LISAR}$ denote the log-likelihood of the LISAR and Non-LISAR model under comparison. The statistic $2LR$ is compared against critical values from the sum of weighted chi-squared random variables, denoted $M(\cdot, w)$, with w the weights applied to the chi-squared random variables. The H_0 and H_1 are then:

$$H_0 : 2LR \leq M(\cdot, w)_\alpha$$
$$H_1 : 2LR > M(\cdot, w)_\alpha$$

Hence we test if the H_0 of the Non-LISAR model having the better log-likelihood can be rejected on a significance level of α. We derive the log-likelihood out-of-sample, on the evaluation dataset spanning the last 1/3 of data per day.

To compare if the LISAR models perform better than the alternatives, we derive the one-sided Diebold-Mariano test (Diebold and Mariano, 2002). We derive the forecasting errors e_{LISAR} and $e_{Non-LISAR}$ to compare 2 models (LISAR, Non-LISAR) against each other, then

$$d_t\left(LISAR, Non-LISAR\right) = e^2_{LISAR,t} - e^2_{Non-LISAR,t}$$

The test statistic being

$$H_0 : \bar{d}\,(LISAR, Non - LISAR) \leq 0$$
$$H_1 : \bar{d}\,(LISAR, Non - LISAR) > 0,$$

with $\bar{d} = \frac{1}{T}\sum_t^T d_t\,(LISAR, Non - LISAR)$. Hence we test if model 1 (LISAR) provides the better forecast than model 2 (Non-LISAR), with the test statistic

$$DM\,(LISAR, Non - LISAR) = \frac{\bar{d}\,(LISAR, Non - LISAR)}{\sqrt{\frac{2\pi \hat{f}_d(0)}{T}}} \xrightarrow{d} N(0,1),$$

with $\hat{f}_d(0)$ the Heteroscedasticity and Autocorrelation Consistent (HAC) variance estimator.

5.2 Forecasting and 'best' model evaluation

As the models can be classified into 2 groups, namely models with influencer structure and models without, we analyse the groups against each other. For each day we consider the model with the best MSFE, calculated on the validation dataset, from each of the two groups. Then we derive the Diebold-Mariano test and Vuong test to compare the performance of the two models on the evaluation dataset. We summarise the results in Table 2. We compare how frequently the LISAR model provided the better model fit and forecasting accuracy, when it provided the lower MSFE on the validation dataset. Likewise we also report how often the Non-LISAR models provide the better accuracy when it provided the lower MSFE on the validation dataset. The results show the relevance of the suggested LISAR methodology for best model selection and also forecasting accuracy.

In terms of best model as by the Vuong test, which is essentially a likelihood ratio test, we observe that the LISAR models provide for 87-88% of the time series across the sectors under consideration the better model on a 5% significance level, see Table 2. This shows that when the LISAR model outperforms in MSFE, then it commonly also provides the significantly better model. Notably the Non-LISAR models (LASSO, SCAD, AdapLASSO, DFM, BGR, TriSNAR) outperform in terms of the Vuong test only for 46-55% of the time series when Non-LISAR had the best MSFE. It also stands out that the LISAR model provides the significantly better model for a lot more time series than Non-LISAR, $300 - 400\%$ more often.

This illustrates the importance of considering both groups of methodologies when analysing the interdependence of the stocks on each other intraday. It also stands out that the LISAR type models are more often significantly better than the Non-LISAR ones which suggests that sector-wide influential behaviour of stocks is a structure frequently present. The interpretations remain robust towards the number of maximum lags allowed, however the respective groups of models slightly less frequently outperform the other ones, see Table 6 in the Appendix. Hence slightly more frequently the models provide equal prediction performance on a 5% significance level. Overall it stands as remarkable that the LISAR models, which are designed to detect sector-wide influential behaviour of stocks, outperform the Non-LISAR models for so many time series, which suggests such kind of structure is frequently present.

In terms of forecasting accuracy the LISAR type models clearly outperform, compare Table 2. Depending on the sector, for 90-91% of the time series the LISAR type models provide the better or equally good forecasting accuracy on a 5% significance level on the out-of-sample evaluation dataset when they also provided the best MSFE on the model validation dataset. Likewise the Non-LISAR models commonly provide the better or equally good forecast when they also provided the better MSFE on the model validation dataset. It stands out that the LISAR models provide the better MSFE for about $50 - 90\%$ more time series than Non-LISAR. These results are robust towards the choice of maximum number of possible lags, see Appendix II. The results show that the embedded influencer structure in the estimation ensures frequently a better MSFE than for the Non-LISAR ones which also frequently results in a significantly better or at least equally good forecasting accuracy.

Table 2: We analyse the best LISAR model against the best Non-LISAR model as by MSFE. The analyse the assets for when the LISAR model provides the better MSFE on the evaluation data and vice versa when the Non-LISAR model outperforms. We conduct forecasting tests on the out-of-sample data for the assets. We report the number of time series over 8 years (2010 days) for which one model outperformed the other on a 5% level or performed equally good as by Vuong and Diebold Marianno test. The results are reported in absolute numbers and as percentage over 2010 days.

Sectors	Vuong LISAR	Vuong Non-LISAR	DM LISAR	DM Non-LISAR
Consumer Discretionary	6152.00	1928.00	6335.00	3818.00
	0.88	0.48	0.90	0.96
Consumer Staples	6326.00	1971.00	6491.00	3810.00
	0.88	0.50	0.90	0.96
Financials	8850.00	2147.00	8828.00	4558.00
	0.89	0.45	0.89	0.96
Health Care	7735.00	2409.00	7915.00	4835.00
	0.88	0.48	0.90	0.96
Industrials	6769.00	2007.00	6868.00	4049.00
	0.88	0.48	0.90	0.96
Information Technology	9609.00	2580.00	9701.00	5719.00
	0.89	0.44	0.90	0.97

We further investigate the forecasting performance of the LISAR-type models over different forecasting horizon and against specific models. Table 3 shows the number of time series (assets per days) as a percentage on which LISAR performed statistically significantly better or equally good on a 5% level than a given competing model over various forecasting horizons. We consider the time series for which LISAR provided the best MSFE on the validation dataset and conduct the tests on the evaluation dataset. In the Table we conduct

4 comparisons per sector. As before we compare the best LISAR-type model as by MSFE against the best model in terms of MSFE out of LASSO, SCAD, Adap. LASSO. Similarly we compare the best LISAR model as by MSFE against BGR, DFM and TriSNAR individually. We observe that LISAR provides for much more time series the better or equally good statistically significant forecast than the competing model. This observation holds across forecasting horizons. LISAR does a lot better than LASSO, SCAD, Adap. LASSO and performs especially well for the sectors Financials and Information Technology. Compared to BGR, a Bayesian VAR model, LISAR still performs very well as it does against LASSO, SCAD, and Adap. LASSO. Compared to LISAR, BGR does not focus on estimation with influencer structures. Due to its prior, it is expected to perform better when influencer structures are not present and idiosyncratic variation dominates, same for LASSO, SCAD, and Adap. LASSO. As we showed, influencer structures exist on many but not all days. However it stands out that LISAR does so well against these two model classes in forecasting. Against DFM, LISAR does remarkably well, always performing better or equally good. Dynamic Factor Models focus upon estimating time-dependent factors which are shared by the stocks. Hence potential idiosyncratic covariance between any 2 stocks is not well represented by a DFM. Stocks are known to be driven not only by joint industry-wide factors but also by such idiosyncratic covariance. LISAR is designed to account for both which explains why it performs so much better. This results shows the relevance of such idiosyncratic covariance for forecasting of stocks. However, as the comparison of LISAR with LASSO, SCAD, Adap. LASSO and BGR showed, also sector-wide influencer structures have to be taken into account. Lastly we compare LISAR against TriSNAR and again we observe that it performs remarkably better. LISAR provides frequently the statistically significantly better forecast or performs equally good. Interestingly LISAR performs comparably good against TriSNAR than against LASSO, SCAD, Adap. LASSO. This is of interest because TriSNAR is designed to identify the system-wide influencers and to estimate the parameters associated with the influencers. By this idiosyncratic covariation from non-influential stocks is disregarded. However, such idiosyncratic variation matters greatly for the forecasting performance of stocks which renders TriSNAR unsuitable for it and explains why LISAR does so much better. Again we show in Appendix II that the results are robust when allowing for a different number of maximum lags.

This forecasting comparison shows that LISAR as a modelling framework adds to existing models by outperforming in forecasting a system of stocks in the presence of influencer structures.

5.3 Comparison of optimisation pathway

In this section we show that the combination of tuning parameters leads to the LISAR model having a much more stable optimisation pathway than other methods. In section 2

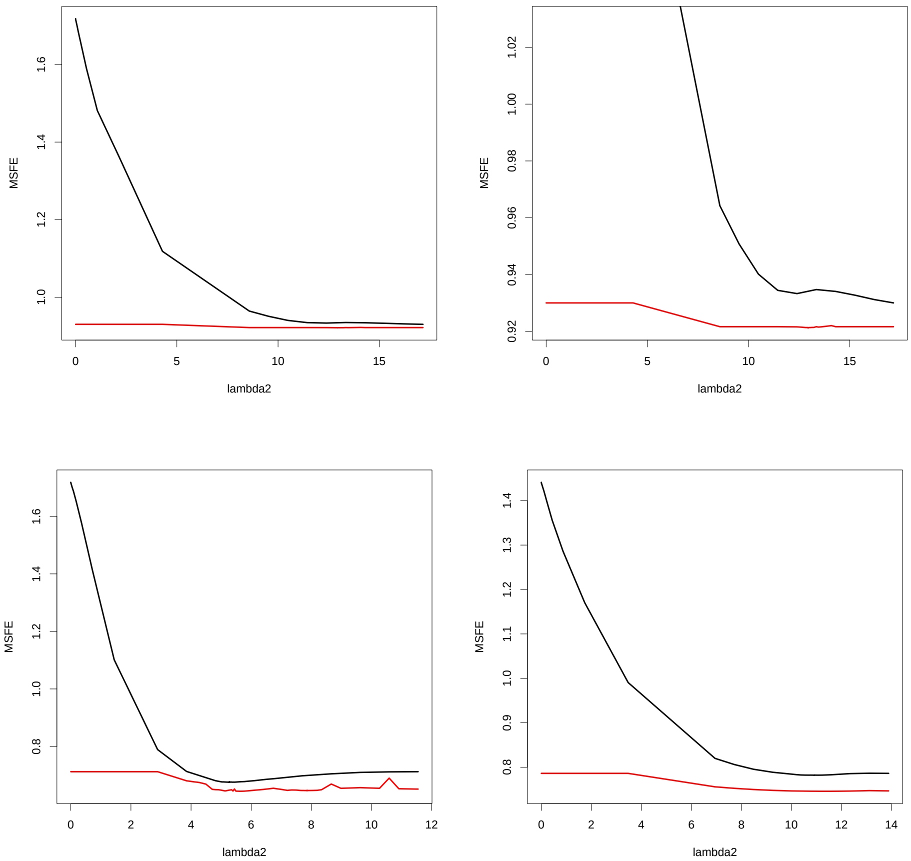
Table 3: For the days and time series when the LISAR model provides the better MSFE on the evaluation dataset compared to a competing model, we analyse if it also provides the better or equally good forecasting accuracy as by Diebold Marianno test on a 5% level over forecasting horizons of 1 to 6 periods. This analyse follows the rational that one would only use the LISAR model instead of a competing model for forecasting on an out-of-sample dataset, if it provides the better model fit during the model evaluation. The results show that the LISAR model would also excel in almost all cases in out-of-sample forecasting.

Sectors	Models	h = 1	h = 2	h = 3	h = 4	h = 5	h = 6
Consumer Discretionary	LISAR vs. Non-LISAR	0.90	0.88	0.87	0.87	0.87	0.87
	LISAR vs. BGR	0.91	0.89	0.88	0.87	0.87	0.88
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.90	0.88	0.87	0.86	0.86	0.86
Consumer Staples	LISAR vs. Non-LISAR	0.90	0.88	0.87	0.87	0.87	0.88
	LISAR vs. BGR	0.91	0.89	0.88	0.88	0.88	0.88
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.90	0.88	0.87	0.86	0.87	0.87
Financials	LISAR vs. Non-LISAR	0.89	0.87	0.85	0.85	0.85	0.86
	LISAR vs. BGR	0.88	0.86	0.85	0.85	0.85	0.85
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.89	0.87	0.86	0.85	0.86	0.86
Health Care	LISAR vs. Non-LISAR	0.90	0.89	0.87	0.87	0.87	0.87
	LISAR vs. BGR	0.91	0.90	0.88	0.88	0.88	0.88
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.91	0.89	0.87	0.87	0.87	0.87
Industrials	LISAR vs. Non-LISAR	0.90	0.88	0.88	0.87	0.86	0.87
	LISAR vs. BGR	0.91	0.89	0.88	0.87	0.87	0.87
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.90	0.88	0.87	0.87	0.87	0.87
Information Technology	LISAR vs. Non-LISAR	0.90	0.88	0.87	0.86	0.86	0.86
	LISAR vs. BGR	0.89	0.88	0.87	0.86	0.87	0.86
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.90	0.88	0.87	0.86	0.86	0.86

we showed that the there is evidence for an influencer effect coming from stocks on certain days. For the 20.02.2020, the beginning of the covid-19 recession, the data and news reports gave evidence for influential stocks being present on that day which would render LISAR suitable for modelling the intraday data. In Figure 4, we compare the optimisation pathway of LISARwLASSO and LASSO for various days. The upper two plots show the results for the 20.02.2020. We observe that LISARwLASSOs' optimisation pathway lies below the one of LASSO and is much more stable, meaning for varying λ_2, a comparable MSFE can be achieved. The stability results from the combination of various tuning parameters and the lower MSFE from LISARwLASSO accounting for influencer structures.

The lower two Figures show the optimisation pathways for both models for the days 28.02.2020 and 13.03.2020. These two days fall into the period when the onset of the covid-19 recession caused strong stock market distruptions. On the 28th, the VIX index reached a local high point which was accompanied with influencer structures being present in the data. As we see, the LISARwLASSO model provided a much better MSFE along the optimisation pathway than LASSO. On the 13th, the VIX index strongly decreased for a day, only to increase strongly again the day after. This local low point was also accompanied with influencer structures in the data and again the LISARwLASSO model achieved a much better MSFE along the optimisation pathway. This suggests an influencer structure effects originated from at least one asset, likely various, during that time. Financial markets are known to have higher centrality in times of crisis, which would explain the joint movement of the sectors assets in dependence of influential ones.

Figure 4: The plots show the optimisation pathway of λ_2 and the MSFE achieved with it. The black line is for LASSO, the red one for LISARwLASSO. Upper left is the screeplot for the 20.02.2020, upper right is also the screeplot for 20.02.2020 but zoomed into. Lower left is the screeplot for the 28.02.2020, lower right is the screeplot for the 13.03.2020. We observe that for each of these days, the MSFE along the optimisation pathway of LISARwLASSO is well below, hence better, than the one for LASSO.



6 Conclusion

When a company releases earnings results or makes announcements, a dominant sectoral wide lead-lag effect from the stock on the entire system may occur. Such situations may arise only for a short period of time, requiring estimation of a model for a large system of assets with a short time series available. To improve the estimation of a system experiencing dominant system-wide lead-lag effects originating from one or a few asset in the presence of short time series, we introduce a model for Large-scale Influencer Structures in Vector AutoRegressions (LISAR). To understand LISARs performance compared to other models in situations of a large system with little data available, we illustrate the performance of the method in synthetic data experiments. They show that LISAR outperforms LASSO, SCAD, Adaptive LASSO, BGR, DFM, and TriSNAR in forecasting accuracy and structural detection even for different strength of system persistence and when the model is misspecified. We investigate the performance of the LISAR method on a dataset of 8 years of high-frequency price observations (5 minute) for the S&P100. The results show that, dependent on the sector, the proposed model significantly outperforms or does equally good than the competing models for 90-91% of the time series in terms of forecasting accuracy, evaluated with a Diebold-Mariano test on a 5% significance level. Evaluation for the best model based on the Vuong test for overlapping models, which is essentially a likelihood ratio test evaluated against a sum of chi-squared random variables, showed an even stronger outperformance of the proposed LISAR methodology. We show in this study, that in the presence of influencer structures within a sector, the LISAR model, compared to alternative models, provides higher accuracy, better forecasting results, and improves the understanding of market movements and sectoral structures.

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I Real data - Appendix

Table 4: Overview of the 6 sectors of the S&P100 having more than 10 constituents

Symbol	Name	Sector	Symbol	Name	Sector
AMZN	Amazon	Consumer Discretionary	BMY	Bristol Myers Squibb	Health Care
BKNG	Booking Holdings	Consumer Discretionary	CVS	CVS Health	Health Care
F	Ford	Consumer Discretionary	DHR	Danaher	Health Care
GM	GM	Consumer Discretionary	GILD	Gilead	Health Care
HD	Home Depot	Consumer Discretionary	JNJ	Johnson & Johnson	Health Care
LOW	Lowe's	Consumer Discretionary	LLY	Lilly	Health Care
MCD	McDonald's	Consumer Discretionary	MDT	Medtronic	Health Care
NKE	Nike	Consumer Discretionary	MRK	Merck	Health Care
SBUX	Starbucks	Consumer Discretionary	PFE	Pfizer	Health Care
TGT	Target	Consumer Discretionary	TMO	Thermo Fisher Scientific	Health Care
TSLA	Tesla	Consumer Discretionary	UNH	UnitedHealth Group	Health Care
CL	Colgate-Palmolive	Consumer Staples	BA	Boeing	Industrials
COST	Costco	Consumer Staples	CAT	Caterpillar	Industrials
KHC	Kraft Heinz	Consumer Staples	EMR	Emerson	Industrials
KO	Coca-Cola	Consumer Staples	FDX	FedEx	Industrials
MDLZ	Mondelēz International	Consumer Staples	GD	General Dynamics	Industrials
MO	Altria	Consumer Staples	GE	GE	Industrials
PEP	PepsiCo	Consumer Staples	HON	Honeywell	Industrials
PG	Procter & Gamble	Consumer Staples	LMT	Lockheed Martin	Industrials
PM	Philip Morris International	Consumer Staples	MMM	3M	Industrials
WBA	Walgreens Boots Alliance	Consumer Staples	RTX	Raytheon Technologies	Industrials
WMT	Walmart	Consumer Staples	UNP	Union Pacific	Industrials
AIG	American International Group	Financials	UPS	United Parcel Service	Industrials
AXP	American Express	Financials	AAPL	Apple	Information Technology
BAC	Bank of America	Financials	ACN	Accenture	Information Technology
BK	BNY Mellon	Financials	ADBE	Adobe	Information Technology
BLK	BlackRock	Financials	AMD	AMD	Information Technology
BRK.B	Berkshire Hathaway	Financials	AVGO	Broadcom	Information Technology
C	Citigroup	Financials	CRM	Salesforce	Information Technology
COF	Capital One	Financials	CSCO	Cisco	Information Technology
GS	Goldman Sachs	Financials	IBM	IBM	Information Technology
JPM	JPMorgan Chase	Financials	INTC	Intel	Information Technology
MET	MetLife	Financials	MA	Mastercard	Information Technology
MS	Morgan Stanley	Financials	MSFT	Microsoft	Information Technology
SCHW	Charles Schwab	Financials	NVDA	Nvidia	Information Technology
USB	U.S. Bank	Financials	ORCL	Oracle	Information Technology
WFC	Wells Fargo	Financials	PYPL	PayPal	Information Technology
ABBV	AbbVie	Health Care	QCOM	Qualcomm	Information Technology
ABT	Abbott	Health Care	TXN	Texas Instruments	Information Technology
AMGN	Amgen	Health Care	V	Visa	Information Technology

II Robustness analysis - Appendix

In this section we conduct the robustness analysis for the results achieved in section 5. The analysis is similar but here we allow for a maximum of 4 lags only for each model. Note that the LISAR models regularize for the lags, hence the actual number of lags is commonly smaller and even lags in-between others an be regularised out. In Table 6 we summarise the performance of the models. The results for the Vuong tests are comparable to the ones described in section 5, hence we conclude the results are robust. Also for the Diebold-Marianno tests, we observe that on 6-12% of the days the LISAR type models provide the better forecasting accuracy. This remarkable outperformance by the LISAR models comes together with a bit of a worse performance of the Non-LISAR models which provide on 11-16 out of 1999 days the best forecast now, compare Table 6. Again the results are comparable to Table 2, hence we conclude they are robust.

For a more detailed investigation of the models utilizing the proposed methodology, LISARwSCAD, LISARwLASSO and LISARwAdapLASSO, we look at the forecasting performance and model evaluation on days when sector-wide influence from a stock was detected by these models, as it was intended by the underlying methodology. We see from Tables **??** and **??** that the LISAR type models more frequently outperform on days when Influencers were detected, both in terms of Diebold-Marianno and Vuong test. The days on which the forecasts from the LISAR models, calculated while allowing for a maximum of 4 lags, significantly outperform the Non-LISAR ones, remain percentage-wise about the same as for the 6 lags case. Hence we conclude the results are robust.

We also investigate if the forecasting comparison across different forecasting horizons and models, reported in Table 3, is robust. Similarly to the previous analysis in this section, the models are estimated by allowing for a maximum of 4 lags. Still LISAR outperforms LASSO, SCAD, Adap. LASSO, BGR, DFM, and TriSNAR across all forecasting horizons, see Table 5. BGR performs the best against LISAR, but is still dominated by it. The results of LISAR are even better in this robustness analysis than in the main analysis. It still outperforms DFM and TriSNAR strongly as well. Hence we conclude that the results are robust.

Table 5: For the days and time series when the LISAR model provides the better MSFE on the evaluation dataset compared to a competing model, we analyse if it also provides the better or equally good forecasting accuracy as by Diebold Marianno test on a 5% level over forecasting horizons of 1 to 6 periods. This analyse follows the rational that one would only use the LISAR model instead of a competing model for forecasting on an out-of-sample dataset, if it provides the better model fit during the model evaluation. The results show that the LISAR model would also excel in almost all cases in out-of-sample forecasting.

Sectors	Models	h = 1	h = 2	h = 3	h = 4	h = 5	h = 6
Consumer Discretionary	LISAR vs. Non-LISAR	0.90	0.88	0.87	0.87	0.87	0.87
	LISAR vs. BGR	0.92	0.91	0.90	0.90	0.89	0.89
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.90	0.88	0.87	0.86	0.86	0.86
Consumer Staples	LISAR vs. Non-LISAR	0.91	0.89	0.88	0.88	0.87	0.87
	LISAR vs. BGR	0.92	0.90	0.90	0.90	0.89	0.89
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.91	0.89	0.88	0.88	0.88	0.88
Financials	LISAR vs. Non-LISAR	0.90	0.88	0.87	0.86	0.86	0.86
	LISAR vs. BGR	0.88	0.87	0.86	0.86	0.86	0.85
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.90	0.89	0.87	0.87	0.87	0.87
Health Care	LISAR vs. Non-LISAR	0.91	0.89	0.88	0.87	0.87	0.87
	LISAR vs. BGR	0.92	0.91	0.89	0.88	0.89	0.89
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.91	0.89	0.88	0.87	0.87	0.87
Industrials	LISAR vs. Non-LISAR	0.91	0.89	0.88	0.88	0.87	0.87
	LISAR vs. BGR	0.92	0.90	0.89	0.88	0.88	0.88
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.91	0.89	0.88	0.88	0.87	0.87
Information Technology	LISAR vs. Non-LISAR	0.91	0.89	0.88	0.87	0.87	0.87
	LISAR vs. BGR	0.91	0.89	0.89	0.87	0.88	0.88
	LISAR vs. DFM	1.00	1.00	1.00	1.00	1.00	1.00
	LISAR vs. TriSNAR	0.91	0.89	0.88	0.88	0.88	0.87

Table 6: We analyse the best LISAR model against the best Non-LISAR model as by MSFE. The analyse the assets for when the LISAR model provides the better MSFE on the evaluation data and vice versa when the Non-LISAR model outperforms. We conduct forecasting tests on the out-of-sample data for the assets. We report the number of time series over 8 years (2010 days) for which one model outperformed the other on a 5% level or performed equally good as by Vuong and Diebold Marianno test. The results are reported in absolute numbers and as percentage over 2010 days.

Sectors	Vuong LISAR	Vuong Non-LISAR	DM LISAR	DM Non-LISAR
Consumer Discretionary	6062.00	2312.00	6312.00	4030.00
	0.87	0.55	0.90	0.95
Consumer Staples	6297.00	2277.00	6543.00	4082.00
	0.87	0.53	0.91	0.96
Financials	8447.00	2344.00	8655.00	4883.00
	0.87	0.46	0.90	0.96
Health Care	7420.00	2549.00	7684.00	4903.00
	0.88	0.50	0.91	0.96
Industrials	6859.00	2313.00	7073.00	4397.00
	0.88	0.50	0.91	0.96
Information Technology	9453.00	2913.00	9727.00	5900.00
	0.88	0.48	0.91	0.97

III Tables - Appendix

In this section, summary tables of different aspects of the simulation are presented. For each lambda selection criteria, three loss functions have been applied for the evaluation: MSFE, AIC, and BIC. Six models (LASSO, SCAD, AdapLASSO, LISARwLASSO, LISARwSCAD and LISARwAdapLASSO) have been evaluated for each scenario respectively, with the evaluation factors containing:

- Number of activated lags been chosen;
- Number of non-zero parameters been included;
- Sum of Squared Error (SSE);
- Mean Squared Error (MSE);
- Mean Square Forecasting Error (MSFE);
- False Negative (FN) and False Positive (FP) rate for lags, groups and individual elements.

Table 7: Simulation N=10 with 2 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.75	10.66	0.0064	0.9031	0.999	0.8237	0.4714	0.6038	0.4544	0.06	0.405	0.4231
		1.92	39.3	0.0052	0.8075	0.9668	0.5881	0.6454	0.255	0.5887	0.03	0.475	0.3406
		1.78	24.99	0.0055	0.8422	0.976	0.7133	0.6043	0.3875	0.5062	0.06	0.42	1.2308
		2	182.95	0.0057	0.981	0.9865	0.0841	0.8751	0	0.6364	0	0.5	0.0303
		2	251.98	1e+06	1.0327	1.0225	1	1	1	1	1	1	0.3071
		1.6	21.36	0.005	0.8487	0.9646	0.5648	0.3862	0.5675	0.3007	0.01	0.305	43.576
		1.02	18.49	0.004	0.8505	0.9452	0.4878	0.2074	0.64	0.0862	0.05	0.035	34.4743
		1.25	30.19	0.0036	0.8128	0.9379	0.3863	0.3809	0.4575	0.2299	0	0.125	40.7808
		1.17	20.71	0.004	0.8437	0.95	0.5259	0.3478	0.4712	0.2025	0.01	0.09	107.9416
	100	1.94	27.44	0.0057	0.853	0.9678	0.5367	0.482	0.3225	0.5269	0.02	0.48	0.4168
		2	71.16	0.0037	0.7932	0.9261	0.2504	0.7055	0.0488	0.63	0	0.5	0.3261
		2	51.36	0.0039	0.8076	0.9326	0.3478	0.6341	0.1113	0.6096	0	0.5	1.2944
		2	195.99	0.0057	0.9896	0.9825	0.0144	0.8654	0	0.6364	0	0.5	0.044
		2	251.95	1e+06	1.0028	1.0023	1	1	1	1	1	1	0.5116
		1.21	28.83	0.0024	0.8491	0.9096	0.2907	0.275	0.5612	0.1042	0	0.105	41.4626
		1.04	27.18	0.0021	0.8484	0.9028	0.267	0.242	0.4312	0.1167	0	0.02	41.1577
		1.13	37.25	0.002	0.8358	0.8997	0.213	0.3693	0.31	0.203	0	0.065	43.0113
		1.14	31.06	0.0022	0.8394	0.9051	0.27	0.3153	0.3512	0.2076	0	0.07	122.2086
	200	2	42.29	0.0031	0.8277	0.9077	0.2241	0.4817	0.1688	0.5699	0	0.5	0.4948
		2	87.12	0.0022	0.8124	0.8924	0.0796	0.7087	0.015	0.6309	0	0.5	0.3475
		2	63.75	0.0023	0.8179	0.8945	0.133	0.6183	0.0538	0.615	0	0.5	1.3804
		2	198.31	0.0057	0.9904	0.9848	0.003	0.8642	0	0.6364	0	0.5	0.0716
		2	251.9	1e+06	0.9975	1.0007	1	1	1	1	1	1	0.7561
		1.09	34.82	0.0014	0.8513	0.8866	0.1681	0.3105	0.4575	0.0885	0	0.045	50.893
		1.1	32.69	0.0013	0.8511	0.8836	0.1444	0.2638	0.3362	0.1397	0	0.05	58.9479
		1.23	47.59	0.0012	0.841	0.8822	0.0937	0.4368	0.1612	0.2713	0	0.115	62.3837
		1.18	39.57	0.0012	0.8435	0.8834	0.1141	0.3556	0.1975	0.2412	0	0.09	169.56
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.79	13.77	0.0101	0.8117	0.9905	0.7785	0.4968	0.5675	0.4613	0.03	0.41	0.5767
		1.96	58.68	0.0071	0.6617	0.9199	0.4089	0.6999	0.1125	0.6107	0.02	0.49	0.4021
		1.95	38.84	0.0078	0.7053	0.9384	0.5563	0.6536	0.2212	0.5881	0.03	0.49	1.6087
		2	194.96	0.0083	0.9533	0.9859	0.0215	0.8671	0	0.6364	0	0.5	0.0311
		2	251.95	1e+06	1.0819	1.0376	1	1	1	1	1	1	0.3623
		1.49	27.48	0.0061	0.7292	0.9042	0.4107	0.3571	0.5612	0.2518	0	0.245	62.828
		1.09	25.25	0.0046	0.7284	0.8614	0.3515	0.2702	0.5625	0.1352	0	0.045	42.3662
		1.13	34.75	0.004	0.7062	0.8633	0.2781	0.3911	0.3625	0.2163	0	0.065	46.4861
		1.14	30.27	0.0047	0.7198	0.8803	0.3559	0.3732	0.3812	0.2264	0	0.07	127.6157
	100	2	37.51	0.0072	0.7063	0.8786	0.3707	0.5109	0.24	0.5775	0	0.5	0.4961
		2	83.39	0.0044	0.6761	0.8393	0.1585	0.7212	0.0225	0.6319	0	0.5	0.3615
		2	62.73	0.0047	0.6853	0.8449	0.2311	0.6585	0.0587	0.6222	0	0.5	1.5023
		2	198.95	0.0083	0.9686	0.9692	0.0022	0.8646	0	0.6364	0	0.5	0.0453
		2	251.94	1e+06	1.0188	1.0013	1	1	1	1	1	1	0.5434
		1.23	30.89	0.0028	0.7523	0.821	0.2656	0.29	0.54	0.1025	0	0.115	56.7031
		1.14	29.47	0.0027	0.7443	0.8144	0.2267	0.2625	0.4562	0.1369	0	0.07	53.0187
		1.23	44.2	0.0024	0.7265	0.8087	0.1578	0.4396	0.2288	0.2703	0	0.115	55.6543
		1.19	37.6	0.0025	0.7305	0.811	0.1889	0.3775	0.2725	0.25	0	0.095	153.3421
	200	2	42.56	0.0036	0.7236	0.8059	0.1926	0.4563	0.1912	0.5605	0	0.5	0.5039
		2	94.14	0.0026	0.7074	0.7943	0.0652	0.7264	0.0063	0.6312	0	0.5	0.3849
		2	66.62	0.0026	0.7144	0.7948	0.1115	0.6219	0.0538	0.6172	0	0.5	1.5954
		2	198.83	0.0083	0.9754	0.9696	0.0033	0.8647	0	0.6364	0	0.5	0.0775
		2	251.94	1e+06	1.0013	0.9976	1	1	1	1	1	1	1.1001
		1.14	42.08	0.0017	0.7458	0.7908	0.1178	0.3897	0.3062	0.1472	0	0.07	67.3895
		1.17	35.3	0.0017	0.7489	0.789	0.1167	0.2838	0.2812	0.1676	0	0.085	72.7852
		1.33	57.36	0.0016	0.7347	0.7857	0.0741	0.5188	0.1037	0.3396	0	0.165	75.2958
		1.36	46.67	0.0017	0.7379	0.7876	0.0959	0.4263	0.1688	0.318	0	0.18	214.5953
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.98	39.98	0.018	0.3679	0.7636	0.5041	0.6453	0.255	0.6018	0.02	0.5	0.7336
		2	81.68	0.0118	0.316	0.6882	0.2474	0.7459	0.0288	0.6327	0	0.5	0.5083
		1.97	61.69	0.0144	0.3395	0.7289	0.3815	0.7067	0.0887	0.6171	0.01	0.49	2.2172
		2	199.48	0.0146	0.7994	0.9657	0.0015	0.8648	0	0.6364	0	0.5	0.0315
		2	251.96	1e+06	1.4303	1.1626	1	1	1	1	1	1	0.4609
		1.34	35.89	0.0107	0.4016	0.6591	0.33	0.4545	0.49	0.2642	0	0.17	104.4258
		1.43	34.39	0.0105	0.3917	0.6263	0.3211	0.4489	0.5062	0.3243	0	0.215	58.9413
		1.47	50.72	0.0082	0.3713	0.6151	0.2344	0.5666	0.2537	0.3879	0	0.235	70.9023
		1.43	45.08	0.009	0.3776	0.6246	0.2593	0.5297	0.2712	0.3718	0	0.215	184.8072
	100	2	69.08	0.0115	0.3377	0.5383	0.2215	0.6721	0.0813	0.6259	0	0.5	0.5248
		2	104.64	0.0074	0.3365	0.5145	0.1244	0.7702	0.0112	0.6367	0	0.5	0.4772
		2	80.47	0.0085	0.3405	0.5158	0.177	0.7159	0.0225	0.6311	0	0.5	2.0655
		2	199.44	0.0145	0.8282	0.9198	0.0011	0.8648	0	0.6364	0	0.5	0.0455
		2	251.99	1e+06	1.1163	1.0154	1	1	1	1	1	1	0.6695
		1.5	48.63	0.0088	0.3803	0.5231	0.2093	0.5365	0.255	0.385	0	0.25	98.6449
		1.74	43.6	0.0089	0.3838	0.5017	0.2163	0.4917	0.3962	0.4007	0	0.37	84.7412
		1.76	70.56	0.0069	0.3672	0.4961	0.13	0.6408	0.1988	0.49	0	0.38	98.4818
		1.87	59.73	0.008	0.3679	0.4981	0.173	0.6051	0.26	0.5056	0	0.435	285.6813
	200	2	91.04	0.0087	0.3581	0.4587	0.1156	0.7165	0.03	0.6348	0	0.5	0.5798
		2	119.87	0.0055	0.36	0.4445	0.0556	0.7849	0	0.6353	0	0.5	0.5326
		2	90.74	0.0065	0.363	0.4443	0.0893	0.7228	0.0112	0.6295	0	0.5	2.2669
		2	199.26	0.0144	0.8716	0.8971	7e-04	0.8646	0	0.6364	0	0.5	0.073
		2	251.94	1e+06	1.0533	0.9855	1	1	1	1	1	1	1.3836
		1.95	59.03	0.0085	0.374	0.4501	0.1548	0.5895	0.155	0.5864	0	0.475	115.5384
		1.98	56.15	0.0086	0.3845	0.4463	0.1448	0.5694	0.2625	0.5141	0	0.49	117.4531
		1.98	89.14	0.0061	0.3756	0.4398	0.0819	0.7129	0.1388	0.58	0	0.49	134.795
		2	74.03	0.0072	0.375	0.439	0.1074	0.6615	0.16	0.5955	0	0.5	367.8724

Table 8: Simulation N=10 with 3 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.84	10.73	0.0078	0.885	0.9947	0.8828	0.3341	0.715	0.2563	0.1	0.225	0.4144
		2.96	61.11	0.0062	0.7084	0.9392	0.578	0.5941	0.1975	0.464	0.025	0.3217	0.432
		2.87	37.08	0.0067	0.7662	0.9587	0.7207	0.5311	0.3588	0.4169	0.05	0.3	1.9225
		3	274.65	0.0076	0.9839	0.9848	0.0896	0.8264	0	0.5152	0	0.3333	0.0336
		3	332.9	1e+06	1.0699	1.0553	1	1	1	1	1	1	0.9876
		2.92	28.55	0.006	0.7749	0.9371	0.6306	0.2739	0.7062	0.182	0.055	0.1517	85.1469
		2.84	29.89	0.0049	0.7551	0.9017	0.5433	0.1721	0.7169	0.06	0.095	0.0267	84.1921
		3	44.66	0.0042	0.7134	0.8841	0.4304	0.2788	0.535	0.1311	0.02	0.0233	93.7165
		2.96	39.5	0.0046	0.7337	0.896	0.4819	0.2739	0.5388	0.1471	0.02	0.0483	277.0212
	100	2.98	38.91	0.0061	0.7533	0.9351	0.563	0.3551	0.3381	0.3658	0.005	0.3233	0.597
		3	104.69	0.0041	0.6937	0.8769	0.2659	0.6148	0.0381	0.5011	0	0.3333	0.4114
		3	75.46	0.0044	0.7109	0.8869	0.3683	0.5373	0.1031	0.4827	0	0.3333	1.7717
		3	293.27	0.0076	0.9911	0.9812	0.025	0.8212	0	0.5152	0	0.3333	0.0531
		3	332.89	1e+06	1.0065	1.0052	1	1	1	1	1	1	0.738
		2.98	42.89	0.0034	0.7595	0.8633	0.4037	0.2261	0.59	0.0901	0.005	0.0633	77.4386
		3	45.82	0.0024	0.7483	0.8339	0.3089	0.1728	0.5444	0.0682	0	0	102.498
		3	60.4	0.0023	0.7331	0.83	0.2333	0.2887	0.3456	0.1522	0	0	96.1032
		3	55.9	0.0023	0.7359	0.8321	0.2526	0.2586	0.3269	0.1677	0	0.0033	285.4489
	200	3	62.83	0.0028	0.7299	0.839	0.2452	0.3376	0.1856	0.4066	0	0.3333	0.6616
		3	126.39	0.0023	0.7188	0.8233	0.0863	0.6057	0.0088	0.5061	0	0.3333	0.4495
		3	94.31	0.0023	0.7235	0.8241	0.1411	0.5008	0.0569	0.4858	0	0.3333	1.9045
		3	296.17	0.0075	0.9894	0.9828	0.017	0.8208	0	0.5152	0	0.3333	0.0963
		3	332.85	1e+06	0.9995	1.0003	1	1	1	1	1	1	1.2232
		3	55.44	0.0017	0.754	0.8119	0.2291	0.2316	0.5119	0.1129	0	0.14	97.0463
		3	54.1	0.0014	0.7524	0.8034	0.185	0.1769	0.4181	0.0787	0	0	140.7193
		3	74.53	0.0013	0.7417	0.7995	0.1056	0.3369	0.1506	0.1971	0	0	124.8854
		3	66.05	0.0012	0.7448	0.7989	0.1187	0.2658	0.1988	0.1703	0	0	363.2096
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.97	22.64	0.0114	0.6871	0.9586	0.7656	0.4105	0.545	0.3635	0.045	0.3083	0.5562
		2.99	82.84	0.008	0.5426	0.861	0.4261	0.6132	0.105	0.4981	0.01	0.34	0.49
		2.97	59.12	0.0093	0.5856	0.8987	0.5767	0.5953	0.1819	0.4623	0.01	0.3233	2.294
		3	291.83	0.011	0.956	0.981	0.0298	0.822	0	0.5152	0	0.3333	0.034
		3	332.95	1e+06	1.1291	1.0677	1	1	1	1	1	1	0.7879
		2.98	33.38	0.0067	0.6354	0.8085	0.5239	0.2099	0.6762	0.1414	0.01	0.14	116.4343
		2.98	38.17	0.0049	0.6044	0.7642	0.433	0.1844	0.6862	0.0518	0.015	0.02	101.3687
		2.98	51.81	0.0045	0.5795	0.7601	0.3474	0.2932	0.4612	0.1447	0.005	0.0167	102.762
		2.96	49.83	0.005	0.588	0.7714	0.3744	0.299	0.4488	0.1809	0.01	0.03	310.2553
	100	3	55.1	0.006	0.5779	0.7832	0.3843	0.3731	0.2438	0.4081	0	0.33	0.6186
		3	118.97	0.0045	0.5588	0.7466	0.1746	0.6209	0.0194	0.5043	0	0.3333	0.4527
		3	88.84	0.0048	0.5695	0.7552	0.2543	0.5407	0.06	0.4874	0	0.3333	1.9865
		3	297.72	0.011	0.9676	0.9642	0.0098	0.8204	0	0.5152	0	0.3333	0.054
		3	332.87	1e+06	1.0219	1.0035	1	1	1	1	1	1	0.6952
		3	45.8	0.0034	0.6296	0.7178	0.3443	0.1905	0.5594	0.1196	0	0.1233	104.9768
		3	45.13	0.0023	0.6207	0.6946	0.2987	0.1484	0.6025	0.0375	0	0	115.7402
		3	63.08	0.0022	0.6037	0.6909	0.2111	0.3024	0.2881	0.1612	0	0	113.2908
		3	57.53	0.0022	0.6074	0.692	0.2291	0.2582	0.3244	0.1698	0	0.0033	327.0467
	200	3	59.73	0.0023	0.6033	0.6854	0.2033	0.2691	0.2375	0.3717	0	0.3333	0.65
		3	128.33	0.0023	0.5914	0.6826	0.0672	0.6043	0.0075	0.5053	0	0.3333	0.5097
		3	83.07	0.002	0.6002	0.6783	0.1311	0.4205	0.0938	0.4574	0	0.3333	2.1325
		3	297.4	0.0109	0.9737	0.9663	0.013	0.8208	0	0.5152	0	0.3333	0.1002
		3	332.89	1e+06	1.0033	0.9965	1	1	1	1	1	1	1.2728
		3	54.69	0.0016	0.622	0.6695	0.2069	0.2013	0.4475	0.1165	0	0.1367	143.2348
		3	53	0.0013	0.6199	0.664	0.1778	0.1512	0.4488	0.066	0	0	155.2707
		3	76.64	0.0012	0.6119	0.6612	0.0919	0.3451	0.1356	0.1946	0	0	140.5703
		3	65.59	0.0012	0.6148	0.6601	0.1107	0.2557	0.1981	0.1553	0	0	423.9272
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.97	56.74	0.0134	0.2538	0.6078	0.4904	0.4864	0.2387	0.4382	0.01	0.33	0.6264
		3	102.4	0.0104	0.2377	0.5571	0.2983	0.6249	0.0412	0.4954	0	0.3333	0.6305
		3	81.51	0.0141	0.2558	0.6304	0.4467	0.629	0.0744	0.4922	0	0.3333	3.0196
		3	298.9	0.0191	0.7893	0.9361	0.0052	0.8203	0	0.5152	0	0.3333	0.0341
		3	332.96	1e+06	1.43	1.1368	1	1	1	1	1	1	0.8507
		2.97	30.97	0.0076	0.3332	0.4507	0.5483	0.1761	0.7038	0.1815	0.01	0.1483	199.4815
		2.98	39.42	0.0067	0.3021	0.4381	0.4606	0.2472	0.6706	0.1639	0.005	0.0767	129.3642
		2.98	51.8	0.0055	0.2945	0.43	0.3724	0.3205	0.5194	0.1792	0.005	0.0567	149.8677
		3	52.33	0.0067	0.2943	0.4509	0.3874	0.3439	0.4675	0.2158	0	0.06	465.028
	100	3	70.37	0.0057	0.2609	0.3843	0.2967	0.4371	0.1425	0.4336	0	0.3333	0.6283
		3	115.99	0.0047	0.2584	0.3731	0.1598	0.6048	0.0219	0.5011	0	0.3333	0.5922
		3	84.33	0.0047	0.2632	0.3687	0.2287	0.4971	0.0887	0.4829	0	0.3333	2.6417
		3	298.8	0.0191	0.8114	0.8916	0.0041	0.82	0	0.5152	0	0.3333	0.0541
		3	332.9	1e+06	1.1013	1.0079	1	1	1	1	1	1	0.7822
		3	46.8	0.0046	0.2915	0.3579	0.367	0.2359	0.4531	0.2493	0	0.2433	185.4225
		2.98	41.72	0.0036	0.2983	0.3438	0.3613	0.1654	0.5931	0.1008	0.005	0.0467	166.1009
		3	63.82	0.0028	0.2857	0.3406	0.222	0.3141	0.3419	0.1557	0	0.0167	188.1199
		3	56.28	0.0029	0.2876	0.3384	0.2533	0.2664	0.3512	0.1695	0	0.0267	540.3428
	200	3	87.34	0.003	0.2707	0.3259	0.1624	0.4554	0.0719	0.4483	0	0.3333	0.659
		3	126.79	0.0024	0.2715	0.3184	0.0661	0.598	0.0044	0.4995	0	0.3333	0.6865
		3	76.62	0.0021	0.278	0.3124	0.128	0.3739	0.105	0.4404	0	0.3333	2.8905
		3	298.74	0.0192	0.846	0.8681	0.0046	0.8201	0	0.5152	0	0.3333	0.0942
		3	332.93	1e+06	1.0527	0.9812	1	1	1	1	1	1	1.2988
		3	54.96	0.0022	0.2844	0.3138	0.2113	0.2131	0.3219	0.2447	0	0.2933	226.8454
		3	52.76	0.0022	0.2883	0.3142	0.2113	0.1682	0.355	0.1255	0	0.04	207.1465
		2.98	82.41	0.0018	0.2844	0.3121	0.095	0.3888	0.1806	0.2144	0.005	0.0267	213.1783
		3	64.98	0.0016	0.2839	0.3073	0.1143	0.2522	0.1775	0.1909	0	0.03	670.568

Table 9: Simulation N=10 with 4 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	3.27	8.78	0.006	0.9042	1.0013	0.9157	0.3973	0.775	0.3545	0.17	0.3217	0.662
		3.89	57.42	0.0049	0.7222	0.951	0.6448	0.6259	0.2812	0.5604	0.025	0.4733	0.713
		3.83	36.03	0.0054	0.7983	0.9705	0.7841	0.6342	0.4394	0.5193	0.065	0.4633	3.6422
		4	359.96	0.0057	0.9853	0.9857	0.0935	0.8731	0	0.6364	0	0.5	0.0548
		4	413.93	1e+06	1.1243	1.108	1	1	1	1	1	1	1.705
		3.3	30.53	0.0044	0.7704	0.933	0.6204	0.3162	0.7094	0.2354	0.02	0.2517	213.019
		2.81	29.43	0.0038	0.7545	0.9065	0.5535	0.1709	0.7131	0.0472	0.1	0.0317	119.83
		3.04	43.57	0.0032	0.7165	0.8847	0.4354	0.2752	0.5538	0.1252	0.02	0.0467	129.8772
		3.09	39.64	0.0036	0.7409	0.8979	0.5004	0.3018	0.5138	0.1879	0.015	0.0817	404.5164
	100	3.87	32.72	0.005	0.7746	0.9534	0.6459	0.383	0.4238	0.4277	0	0.4633	0.6891
		4	110.76	0.0034	0.69	0.8867	0.3089	0.6565	0.065	0.6165	0	0.5	0.5051
		4	76.8	0.0037	0.7156	0.8997	0.4339	0.5915	0.1588	0.5925	0	0.5	2.2843
		4	388.08	0.0057	0.9906	0.9809	0.0269	0.8659	0	0.6364	0	0.5	0.0581
		4	413.88	1e+06	1.0121	1.0108	1	1	1	1	1	1	1.9392
		3.17	46.19	0.0024	0.7555	0.8562	0.385	0.2471	0.6194	0.1315	0	0.145	104.4459
		3	44.72	0.0018	0.7488	0.8333	0.3156	0.1639	0.5694	0.0536	0	0	141.7617
		3	59.69	0.0017	0.7333	0.8303	0.2357	0.2859	0.35	0.1546	0	0	134.0055
		3.02	55.75	0.0018	0.7374	0.8342	0.2596	0.267	0.335	0.1673	0	0.01	393.5201
	200	3.97	57.72	0.0024	0.735	0.8483	0.303	0.3326	0.27	0.4769	0	0.495	0.8461
		4	139.48	0.0019	0.7135	0.83	0.1069	0.6505	0.0206	0.6234	0	0.5	0.5914
		4	101.78	0.0019	0.7211	0.8307	0.1674	0.5507	0.0831	0.5983	0	0.5	2.4786
		4	391.63	0.0057	0.9892	0.9827	0.0172	0.8645	0	0.6364	0	0.5	0.1003
		4	413.84	1e+06	0.9999	1.0009	1	1	1	1	1	1	2.2959
		3.19	56.77	0.0012	0.7534	0.8089	0.2213	0.247	0.5362	0.1496	0	0.2367	136.0178
		3	54.31	0.001	0.752	0.8035	0.185	0.1799	0.4244	0.0781	0	0	183.9719
		3	75.31	9e-04	0.7409	0.7996	0.1017	0.3418	0.1406	0.2034	0	0	166.7007
		3	67.47	9e-04	0.7439	0.7999	0.1215	0.2846	0.1888	0.1765	0	0	477.3404
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3.7	16.82	0.0089	0.7412	0.9745	0.8396	0.4761	0.6587	0.4557	0.08	0.44	0.7974
		3.95	82.81	0.0066	0.5456	0.8822	0.5033	0.6649	0.1663	0.605	0.01	0.4933	0.8094
		3.95	59.42	0.0077	0.6217	0.924	0.6565	0.6702	0.2694	0.5837	0.01	0.4833	4.2089
		4	387.23	0.0083	0.9594	0.9795	0.0315	0.8676	0	0.6364	0	0.5	0.057
		4	413.92	1e+06	1.2298	1.1687	1	1	1	1	1	1	1.7272
		3.19	36.18	0.0047	0.6303	0.799	0.4989	0.2273	0.7106	0.21	0.02	0.24	214.7176
		3.03	37.93	0.0038	0.5996	0.7676	0.4352	0.1851	0.68	0.0739	0.015	0.0317	146.806
		3.05	53.21	0.0035	0.5729	0.762	0.3454	0.3048	0.4656	0.1565	0	0.0233	146.8331
		3.08	52.26	0.0039	0.5803	0.7744	0.3731	0.331	0.43	0.2136	0	0.0467	456.089
	100	3.98	51.96	0.0052	0.5844	0.8044	0.4493	0.4038	0.3256	0.4971	0	0.495	0.7733
		4	126.94	0.0038	0.5534	0.7601	0.2076	0.6585	0.0425	0.621	0	0.5	0.5613
		4	96.07	0.0042	0.5646	0.7731	0.2931	0.5964	0.1025	0.6064	0	0.5	2.5932
		4	394.98	0.0082	0.9675	0.9643	0.0115	0.8649	0	0.6364	0	0.5	0.0602
		4	413.89	1e+06	1.0286	1.0121	1	1	1	1	1	1	2.1351
		3.27	47.2	0.0026	0.6256	0.7183	0.3415	0.2133	0.585	0.1746	0	0.215	148.3037
		3.01	45.18	0.0017	0.6191	0.6939	0.2915	0.1384	0.5944	0.0374	0	0.0033	156.8803
		3.01	61.95	0.0017	0.6047	0.6914	0.2119	0.2929	0.3113	0.1566	0	0.005	153.1768
		3.01	57.37	0.0017	0.6079	0.694	0.2324	0.2568	0.3444	0.1615	0	0.0067	443.7639
	200	3.97	61.75	0.002	0.6009	0.6914	0.2239	0.3044	0.2638	0.4633	0	0.495	0.838
		4	141.46	0.0019	0.587	0.6888	0.0806	0.6455	0.0156	0.6208	0	0.5	0.6697
		4	93.17	0.0017	0.5958	0.6841	0.1437	0.4938	0.1081	0.5799	0	0.5	2.7999
		4	395.46	0.0083	0.9711	0.9631	0.01	0.8648	0	0.6364	0	0.5	0.1033
		4	413.9	1e+06	1.0037	0.9975	1	1	1	1	1	1	2.9409
		3.22	54.19	0.0012	0.6244	0.6716	0.2226	0.211	0.495	0.1627	0	0.2367	187.392
		3	52.8	0.001	0.6199	0.6641	0.1763	0.1495	0.4594	0.06	0	0	202.9425
		3	75.85	9e-04	0.6122	0.6608	0.0915	0.3413	0.1294	0.2005	0	0	185.3046
		3	66.79	9e-04	0.6144	0.6608	0.1148	0.2692	0.1962	0.1694	0	0	548.7268
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	4	52.26	0.0116	0.27	0.6588	0.578	0.5614	0.3331	0.5568	0.01	0.505	0.8952
		4	107.42	0.0091	0.2334	0.5851	0.3565	0.6727	0.0838	0.6112	0	0.5	0.9398
		4	88.94	0.0124	0.2616	0.6598	0.5087	0.6999	0.1225	0.615	0	0.5	4.9708
		4	398.12	0.0144	0.7913	0.9277	0.0046	0.865	0	0.6364	0	0.5	0.0567
		4	413.94	1e+06	1.775	1.4968	1	1	1	1	1	1	1.8438
		3.47	37.35	0.0078	0.3268	0.4861	0.5557	0.3086	0.6625	0.3208	0.03	0.3133	345.1554
		3.19	38.53	0.0057	0.3061	0.4473	0.4931	0.2682	0.6888	0.1951	0.01	0.13	177.6892
		3.2	51.62	0.0044	0.2968	0.4381	0.3902	0.3421	0.5575	0.2134	0.005	0.115	213.1568
		3.23	51.98	0.0055	0.3008	0.4597	0.4272	0.3755	0.5125	0.2717	0	0.1333	660.9258
	100	4	75.12	0.0049	0.2579	0.3943	0.3237	0.4914	0.185	0.5462	0	0.5	0.7762
		4	126.87	0.0042	0.2553	0.3834	0.1776	0.6461	0.0425	0.6158	0	0.5	0.7294
		4	95.44	0.0044	0.2589	0.3853	0.2531	0.5701	0.1031	0.6014	0	0.5	3.3127
		4	397.74	0.0143	0.8058	0.8782	0.0057	0.865	0	0.6364	0	0.5	0.063
		4	413.91	1e+06	1.1143	1.0311	1	1	1	1	1	1	2.4203
		3.6	46.65	0.0041	0.2979	0.3639	0.4115	0.2747	0.5325	0.3095	0	0.3383	284.7598
		3.18	43.05	0.003	0.2962	0.3471	0.3676	0.1963	0.5625	0.1597	0	0.095	242.4588
		3.13	66.56	0.0022	0.2856	0.3427	0.2259	0.3423	0.3456	0.1956	0	0.065	280.1558
		3.16	59.73	0.0024	0.2887	0.3439	0.2583	0.2996	0.3675	0.207	0	0.0783	788.3937
	200	4	103.25	0.0027	0.2652	0.3334	0.1624	0.5286	0.075	0.5695	0	0.5	0.9389
		4	138.09	0.0021	0.2701	0.3215	0.0769	0.6349	0.015	0.6141	0	0.5	0.8717
		4	84.86	0.0018	0.2761	0.3153	0.1454	0.4444	0.1131	0.5532	0	0.5	3.7505
		4	397.73	0.0143	0.8378	0.8565	0.0046	0.8649	0	0.6364	0	0.5	0.0973
		4	413.8	1e+06	1.0523	0.9824	1	1	1	1	1	1	2.9382
		3.7	62.95	0.0017	0.2821	0.3153	0.1924	0.2967	0.3462	0.3291	0	0.4333	341.0723
		3.29	53.94	0.0018	0.2892	0.3167	0.2309	0.2008	0.3731	0.1904	0	0.1333	312.6019
		3.26	85.79	0.0014	0.2832	0.3118	0.0959	0.4047	0.1663	0.2558	0	0.1233	359.616
		3.21	71.87	0.0013	0.2835	0.3089	0.1133	0.3144	0.1488	0.2503	0	0.1017	991.601

Table 10: Simulation N=10 with 2 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.72	9.95	0.0064	0.9126	0.9809	0.8337	0.4509	0.635	0.4301	0.09	0.405	0.2917
		1.85	39.67	0.0053	0.8124	0.9495	0.5907	0.6428	0.2638	0.5595	0.06	0.455	0.308
		1.87	26.4	0.0055	0.8411	0.957	0.6981	0.6373	0.3612	0.5435	0.04	0.455	1.2222
		2	181.39	0.0057	0.988	0.9695	0.093	0.8765	0	0.6364	0	0.5	0.0383
		2	251.99	1e+06	1.0147	1.0052	1	1	1	1	1	1	0.2931
		1.65	20.9	0.0052	0.853	0.9511	0.5811	0.4047	0.5775	0.329	0.02	0.335	42.9145
		1.04	18.7	0.0042	0.8562	0.9309	0.5	0.2379	0.6262	0.0969	0.05	0.045	33.7124
		1.2	30.16	0.0036	0.8203	0.9194	0.3915	0.3846	0.455	0.2297	0.02	0.11	40.49
		1.22	22.02	0.0041	0.8429	0.9327	0.5233	0.3501	0.4675	0.2262	0.01	0.115	108.8488
	100	2	28.03	0.0057	0.8532	0.9591	0.5363	0.4982	0.3188	0.5492	0.01	0.505	0.432
		2	71.55	0.0037	0.7947	0.9176	0.25	0.7079	0.0538	0.6314	0	0.5	0.325
		2	50.7	0.0039	0.8103	0.9244	0.3519	0.6314	0.1138	0.6105	0	0.5	1.2799
		2	195.81	0.0057	0.9928	0.9734	0.0163	0.8656	0	0.6364	0	0.5	0.0457
		2	251.95	1e+06	0.9936	0.9932	1	1	1	1	1	1	0.4019
		1.22	28.41	0.0024	0.8535	0.9023	0.3	0.2762	0.5775	0.1135	0	0.11	40.8195
		1.05	27.15	0.0021	0.8517	0.8955	0.2637	0.238	0.4488	0.1181	0	0.025	41.449
		1.15	37.86	0.002	0.8372	0.8919	0.2022	0.3816	0.2862	0.2104	0	0.075	43.5523
		1.15	32.34	0.0023	0.8403	0.8962	0.2533	0.3294	0.31	0.215	0	0.075	123.2724
	200	2	42.89	0.0032	0.8293	0.9036	0.2219	0.4857	0.1538	0.5678	0	0.5	0.4846
		2	87.64	0.0022	0.8134	0.8885	0.0804	0.7107	0.0112	0.6307	0	0.5	0.3405
		2	63.93	0.0023	0.8191	0.8905	0.1344	0.6199	0.0512	0.6146	0	0.5	1.3735
		2	198.31	0.0057	0.992	0.9803	0.0026	0.8642	0	0.6364	0	0.5	0.0701
		2	251.95	1e+06	0.9932	0.9961	1	1	1	1	1	1	0.7985
		1.1	35.19	0.0014	0.8523	0.8825	0.1681	0.3172	0.46	0.0891	0	0.05	51.187
		1.12	33.47	0.0013	0.8517	0.8799	0.1393	0.2739	0.3125	0.1486	0	0.06	60.0455
		1.24	48.05	0.0012	0.8429	0.8784	0.0967	0.4358	0.1788	0.2718	0	0.12	63.2803
		1.21	41.04	0.0013	0.8438	0.8796	0.1074	0.3678	0.1825	0.2487	0	0.105	170.1048
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.79	15.56	0.0103	0.8035	0.9696	0.7607	0.5112	0.5375	0.4637	0.04	0.415	0.4083
		1.98	60.08	0.0072	0.6616	0.9032	0.3956	0.7107	0.1	0.6156	0.01	0.495	0.3659
		1.95	40.8	0.0079	0.7042	0.9216	0.5452	0.66	0.1988	0.5828	0.02	0.485	1.5721
		2	194.98	0.0083	0.9632	0.9696	0.0219	0.8671	0	0.6364	0	0.5	0.0368
		2	251.96	1e+06	1.0589	1.018	1	1	1	1	1	1	0.3384
		1.5	28.32	0.0062	0.7306	0.8851	0.3985	0.3665	0.5625	0.2793	0.01	0.255	62.4241
		1.09	26.25	0.0047	0.73	0.8528	0.3433	0.2896	0.5475	0.1582	0	0.045	41.5535
		1.15	35.41	0.004	0.7142	0.8496	0.2907	0.4021	0.3738	0.234	0	0.075	44.7165
		1.17	30.03	0.0047	0.7264	0.8655	0.3626	0.383	0.3525	0.2482	0	0.085	128.3426
	100	2	37.74	0.0072	0.7097	0.8701	0.3719	0.5178	0.2525	0.5848	0	0.5	0.4757
		2	84.05	0.0045	0.6793	0.8321	0.1574	0.7226	0.0225	0.6316	0	0.5	0.3629
		2	64.07	0.0048	0.6874	0.8382	0.2289	0.6636	0.0688	0.6265	0	0.5	1.5122
		2	198.73	0.0083	0.9733	0.9611	0.0026	0.8645	0	0.6364	0	0.5	0.0479
		2	251.94	1e+06	1.0107	0.9926	1	1	1	1	1	1	0.547
		1.17	31.99	0.0029	0.7543	0.8149	0.2593	0.302	0.5225	0.1064	0	0.085	56.3394
		1.16	29.52	0.0027	0.7483	0.8061	0.2296	0.2633	0.4738	0.1495	0	0.08	52.9087
		1.22	45	0.0024	0.7308	0.802	0.1533	0.4406	0.23	0.2646	0	0.11	54.7843
		1.18	36.88	0.0025	0.7358	0.8039	0.1881	0.3661	0.26	0.2392	0	0.09	151.5092
	200	2	41.86	0.0036	0.7265	0.8016	0.1952	0.4526	0.2075	0.5669	0	0.5	0.4771
		2	95.32	0.0026	0.7089	0.7911	0.0656	0.7297	0.005	0.6315	0	0.5	0.3859
		2	67.17	0.0025	0.7166	0.7916	0.1126	0.6261	0.0475	0.6165	0	0.5	1.594
		2	199.01	0.0083	0.9776	0.9654	0.003	0.8647	0	0.6364	0	0.5	0.0718
		2	251.92	1e+06	0.9972	0.9934	1	1	1	1	1	1	1.095
		1.14	41.73	0.0018	0.748	0.7877	0.1222	0.3862	0.3088	0.1552	0	0.07	67.2348
		1.24	35.4	0.0018	0.7504	0.7861	0.1204	0.2897	0.2825	0.1929	0	0.12	74.6528
		1.35	57.87	0.0016	0.7365	0.7825	0.07	0.5193	0.0963	0.35	0	0.175	74.2492
		1.39	48.01	0.0017	0.7384	0.7843	0.0922	0.4445	0.145	0.3308	0	0.195	211.6971
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.95	41.85	0.0185	0.3736	0.7577	0.4959	0.65	0.2662	0.6063	0.04	0.495	0.4661
		2	81.54	0.0118	0.3219	0.6758	0.2481	0.7458	0.0288	0.6309	0	0.5	0.4661
		2	62.12	0.0144	0.3475	0.7148	0.3848	0.7222	0.0825	0.6303	0	0.5	2.1533
		2	199.44	0.0146	0.8133	0.9537	7e-04	0.8647	0	0.6364	0	0.5	0.0366
		2	251.96	1e+06	1.3812	1.1509	1	1	1	1	1	1	0.3943
		1.35	36.51	0.0102	0.4117	0.6452	0.313	0.446	0.48	0.2475	0	0.175	103.1412
		1.46	33.86	0.0103	0.4041	0.6138	0.3267	0.4416	0.5138	0.3272	0	0.23	57.1426
		1.42	50.33	0.0081	0.3842	0.6034	0.2381	0.5658	0.2812	0.3736	0	0.21	70.2166
		1.35	44.2	0.0089	0.3928	0.6155	0.2711	0.5337	0.2638	0.3667	0	0.175	184.3647
	100	2	63.53	0.0111	0.3457	0.5304	0.237	0.6552	0.1062	0.6291	0	0.5	0.5156
		2	104.51	0.0074	0.3402	0.5106	0.1237	0.7698	0.0138	0.6368	0	0.5	0.4882
		2	80.51	0.0085	0.3442	0.5124	0.1781	0.7162	0.0225	0.6299	0	0.5	2.0915
		2	199.36	0.0145	0.8357	0.9149	7e-04	0.8647	0	0.6364	0	0.5	0.0489
		2	251.97	1e+06	1.1047	1.0053	1	1	1	1	1	1	0.6438
		1.48	49.12	0.0087	0.3854	0.52	0.2	0.5318	0.2387	0.374	0	0.24	97.3558
		1.78	44.22	0.0091	0.3877	0.4965	0.2219	0.5048	0.41	0.4226	0	0.39	83.4256
		1.81	70.36	0.0071	0.3721	0.4917	0.14	0.6468	0.2087	0.4932	0	0.405	97.3919
		1.89	59.32	0.008	0.3737	0.4938	0.1707	0.6047	0.2325	0.5066	0	0.445	276.8681
	200	2	90.95	0.0086	0.36	0.4567	0.1126	0.7167	0.0275	0.6334	0	0.5	0.5815
		2	120.09	0.0055	0.362	0.4432	0.0567	0.7851	0	0.6348	0	0.5	0.515
		2	90.28	0.0066	0.3653	0.4431	0.0922	0.7224	0.01	0.6291	0	0.5	2.2704
		2	199.32	0.0144	0.8749	0.8941	0.0022	0.8648	0	0.6364	0	0.5	0.0721
		2	251.99	1e+06	1.0494	0.9819	1	1	1	1	1	1	1.3113
		1.93	57.99	0.0083	0.3768	0.4493	0.1507	0.5861	0.15	0.5811	0	0.465	115.2111
		1.97	55.1	0.0083	0.3857	0.4454	0.1463	0.5632	0.2488	0.5176	0	0.485	117.8351
		1.99	91.1	0.006	0.3767	0.438	0.0811	0.7168	0.1437	0.5752	0	0.495	140.1331
		2	73.73	0.007	0.3775	0.4385	0.107	0.6572	0.1575	0.5761	0	0.5	368.1483

Table 11: Simulation N=10 with 3 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.8	12.72	0.0078	0.8584	0.9749	0.862	0.372	0.6744	0.2881	0.115	0.2517	0.4379
		2.99	63.38	0.0061	0.6893	0.9194	0.5587	0.6014	0.1881	0.4795	0.01	0.3283	0.4189
		2.91	39.36	0.0067	0.7493	0.9386	0.7081	0.5482	0.3469	0.426	0.035	0.3	1.9242
		3	273.81	0.0076	0.9751	0.9676	0.0924	0.8265	0	0.5152	0	0.3333	0.0375
		3	332.96	1e+06	1.0514	1.0351	1	1	1	1	1	1	0.8659
		2.94	28	0.0059	0.7663	0.917	0.6298	0.2451	0.7131	0.1399	0.065	0.1083	86.011
		2.94	32.5	0.0048	0.731	0.8811	0.5122	0.1906	0.6962	0.0551	0.085	0.0183	86.4848
		3	45.32	0.0041	0.6994	0.865	0.4174	0.2804	0.5269	0.1256	0.02	0.0283	96.4344
		2.96	42.21	0.0045	0.7137	0.8765	0.4643	0.2965	0.4981	0.1781	0.02	0.045	282.7729
	100	3	40.28	0.006	0.739	0.9231	0.5474	0.3652	0.3206	0.3742	0	0.33	0.5913
		3	105.88	0.0041	0.6869	0.8675	0.2587	0.6156	0.0344	0.5008	0	0.3333	0.4058
		3	76.57	0.0043	0.7038	0.8775	0.3617	0.539	0.1006	0.4838	0	0.3333	1.735
		3	292.98	0.0076	0.9864	0.9723	0.0267	0.8214	0	0.5152	0	0.3333	0.0548
		3	332.88	1e+06	0.9974	0.9962	1	1	1	1	1	1	0.7707
		2.98	41.75	0.0034	0.7575	0.8528	0.4094	0.2106	0.6088	0.074	0.005	0.06	76.018
		3	46.51	0.0024	0.7408	0.8253	0.2998	0.1762	0.5362	0.078	0	0	103.6896
		3	62.18	0.0022	0.7235	0.8216	0.2219	0.299	0.3144	0.1568	0	0	98.4097
		3	57.57	0.0024	0.7268	0.8243	0.2437	0.2721	0.3088	0.1704	0	0.0033	287.9369
	200	3	61.15	0.0028	0.7292	0.8339	0.2509	0.3238	0.1981	0.3955	0	0.3333	0.6555
		3	126.56	0.0023	0.7157	0.8191	0.0872	0.6065	0.0112	0.5076	0	0.3333	0.4572
		3	94.46	0.0023	0.7202	0.8197	0.1387	0.5008	0.0581	0.4863	0	0.3333	1.8931
		3	296.25	0.0075	0.9871	0.9784	0.0174	0.8209	0	0.5152	0	0.3333	0.0867
		3	332.82	1e+06	0.9949	0.9958	1	1	1	1	1	1	1.2437
		3	55.98	0.0016	0.7506	0.8071	0.2246	0.2339	0.4975	0.1066	0	0.1167	97.7088
		3	54.15	0.0014	0.7492	0.7987	0.1837	0.1755	0.4344	0.0755	0	0	141.438
		3	74.85	0.0012	0.7383	0.7957	0.1026	0.3385	0.1525	0.203	0	0	125.4212
		3	66.68	0.0012	0.7409	0.7943	0.1122	0.2685	0.1844	0.1684	0	0	364.5259
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.93	25.62	0.0112	0.6635	0.9343	0.7385	0.4115	0.5156	0.3557	0.04	0.2983	0.5564
		2.97	85.31	0.0078	0.5312	0.8414	0.4146	0.6162	0.0963	0.4915	0.01	0.33	0.4949
		2.97	60.59	0.0092	0.5749	0.8782	0.5652	0.5949	0.1737	0.4643	0.01	0.3267	2.2824
		3	292.01	0.011	0.9527	0.9649	0.0306	0.8223	0	0.5152	0	0.3333	0.0361
		3	332.94	1e+06	1.1061	1.0494	1	1	1	1	1	1	0.6984
		2.98	32.51	0.0065	0.6321	0.789	0.5276	0.2019	0.6812	0.1253	0.01	0.1167	114.4858
		2.98	40.36	0.0049	0.5858	0.7517	0.4104	0.1983	0.6675	0.0732	0.01	0.02	102.6946
		2.96	52.89	0.0045	0.5673	0.7451	0.3409	0.301	0.4594	0.1452	0.01	0.0167	104.0457
		2.98	52.05	0.0048	0.5707	0.7526	0.348	0.2976	0.425	0.1734	0.005	0.03	318.6582
	100	3	53.85	0.0058	0.5755	0.771	0.3828	0.3596	0.255	0.4042	0	0.33	0.6061
		3	119.01	0.0044	0.5544	0.7385	0.1717	0.6193	0.0194	0.5035	0	0.3333	0.4514
		3	88.62	0.0047	0.5649	0.7466	0.2494	0.5366	0.065	0.4877	0	0.3333	1.9933
		3	297.39	0.011	0.9653	0.9562	0.0128	0.8208	0	0.5152	0	0.3333	0.055
		3	332.91	1e+06	1.0133	0.9952	1	1	1	1	1	1	0.6964
		3	45.08	0.0034	0.626	0.7104	0.3441	0.182	0.5788	0.1177	0	0.1333	105.5758
		3	44.51	0.0023	0.6171	0.6884	0.3013	0.1399	0.6038	0.0365	0.005	0	115.0897
		3	63.12	0.0021	0.5985	0.6839	0.2059	0.3008	0.2931	0.1623	0	0	112.4402
		3	59.9	0.0022	0.5997	0.6852	0.2141	0.2715	0.3025	0.1862	0	0.0033	326.3984
	200	3	60.5	0.0023	0.6007	0.6821	0.2019	0.2747	0.2225	0.3723	0	0.3333	0.6682
		3	128.79	0.0023	0.5889	0.6792	0.0657	0.6049	0.0081	0.5055	0	0.3333	0.5119
		3	82.94	0.002	0.5976	0.6747	0.1313	0.4208	0.0969	0.4576	0	0.3333	2.1208
		3	297.75	0.0109	0.9727	0.9623	0.0117	0.8208	0	0.5152	0	0.3333	0.0846
		3	332.89	1e+06	0.9991	0.9922	1	1	1	1	1	1	1.285
		3	54.63	0.0016	0.6193	0.6669	0.2057	0.201	0.4438	0.1253	0	0.14	143.4522
		3	52.68	0.0013	0.6181	0.6615	0.1796	0.1497	0.4525	0.0652	0	0	157.1703
		3	76.78	0.0012	0.6092	0.6579	0.0898	0.3456	0.1312	0.1981	0	0	141.9275
		3	65.31	0.0012	0.6123	0.6566	0.11	0.2498	0.2062	0.1532	0	0	424.5672
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3	55.07	0.0131	0.2535	0.5912	0.4946	0.4802	0.2456	0.4308	0	0.3333	0.6434
		3	102.54	0.0101	0.2341	0.5392	0.2902	0.6217	0.0362	0.4929	0	0.3333	0.6212
		2.97	81.78	0.0136	0.2546	0.6137	0.4346	0.6164	0.0794	0.4868	0.01	0.33	2.9933
		3	299.06	0.019	0.7976	0.9251	0.0048	0.8203	0	0.5152	0	0.3333	0.0358
		3	332.96	1e+06	1.4097	1.1269	1	1	1	1	1	1	0.7601
		2.99	32.1	0.0075	0.3277	0.4356	0.5426	0.1809	0.6875	0.1849	0.005	0.155	201.9887
		3	37.15	0.0064	0.3051	0.4297	0.4726	0.2195	0.6912	0.1537	0.005	0.08	126.2293
		3	52.93	0.0054	0.2914	0.4242	0.3778	0.3367	0.5231	0.2043	0.005	0.07	149.799
		3	53.76	0.0064	0.2906	0.4362	0.3809	0.3512	0.4431	0.2075	0	0.06	454.7759
	100	3	73.07	0.0056	0.2578	0.3803	0.2872	0.449	0.1325	0.4389	0	0.3333	0.6094
		3	116.27	0.0046	0.2566	0.3688	0.158	0.6046	0.0231	0.5012	0	0.3333	0.5999
		3	83.23	0.0046	0.2624	0.3639	0.2296	0.4915	0.0963	0.4823	0	0.3333	2.6226
		3	298.87	0.0191	0.8154	0.8861	0.0033	0.8199	0	0.5152	0	0.3333	0.0537
		3	332.88	1e+06	1.0899	1.0015	1	1	1	1	1	1	0.7971
		3	45.33	0.0044	0.2918	0.3527	0.3726	0.2222	0.4769	0.241	0	0.24	187.3292
		3	42.58	0.0036	0.2961	0.3392	0.3557	0.1674	0.5981	0.1105	0	0.0633	159.2611
		3	65.72	0.0028	0.2834	0.3365	0.2137	0.3287	0.3144	0.184	0	0.03	184.2412
		3	56.5	0.0027	0.2855	0.3333	0.243	0.261	0.3512	0.1578	0	0.02	538.55
	200	3	85.7	0.0029	0.2703	0.3235	0.1639	0.4451	0.0788	0.4463	0	0.3333	0.6789
		3	127.05	0.0024	0.2706	0.3169	0.0648	0.598	0.005	0.4988	0	0.3333	0.712
		3	76.34	0.0021	0.2771	0.3111	0.1285	0.3712	0.1088	0.4374	0	0.3333	2.8592
		3	299	0.0191	0.8479	0.8657	0.0039	0.8201	0	0.5152	0	0.3333	0.0863
		3	332.87	1e+06	1.0491	0.9778	1	1	1	1	1	1	1.2931
		3	55.39	0.0021	0.2834	0.3122	0.2039	0.2116	0.3381	0.245	0	0.2867	227.7768
		3	52.38	0.0022	0.2878	0.3124	0.2143	0.1752	0.3631	0.1423	0	0.0567	216.8804
		3	84.44	0.0017	0.2815	0.3094	0.0819	0.3945	0.1544	0.2098	0	0.02	236.1362
		3	64.93	0.0016	0.2828	0.306	0.1135	0.2515	0.1788	0.1897	0	0.0333	686.3995

Table 12: Simulation N=10 with 4 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	3.25	8.81	0.006	0.8897	0.9828	0.9135	0.4032	0.7781	0.3452	0.175	0.32	0.6731
		3.92	58.65	0.0049	0.7075	0.9323	0.6415	0.6364	0.2738	0.5696	0.025	0.48	0.7115
		3.78	36.92	0.0054	0.7842	0.9525	0.7774	0.6288	0.4288	0.5303	0.065	0.4633	3.6264
		4	362.1	0.0057	0.9729	0.9681	0.0909	0.8736	0	0.6364	0	0.5	0.0683
		4	413.96	1e+06	1.1016	1.0857	1	1	1	1	1	1	1.6032
		3.36	29.47	0.0046	0.7637	0.9219	0.6404	0.3211	0.7106	0.235	0.045	0.2583	272.3781
		2.84	30.39	0.0038	0.7378	0.8882	0.5461	0.1795	0.71	0.0524	0.12	0.035	121.4035
		3.05	44.74	0.0032	0.7009	0.8676	0.4228	0.2774	0.5362	0.1219	0.025	0.0483	132.931
		3.06	41.23	0.0036	0.7204	0.8851	0.4983	0.317	0.5156	0.1878	0.035	0.09	414.824
	100	3.87	34.04	0.0049	0.7627	0.9432	0.6337	0.3853	0.42	0.4288	0	0.4667	0.7069
		4	110.99	0.0034	0.6838	0.8778	0.3069	0.6561	0.0681	0.6156	0	0.5	0.5131
		4	78.31	0.0037	0.7076	0.8906	0.4254	0.5923	0.1594	0.5939	0	0.5	2.2892
		4	388.39	0.0057	0.9843	0.9721	0.027	0.866	0	0.6364	0	0.5	0.0645
		4	413.9	1e+06	1.0031	1.0018	1	1	1	1	1	1	1.829
		3.21	46.18	0.0024	0.7494	0.8475	0.3837	0.2429	0.6144	0.1259	0	0.1417	102.3122
		3	45.75	0.0018	0.7406	0.8261	0.3098	0.1731	0.56	0.0685	0	0	141.2346
		3.01	60.56	0.0017	0.7266	0.822	0.2359	0.2941	0.3412	0.1655	0	0.0033	133.6922
		3	56.35	0.0018	0.7297	0.8253	0.2522	0.2673	0.3412	0.1629	0	0.0033	389.575
	200	3.98	60.19	0.0024	0.7285	0.8444	0.2952	0.3504	0.2581	0.487	0	0.4967	0.8412
		4	139.81	0.0019	0.71	0.8258	0.1063	0.6511	0.02	0.6231	0	0.5	0.5959
		4	101.33	0.0019	0.718	0.8265	0.168	0.5483	0.0844	0.5977	0	0.5	2.4765
		4	391.36	0.0057	0.986	0.9783	0.0194	0.8647	0	0.6364	0	0.5	0.0978
		4	413.86	1e+06	0.9954	0.9964	1	1	1	1	1	1	2.2965
		3.19	58.06	0.0012	0.7486	0.805	0.2115	0.2503	0.5181	0.1485	0	0.2333	135.0782
		3	53.97	0.001	0.7494	0.7988	0.1844	0.1728	0.4325	0.0741	0	0	183.8521
		3	75.72	9e-04	0.7375	0.7958	0.1	0.3435	0.1369	0.2001	0	0	165.5465
		3	67.65	9e-04	0.7401	0.7959	0.1204	0.2839	0.1931	0.1747	0	0	474.7361
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3.63	18.84	0.0089	0.7177	0.955	0.8235	0.4642	0.6412	0.4401	0.085	0.4133	0.8304
		3.95	85.54	0.0065	0.5328	0.8642	0.4924	0.6685	0.1638	0.6088	0.01	0.4933	0.8109
		3.95	61.39	0.0076	0.6046	0.9018	0.6467	0.6839	0.2581	0.5986	0.01	0.4917	4.2098
		4	387.25	0.0083	0.9519	0.9632	0.0298	0.8674	0	0.6364	0	0.5	0.0653
		4	413.93	1e+06	1.2211	1.1569	1	1	1	1	1	1	1.6957
		3.24	37.12	0.0048	0.6157	0.7881	0.4987	0.2448	0.6931	0.2141	0.015	0.2367	215.3623
		3.03	38.77	0.0038	0.5908	0.7507	0.4352	0.1995	0.685	0.0875	0.01	0.035	145.5112
		3.06	51.07	0.0034	0.5682	0.747	0.3506	0.2853	0.4938	0.1502	0	0.0283	148.5109
		3.06	51.53	0.0039	0.5764	0.7638	0.3813	0.3255	0.4363	0.1985	0.005	0.0533	459.2277
	100	3.99	52.31	0.0051	0.5769	0.7937	0.4409	0.4024	0.3275	0.5066	0	0.4967	0.7772
		4	128.44	0.0038	0.5474	0.7521	0.202	0.6603	0.0412	0.621	0	0.5	0.562
		4	95.67	0.0042	0.5604	0.7646	0.2928	0.5948	0.0981	0.6033	0	0.5	2.5443
		4	394.95	0.0082	0.9636	0.9564	0.0117	0.8649	0	0.6364	0	0.5	0.0715
		4	413.87	1e+06	1.0196	1.0035	1	1	1	1	1	1	2.0877
		3.33	48.37	0.0026	0.619	0.7118	0.3376	0.2208	0.5762	0.1885	0	0.2267	147.5954
		3.01	44.92	0.0017	0.6161	0.6881	0.2976	0.1409	0.6006	0.0377	0	0.0033	157.638
		3.01	63.21	0.0016	0.5986	0.6845	0.2072	0.3001	0.3006	0.1603	0	0.005	150.3165
		3.01	59.62	0.0017	0.6001	0.687	0.2231	0.2741	0.3131	0.1795	0	0.0067	443.9168
	200	3.97	60.74	0.002	0.5994	0.6876	0.2269	0.2975	0.2762	0.4623	0	0.495	0.8539
		4	142.09	0.0019	0.5841	0.6855	0.0789	0.6465	0.0131	0.6208	0	0.5	0.6799
		4	92.95	0.0017	0.5936	0.6808	0.1444	0.491	0.1044	0.5767	0	0.5	2.7791
		4	395.69	0.0083	0.9689	0.9589	0.0098	0.8649	0	0.6364	0	0.5	0.1042
		4	413.89	1e+06	0.9994	0.9933	1	1	1	1	1	1	2.9756
		3.23	55.42	0.0012	0.6196	0.6675	0.2098	0.2153	0.4706	0.1693	0	0.24	187.994
		3	52.2	0.001	0.6183	0.6615	0.183	0.1455	0.4662	0.0678	0	0	201.2124
		3.01	76.08	9e-04	0.6097	0.6583	0.0926	0.3423	0.1344	0.1984	0	0.005	184.3222
		3	67.07	9e-04	0.612	0.6579	0.1128	0.2698	0.1969	0.1673	0	0	543.8112
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	4	54.38	0.0115	0.2622	0.6335	0.5674	0.5668	0.3256	0.5712	0.015	0.5067	0.9124
		4	108.72	0.009	0.2293	0.5677	0.3528	0.6749	0.08	0.612	0	0.5	0.9277
		4	89.19	0.0122	0.2586	0.637	0.507	0.699	0.1225	0.6156	0	0.5	4.8809
		4	398.23	0.0143	0.7963	0.9156	0.0043	0.865	0	0.6364	0	0.5	0.0667
		4	413.99	1e+06	1.6552	1.3874	1	1	1	1	1	1	1.6804
		3.49	36.03	0.0071	0.326	0.4659	0.5585	0.2767	0.6856	0.3098	0.015	0.3067	393.1142
		3.24	38.33	0.0058	0.3024	0.4392	0.4961	0.2789	0.6931	0.2305	0	0.1517	184.736
		3.19	56.35	0.0044	0.2875	0.4299	0.375	0.3768	0.5325	0.2254	0.01	0.1233	213.6415
		3.23	53.44	0.0056	0.2977	0.4498	0.4291	0.3986	0.505	0.284	0.005	0.14	667.2437
	100	4	78.1	0.005	0.2544	0.394	0.3161	0.4949	0.1713	0.543	0	0.5	0.7913
		4	126.91	0.0042	0.2537	0.379	0.1752	0.645	0.0437	0.6157	0	0.5	0.7391
		4	95.48	0.0044	0.2573	0.3807	0.2494	0.5689	0.1	0.6007	0	0.5	3.3022
		4	397.99	0.0143	0.8081	0.8726	0.0052	0.865	0	0.6364	0	0.5	0.0695
		4	413.87	1e+06	1.1073	1.024	1	1	1	1	1	1	2.3507
		3.6	45.46	0.0042	0.2965	0.3621	0.4185	0.2638	0.5238	0.3008	0	0.335	287.5475
		3.2	43.43	0.0029	0.2944	0.3425	0.3602	0.1918	0.5719	0.1492	0	0.11	238.7852
		3.21	64.51	0.0024	0.2869	0.3403	0.2506	0.3406	0.38	0.2101	0.005	0.1033	272.8217
		3.23	58.27	0.0024	0.2872	0.3401	0.2702	0.3006	0.37	0.2165	0	0.0983	785.5469
	200	4	98.67	0.0027	0.2655	0.3307	0.1689	0.5158	0.0831	0.5652	0	0.5	0.9399
		4	138.1	0.0021	0.2692	0.3202	0.077	0.6353	0.0156	0.6152	0	0.5	0.8941
		4	85.19	0.0017	0.2751	0.3139	0.1439	0.4462	0.1144	0.5547	0	0.5	3.7231
		4	397.65	0.0143	0.8388	0.8537	0.0059	0.865	0	0.6364	0	0.5	0.1035
		4	413.78	1e+06	1.0487	0.9791	1	1	1	1	1	1	2.9354
		3.73	62.69	0.0017	0.2813	0.3137	0.1931	0.2942	0.335	0.3209	0	0.4333	339.3033
		3.29	56.2	0.0019	0.2881	0.3163	0.2341	0.2241	0.3725	0.2005	0	0.1333	308.0677
		3.26	87.12	0.0014	0.282	0.311	0.0941	0.4121	0.1675	0.2514	0	0.115	366.4476
		3.24	70.15	0.0013	0.2826	0.3074	0.1194	0.3033	0.16	0.2461	0	0.1183	966.2366

Table 13: Simulation N=10 with 2 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.99	37.51	0.0151	0.4043	0.6175	0.6129	0.4381	0.2537	0.1655	0.005	0	0.5197
		2	79.47	0.0096	0.3631	0.5777	0.3342	0.5574	0.025	0.2619	0	0	0.516
		2	60.08	0.0139	0.3706	0.6123	0.5123	0.5686	0.0556	0.2498	0	0	2.4121
		2	176.82	0.0141	0.9057	0.951	0.1063	0.6874	0	0.2727	0	0	0.0326
		2	251.98	1e+06	1.1375	1.1368	1	1	1	1	1	1	0.2741
		1.38	27.32	0.0174	0.4635	0.5918	0.7148	0.3506	0.72	0.0979	0.32	0	110.4325
		1.45	31.15	0.0152	0.4382	0.5674	0.6471	0.3958	0.6762	0.1283	0.285	0	54.7799
		1.79	57.76	0.0105	0.4004	0.5498	0.4346	0.471	0.405	0.191	0.105	0	100.2174
		1.72	47.35	0.0126	0.4111	0.5641	0.5248	0.4548	0.4325	0.1723	0.14	0	265.4747
	100	2	63.65	0.0085	0.3783	0.4837	0.3052	0.3956	0.0813	0.1869	0	0	0.4959
		2	94.05	0.0061	0.3754	0.4722	0.1519	0.5244	0.0075	0.2633	0	0	0.4887
		2	76.27	0.0084	0.3745	0.4842	0.2669	0.4919	0.0231	0.2494	0	0	2.3022
		2	178.41	0.0141	0.9103	0.9725	0.1008	0.6927	0	0.2727	0	0	0.0456
		2	251.94	1e+06	1.0363	1.0646	1	1	1	1	1	1	0.554
		1.76	46.6	0.0128	0.4033	0.4977	0.4938	0.4064	0.3881	0.1792	0.12	0	116.322
		1.77	42.94	0.0114	0.4108	0.4823	0.4848	0.3564	0.4762	0.1197	0.115	0	85.2425
		1.98	75.73	0.0065	0.3911	0.4651	0.2254	0.4518	0.1681	0.1793	0.01	0	144.0444
		1.97	60.76	0.008	0.3963	0.4715	0.33	0.4114	0.2325	0.1528	0.015	0	366.2706
	200	2	81.55	0.0052	0.3811	0.4336	0.13	0.4053	0.0219	0.2074	0	0	0.4974
		2	105.89	0.0041	0.3815	0.4279	0.0529	0.5303	0	0.2686	0	0	0.531
		2	87.11	0.0051	0.3813	0.4317	0.1133	0.4612	0.0169	0.2567	0	0	2.4503
		2	182.31	0.0144	0.9253	0.9355	0.0833	0.7016	0	0.2727	0	0	0.0822
		2	251.93	1e+06	1.0484	1.0171	1	1	1	1	1	1	0.7985
		2	65.22	0.007	0.3846	0.4409	0.2262	0.3495	0.1675	0.2455	0	0	152.491
		1.99	61.45	0.0068	0.391	0.437	0.2565	0.3478	0.2569	0.1519	0.005	0	139.3783
		2	94.12	0.0041	0.3859	0.4266	0.0754	0.4811	0.065	0.1776	0	0	202.1108
		2	80.99	0.0048	0.3862	0.4288	0.1169	0.4203	0.0538	0.1795	0	0	498.2286
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2	46.07	0.02	0.2382	0.4213	0.5567	0.4543	0.2462	0.182	0	0	0.56
		2	71.84	0.0115	0.2166	0.3978	0.3388	0.5135	0.045	0.2432	0	0	0.6399
		1.98	49.36	0.0231	0.2206	0.4567	0.5983	0.5623	0.1156	0.228	0.01	0	3.2222
		2	87.75	0.0136	0.9313	1.0615	0.5081	0.4997	0	0.2727	0	0	0.0327
		2	251.97	1e+06	1.4918	1.4866	1	1	1	1	1	1	0.3708
		1.26	21.47	0.0233	0.283	0.3564	0.7548	0.2799	0.8244	0.0822	0.39	0	302.5097
		1.39	26.16	0.0198	0.2623	0.3481	0.7004	0.3767	0.7219	0.1249	0.335	0	47.758
		1.56	42.56	0.0152	0.2477	0.3502	0.5531	0.4346	0.5544	0.2005	0.235	0	93.1422
		1.43	31.93	0.0194	0.2569	0.3676	0.6746	0.4533	0.6112	0.2075	0.305	0	264.6895
	100	2	70.15	0.0145	0.2169	0.2932	0.2879	0.4113	0.0988	0.1856	0	0	0.5593
		2	82.41	0.0075	0.2183	0.2841	0.1758	0.4747	0.0119	0.2453	0	0	0.6224
		2	60.34	0.0145	0.2172	0.2987	0.371	0.4475	0.065	0.2266	0	0	3.1323
		2	69.52	0.0133	0.9222	1.0813	0.59	0.4398	0	0.2727	0	0	0.0461
		2	251.9	1e+06	1.1463	1.173	1	1	1	1	1	1	0.8228
		1.46	32.79	0.0216	0.2471	0.2941	0.641	0.3584	0.6444	0.1386	0.27	0	301.4666
		1.59	31.55	0.019	0.2442	0.2872	0.6515	0.394	0.6019	0.1261	0.205	0	69.5912
		1.88	60.18	0.01	0.2308	0.2763	0.3319	0.406	0.3412	0.1938	0.06	0	152.1087
		1.7	43.68	0.0155	0.2359	0.2873	0.5015	0.3867	0.4275	0.1674	0.15	0	327.5381
	200	2	89.12	0.0094	0.2146	0.2501	0.1235	0.4324	0.0281	0.2106	0	0	0.4967
		2	93.57	0.0059	0.217	0.2454	0.0729	0.4784	0.0013	0.2552	0	0	0.6489
		2	68.57	0.0092	0.2164	0.2502	0.2081	0.3904	0.0531	0.2325	0	0	3.1749
		2	28.33	0.012	0.9591	1.008	0.7829	0.3444	0	0.2727	0	0	0.0758
		2	251.95	1e+06	1.126	1.0563	1	1	1	1	1	1	1.8515
		1.96	56.08	0.0167	0.2218	0.2555	0.3817	0.3839	0.3362	0.2436	0.02	0	390.0262
		1.97	49.13	0.0151	0.226	0.2516	0.4713	0.4012	0.3894	0.1393	0.015	0	109.1121
		1.98	81.36	0.0066	0.22	0.2452	0.1279	0.4321	0.1388	0.2184	0.01	0	218.8119
		1.99	62.74	0.0096	0.2195	0.2491	0.2423	0.3612	0.1731	0.1995	0.005	0	520.7266
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2	100.58	0.1167	0.0966	0.5209	0.365	0.6377	0.0975	0.2376	0	0	0.4695
		2	87.53	0.022	0.0952	0.2774	0.3585	0.6049	0.0712	0.247	0	0	0.6054
		2	48.93	0.0775	0.102	0.3923	0.6302	0.5922	0.2031	0.2458	0	0	3.09
		2	124.23	0.0161	0.9415	1.2965	0.2756	0.6804	0	0.2727	0	0	0.0327
		2	251.97	1e+06	9.3804	7.8333	1	1	1	1	1	1	0.3181
		1.63	19.24	0.0684	0.1221	0.1619	0.7604	0.1861	0.8369	0.0718	0.37	0	8930.143
		1.73	27.76	0.0405	0.1201	0.2243	0.7312	0.4006	0.6925	0.1737	0.305	0	53.404
		1.62	34.79	0.0287	0.1097	0.1896	0.6421	0.4241	0.615	0.2218	0.315	0	100.3497
		1.6	27.39	0.0741	0.1108	0.2284	0.7215	0.4036	0.6581	0.2001	0.36	0	318.4758
	100	2	101.08	0.0608	0.0847	0.186	0.3152	0.6082	0.0512	0.2376	0	0	0.4853
		2	91.37	0.0133	0.0877	0.1388	0.3021	0.584	0.0388	0.2582	0	0	0.6209
		2	61.79	0.0359	0.0873	0.1621	0.4877	0.5312	0.1425	0.2381	0	0	3.2161
		2	122.11	0.0157	0.8492	1.1547	0.2808	0.6841	0	0.2727	0	0	0.0464
		2	251.95	1e+06	3.4175	2.7496	1	1	1	1	1	1	0.6324
		1.81	18.95	0.0345	0.1004	0.1205	0.7615	0.2381	0.7594	0.121	0.15	0	6603.0712
		1.85	23.36	0.0281	0.0955	0.119	0.7287	0.3154	0.6956	0.1329	0.1	0	72.8618
		1.86	43.35	0.0215	0.0929	0.1253	0.5287	0.4067	0.4288	0.2077	0.08	0	115.6247
		1.71	28.66	0.0371	0.0968	0.1377	0.6658	0.3483	0.5781	0.1849	0.185	0	320.5378
	200	2	107.41	0.031	0.079	0.0984	0.2987	0.6055	0.0656	0.2279	0	0	0.5099
		2	101.1	0.0129	0.08	0.0952	0.2369	0.5929	0.0075	0.2567	0	0	0.6223
		2	63.13	0.0186	0.0798	0.098	0.4208	0.4975	0.09	0.2184	0	0	3.4927
		2	119.14	0.0156	0.8863	1.1598	0.286	0.6763	0	0.2727	0	0	0.0824
		2	251.94	1e+06	1.4543	1.4492	1	1	1	1	1	1	1.1189
		1.99	27.8	0.0376	0.0834	0.0922	0.7063	0.3349	0.645	0.1501	0.01	0	5537.5833
		1.95	30.58	0.025	0.0837	0.0912	0.6844	0.3631	0.6069	0.1099	0.025	0	98.0423
		1.83	47.96	0.0209	0.0834	0.0953	0.4708	0.4002	0.3506	0.1869	0.09	0	137.9842
		1.97	34.08	0.0259	0.082	0.094	0.5788	0.331	0.4381	0.1659	0.015	0	387.6509

Table 14: Simulation N=10 with 3 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.98	40.22	0.012	0.3924	0.633	0.7014	0.4107	0.3625	0.1415	0.0067	0	0.6437
		3	92.35	0.0084	0.3341	0.5777	0.4342	0.5147	0.0692	0.2565	0	0	0.6654
		3	66.64	0.0116	0.3548	0.6236	0.6149	0.5414	0.1229	0.2339	0	0	3.3231
		3	267.16	0.0121	0.9071	0.9432	0.1031	0.691	0	0.2727	0	0	0.0364
		3	332.93	1e+06	1.23	1.2308	1	1	1	1	1	1	0.8538
		1.94	28.07	0.0142	0.4613	0.5876	0.7935	0.3385	0.7975	0.0888	0.3767	0	198.2744
		1.75	30.33	0.0127	0.4422	0.5684	0.7544	0.3555	0.7875	0.0985	0.44	0	86.9328
		2.62	64.38	0.009	0.3835	0.5479	0.5401	0.4243	0.5004	0.1732	0.1433	0	190.1542
		2.34	54.3	0.011	0.4021	0.5659	0.6274	0.4436	0.5042	0.1584	0.23	0	559.8249
	100	2.99	67.36	0.0067	0.3646	0.4803	0.4053	0.292	0.1746	0.153	0.0033	0	0.6233
		3	115.02	0.0055	0.3508	0.4661	0.2177	0.463	0.0267	0.2559	0	0	0.627
		3	92.01	0.0076	0.3487	0.4854	0.3724	0.4605	0.0554	0.2399	0	0	2.9918
		3	266.9	0.012	0.9077	0.9659	0.1053	0.6907	0	0.2727	0	0	0.0612
		3	332.95	1e+06	1.0506	1.0658	1	1	1	1	1	1	1.3185
		2.46	48.36	0.0106	0.4007	0.4912	0.6272	0.356	0.5721	0.1414	0.18	0	183.0098
		2.27	42.38	0.0106	0.4077	0.4819	0.6491	0.3407	0.6233	0.1157	0.25	0	138.7703
		2.92	86.34	0.0063	0.3773	0.4584	0.3506	0.3972	0.3217	0.1719	0.03	0	267.6124
		2.96	81.71	0.0068	0.3745	0.4688	0.3813	0.39	0.2562	0.1602	0.0167	0	836.051
	200	3	95.81	0.0041	0.3621	0.4221	0.1642	0.2872	0.0654	0.1777	0	0	0.6747
		3	132	0.0037	0.361	0.4167	0.0787	0.4503	0.0129	0.2573	0	0	0.692
		3	109.52	0.0046	0.359	0.4241	0.1758	0.4063	0.0412	0.244	0	0	3.2434
		3	287.18	0.0124	0.9143	0.9227	0.0428	0.7222	0	0.2727	0	0	0.0919
		3	332.9	1e+06	1.0497	1.0189	1	1	1	1	1	1	1.6561
		2.98	72.01	0.0064	0.3713	0.4358	0.3754	0.298	0.3062	0.1928	0.0067	0	232.4158
		2.88	70.72	0.007	0.3792	0.4344	0.4163	0.3336	0.3367	0.1361	0.04	0	268.2479
		3	117.3	0.0043	0.369	0.4177	0.1342	0.414	0.1167	0.2119	0	0	387.7624
		3	109.47	0.004	0.3664	0.418	0.1394	0.3752	0.0563	0.1869	0	0	1218.4269
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3	53.63	0.0146	0.2238	0.4263	0.6037	0.4039	0.3004	0.1632	0.0033	0	0.6955
		3	88.1	0.0102	0.1974	0.3944	0.4018	0.4649	0.0904	0.2339	0	0	0.8117
		3	57.58	0.0185	0.2074	0.465	0.6679	0.5428	0.1658	0.2182	0	0	4.236
		3	130.89	0.0133	0.9373	1.0622	0.5295	0.49	0	0.2727	0	0	0.0371
		3	332.97	1e+06	1.8588	1.8562	1	1	1	1	1	1	0.791
		1.89	24.95	0.019	0.272	0.349	0.8056	0.2886	0.8429	0.0961	0.4267	0	538.4086
		1.84	28.43	0.0178	0.2524	0.3542	0.7867	0.3922	0.7796	0.1346	0.4567	0	89.7791
		2.45	58.98	0.0127	0.2284	0.3461	0.579	0.4312	0.5229	0.1989	0.2067	0	219.4933
		1.96	37.67	0.0171	0.2498	0.3766	0.7474	0.4499	0.6633	0.2084	0.3867	0	611.7602
	100	3	84.52	0.0095	0.2038	0.2806	0.3182	0.3195	0.1379	0.1668	0	0	0.6709
		3	103.49	0.0065	0.2025	0.2733	0.2046	0.3944	0.0371	0.2238	0	0	0.7641
		3	74.41	0.0119	0.2009	0.2945	0.4422	0.4046	0.1258	0.2177	0	0	3.9866
		3	110.74	0.0131	0.9266	1.0806	0.5942	0.4562	0	0.2727	0	0	0.0668
		3	332.89	1e+06	1.1911	1.2115	1	1	1	1	1	1	1.6867
		2.47	37.48	0.0167	0.2363	0.2837	0.696	0.3093	0.6854	0.1327	0.2133	0	476.0937
		2.48	32.43	0.0162	0.2349	0.2768	0.7355	0.3451	0.6817	0.1044	0.2233	0	127.5488
		2.87	75.94	0.0085	0.2161	0.2635	0.389	0.356	0.3717	0.1665	0.0533	0	292.4302
		2.82	61.61	0.0118	0.2182	0.2778	0.5017	0.3467	0.3617	0.1724	0.0767	0	847.1662
	200	3	111.68	0.0065	0.2003	0.2357	0.1245	0.3224	0.0533	0.1819	0	0	0.6404
		3	118.64	0.0046	0.2024	0.2312	0.0805	0.3879	0.0096	0.2334	0	0	0.809
		3	88.39	0.007	0.2017	0.2374	0.2364	0.3135	0.1058	0.2122	0	0	4.1101
		3	38.58	0.0122	0.9631	1.0075	0.8224	0.3433	0	0.2727	0	0	0.0927
		3	332.89	1e+06	1.126	1.0601	1	1	1	1	1	1	3.7457
		3	68.96	0.0131	0.2072	0.2442	0.4559	0.3406	0.4146	0.2316	0.0033	0	599.9342
		2.96	48.75	0.014	0.2178	0.2426	0.6278	0.3693	0.5167	0.1095	0.03	0	204.7517
		3	101.17	0.006	0.2068	0.2316	0.181	0.3602	0.1754	0.1932	0.0033	0	451.1524
		3	86.49	0.0073	0.2056	0.2349	0.2271	0.29	0.145	0.1873	0	0	1245.2858
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3	162.49	0.0696	0.0791	0.5239	0.3047	0.6298	0.0792	0.2572	0	0	0.5873
		3	126.38	0.0182	0.0868	0.2689	0.3682	0.5928	0.0846	0.2431	0	0	0.612
		2.98	71.07	0.048	0.0943	0.3911	0.6254	0.5692	0.2221	0.2385	0.0067	0	3.3656
		3	155.12	0.0158	0.942	1.2953	0.3514	0.6448	0	0.2727	0	0	0.0374
		3	332.92	1e+06	10.8578	9.2997	1	1	1	1	1	1	0.6401
		2.41	22.31	0.0302	0.118	0.1617	0.8101	0.2055	0.8658	0.0914	0.4267	0	15413.5371
		2.55	30.1	0.0308	0.1052	0.2015	0.7965	0.3949	0.7554	0.1825	0.3433	0	95.7506
		2.32	46.91	0.0208	0.1039	0.1824	0.6787	0.4242	0.605	0.2226	0.3233	0	185.0301
		2.24	32.81	0.0433	0.1097	0.2311	0.7659	0.385	0.6704	0.182	0.4033	0	601.9916
	100	3	170.86	0.0464	0.0758	0.1696	0.2509	0.6215	0.0358	0.2501	0	0	0.5533
		3	137.38	0.0117	0.0804	0.1239	0.2828	0.5748	0.0292	0.2495	0	0	0.623
		3	92.67	0.026	0.0792	0.1496	0.47	0.5226	0.1221	0.2371	0	0	3.5702
		3	151.77	0.0156	0.8515	1.1516	0.3494	0.6409	0	0.2727	0	0	0.0635
		3	332.95	1e+06	3.8227	2.8886	1	1	1	1	1	1	1.0747
		2.72	29.42	0.031	0.09	0.1136	0.7719	0.2997	0.7433	0.1317	0.1533	0	10493.7808
		2.94	30.45	0.0227	0.087	0.1135	0.7688	0.3281	0.6892	0.1356	0.0533	0	138.1805
		2.83	58.34	0.0174	0.085	0.1146	0.5755	0.4007	0.4546	0.1851	0.0733	0	218.4994
		2.72	41.88	0.023	0.0882	0.1293	0.6703	0.3571	0.5154	0.1822	0.11	0	709.4629
	200	3	175.83	0.018	0.0723	0.0887	0.2309	0.6175	0.0221	0.2427	0	0	0.5542
		3	156.19	0.0087	0.0734	0.0862	0.2024	0.5884	0.0046	0.2526	0	0	0.6653
		3	105.13	0.0147	0.0731	0.0898	0.3756	0.5106	0.0538	0.2109	0	0	3.7228
		3	148.89	0.0155	0.8904	1.1602	0.3522	0.6359	0	0.2727	0	0	0.094
		3	332.98	1e+06	1.532	1.5651	1	1	1	1	1	1	1.9261
		2.98	41.77	0.0286	0.0754	0.0852	0.7136	0.3668	0.6204	0.1716	0.01	0	8505.6575
		2.97	37.25	0.0206	0.0767	0.0842	0.7433	0.3728	0.6229	0.1054	0.0233	0	190.0876
		2.82	64.5	0.0176	0.0763	0.0855	0.52	0.3931	0.3783	0.2026	0.07	0	254.6432
		2.98	48.28	0.0265	0.0747	0.0845	0.5918	0.3156	0.4104	0.1757	0.0067	0	957.0074

Table 15: Simulation N=10 with 4 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	3.89	40.6	0.0091	0.4002	0.6626	0.7253	0.4515	0.43	0.2743	0.0267	0.2358	0.9157
		4	95.53	0.0066	0.3285	0.597	0.4871	0.5744	0.1133	0.4193	0	0.25	0.9786
		4	73.98	0.009	0.3516	0.6487	0.6508	0.6274	0.1433	0.4036	0	0.25	5.3699
		4	356.44	0.009	0.9109	0.9426	0.1104	0.8242	0	0.4545	0	0.25	0.0404
		4	413.91	1e+06	1.3832	1.353	1	1	1	1	1	1	1.6801
		2.3	28.92	0.0103	0.4662	0.5816	0.7853	0.346	0.8071	0.1109	0.3267	0.0558	360.4706
		1.74	29	0.0098	0.439	0.5718	0.771	0.3739	0.7863	0.1281	0.4833	0.0225	136.6017
		2.96	61.87	0.0069	0.3871	0.549	0.5638	0.4313	0.5258	0.2206	0.1567	0.0958	260.3369
		2.4	52.83	0.0086	0.4041	0.5744	0.6631	0.4888	0.5388	0.2252	0.2967	0.0542	746.3824
	100	3.99	71.11	0.0054	0.363	0.4863	0.4372	0.358	0.2004	0.2941	0	0.2475	0.7774
		4	122.87	0.0044	0.3465	0.4741	0.2553	0.5196	0.0454	0.4201	0	0.25	0.7664
		4	95.21	0.0062	0.3466	0.4992	0.426	0.5213	0.0838	0.3966	0	0.25	3.753
		4	362.56	0.0091	0.907	0.9583	0.0949	0.8224	0	0.4545	0	0.25	0.0568
		4	413.85	1e+06	1.0471	1.0755	1	1	1	1	1	1	2.7715
		2.9	52.65	0.0077	0.408	0.4863	0.6135	0.3996	0.6204	0.1429	0.1933	0.1167	277.9859
		2.15	40.47	0.0082	0.4167	0.4873	0.6805	0.3643	0.6833	0.1323	0.3433	0.03	178.7716
		3.39	87.88	0.0048	0.3783	0.4615	0.3683	0.4146	0.3617	0.2319	0.03	0.12	382.5755
		3.21	76.47	0.0057	0.3829	0.4738	0.4526	0.4087	0.3342	0.2132	0.0567	0.0925	1087.8817
	200	4	96.16	0.0032	0.3623	0.4244	0.1956	0.3281	0.1054	0.324	0	0.25	0.8768
		4	141.61	0.0029	0.3587	0.4203	0.0995	0.4993	0.0213	0.4281	0	0.25	0.8765
		4	113.33	0.0038	0.3568	0.4289	0.2103	0.4501	0.0592	0.4012	0	0.25	4.1444
		4	381.98	0.0092	0.9128	0.9197	0.0458	0.8128	0	0.4545	0	0.25	0.0991
		4	413.86	1e+06	1.0519	1.0212	1	1	1	1	1	1	3.6692
		3.73	74.65	0.0049	0.3795	0.4351	0.3964	0.3507	0.4092	0.2089	0.0133	0.1875	332.1358
		3.16	55.15	0.0058	0.39	0.4384	0.5109	0.2924	0.4625	0.1457	0.0567	0.08	326.0211
		3.33	113.87	0.0034	0.3725	0.4197	0.1631	0.412	0.1492	0.2444	0.0033	0.085	525.8429
		3.3	102.21	0.0035	0.3685	0.423	0.2163	0.3852	0.1071	0.2244	0	0.075	1375.197
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3.95	58.68	0.0129	0.2279	0.4637	0.6368	0.4716	0.3671	0.3147	0.0033	0.2383	0.9098
		3.99	95.62	0.0078	0.1936	0.4149	0.4358	0.531	0.1325	0.3992	0	0.2475	0.997
		4	61.91	0.014	0.2076	0.4906	0.6949	0.6089	0.2054	0.3842	0	0.25	5.6298
		4	161.14	0.0099	0.946	1.0592	0.6092	0.9149	0	0.4545	0	0.25	0.0411
		4	413.95	1e+06	2.1875	2.2139	1	1	1	1	1	1	1.7328
		2.25	28.41	0.0139	0.2698	0.3485	0.7851	0.3072	0.8383	0.1186	0.3833	0.0533	963.1128
		1.89	28.49	0.0132	0.2567	0.3544	0.7892	0.3897	0.7971	0.161	0.4667	0.03	131.5134
		2.65	50.67	0.0098	0.2367	0.3467	0.6328	0.4168	0.6288	0.2421	0.2633	0.085	256.4764
		1.99	37.95	0.0134	0.2523	0.3876	0.7671	0.4903	0.6817	0.2597	0.42	0.0433	903.0822
	100	4	80.6	0.0066	0.2095	0.2835	0.3847	0.3662	0.2158	0.3116	0.0033	0.2508	0.7763
		4	114.68	0.0051	0.1998	0.2789	0.2305	0.4696	0.0587	0.3958	0	0.25	0.9011
		4	76.36	0.0092	0.1995	0.3058	0.4823	0.4606	0.1575	0.3692	0	0.25	4.8725
		4	132.73	0.0097	0.9336	1.079	0.6828	0.9343	0	0.4545	0	0.25	0.0586
		4	413.95	1e+06	1.1913	1.229	1	1	1	1	1	1	3.8344
		3.2	42.87	0.011	0.2358	0.2749	0.6429	0.3078	0.72	0.1661	0.1433	0.1292	683.1815
		2.61	31.48	0.0123	0.2395	0.2793	0.7497	0.346	0.7167	0.1129	0.25	0.0433	171.5128
		3.33	75.59	0.0066	0.2164	0.266	0.4104	0.3739	0.4096	0.2309	0.0567	0.115	380.7981
		3.12	56.82	0.0093	0.2233	0.2797	0.5696	0.3798	0.4579	0.2326	0.0933	0.0925	1017.7711
	200	4	119.56	0.0048	0.1999	0.2369	0.1424	0.3848	0.0779	0.3511	0	0.25	0.8239
		4	131.08	0.0037	0.2013	0.2333	0.1018	0.4587	0.0233	0.4046	0	0.25	1.0456
		4	90.16	0.0054	0.2011	0.24	0.2653	0.3552	0.1404	0.3612	0	0.25	5.0512
		4	67.81	0.0093	0.9666	1.0101	0.8513	0.9708	0	0.4545	0	0.25	0.0999
		4	413.94	1e+06	1.1294	1.065	1	1	1	1	1	1	8.2635
		3.43	65.14	0.0085	0.2137	0.2411	0.4674	0.3298	0.5742	0.1655	0.0133	0.115	918.2238
		3.32	44.48	0.0106	0.2199	0.2428	0.6533	0.3526	0.545	0.1374	0.02	0.0875	278.183
		3.44	98.37	0.0048	0.2085	0.2323	0.2264	0.3746	0.2371	0.2577	0.0033	0.11	537.802
		3.23	81.08	0.0059	0.2075	0.2363	0.2908	0.2999	0.2067	0.2155	0.0033	0.0575	1282.0215
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	4	199.2	0.0605	0.085	0.6595	0.3504	0.7102	0.1192	0.4352	0.0133	0.255	0.5796
		4	159.97	0.0095	0.0849	0.2828	0.3878	0.6859	0.0842	0.417	0	0.25	0.6503
		4	87.5	0.0324	0.0961	0.4387	0.6365	0.6491	0.2571	0.4108	0.0067	0.2525	3.6276
		4	180.43	0.0119	0.9394	1.2968	0.3912	0.7089	0	0.4545	0	0.25	0.0411
		4	413.95	1e+06	13.7067	12.3601	1	1	1	1	1	1	1.4266
		3.21	28.38	0.0258	0.1112	0.1799	0.8221	0.419	0.8542	0.3472	0.3233	0.2333	23510.1967
		3.11	29.61	0.0311	0.1097	0.2255	0.8651	0.5913	0.8042	0.4031	0.3733	0.245	144.6484
		2.97	52.28	0.0159	0.1021	0.1949	0.7182	0.5186	0.6292	0.3577	0.26	0.1592	282.8889
		2.87	40.41	0.0277	0.1081	0.2695	0.7669	0.496	0.6412	0.3344	0.3367	0.185	1160.1313
	100	4	210.63	0.0306	0.0752	0.1763	0.2664	0.6972	0.0462	0.4342	0	0.25	0.594
		4	174.06	0.0078	0.0795	0.1273	0.291	0.6697	0.0262	0.4315	0	0.25	0.6856
		4	111.68	0.0137	0.0785	0.158	0.4786	0.6076	0.1229	0.4031	0	0.25	4.0993
		4	178.33	0.0116	0.8516	1.1479	0.3831	0.7031	0	0.4545	0	0.25	0.0574
		4	413.91	1e+06	4.3525	3.4648	1	1	1	1	1	1	2.5084
		3.16	35.77	0.0218	0.0893	0.1114	0.7405	0.3395	0.78	0.2345	0.1233	0.1042	15540.8783
		3.44	29.84	0.0186	0.0883	0.1189	0.7983	0.3984	0.7254	0.2595	0.06	0.1333	198.9375
		3.56	61.55	0.0141	0.0842	0.1146	0.6	0.4508	0.5112	0.3243	0.04	0.1625	313.8649
		3.39	47.78	0.0183	0.0872	0.1324	0.6697	0.406	0.5317	0.3025	0.0933	0.16	1121.6601
	200	4	222.34	0.0157	0.0717	0.091	0.2362	0.7018	0.02	0.4212	0	0.25	0.6103
		4	202.9	0.0073	0.0729	0.0871	0.205	0.6855	0.0046	0.4385	0	0.25	0.7423
		4	140.05	0.0102	0.0723	0.0913	0.3672	0.6243	0.0492	0.4062	0	0.25	4.156
		4	173.68	0.0117	0.8915	1.162	0.3817	0.6919	0	0.4545	0	0.25	0.0998
		4	413.94	1e+06	1.5028	1.5355	1	1	1	1	1	1	3.7972
		3.23	51.54	0.0179	0.0754	0.0834	0.6112	0.3232	0.6875	0.1578	0.0133	0.065	15238.4835
		3.56	36.49	0.0153	0.0768	0.0847	0.7568	0.3907	0.6558	0.2103	0.0133	0.1475	274.6261
		3.5	65.93	0.0134	0.076	0.0854	0.5558	0.4332	0.4313	0.3092	0.0567	0.1625	351.4437
		3.58	57.83	0.0197	0.0744	0.0855	0.5753	0.3685	0.4058	0.2762	0.0033	0.1475	1228.1865

Table 16: Simulation N=10 with 2 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.99	36.84	0.0147	0.4094	0.6094	0.6146	0.4343	0.2594	0.1659	0.005	0	0.4965
		2	80.35	0.0096	0.3647	0.5681	0.3338	0.5617	0.0256	0.2634	0	0	0.4965
		2	61.48	0.0139	0.3722	0.6015	0.5077	0.575	0.0581	0.2492	0	0	2.3614
		2	176.8	0.0141	0.917	0.9379	0.1079	0.6877	0	0.2727	0	0	0.0327
		2	251.94	1e+06	1.1158	1.1237	1	1	1	1	1	1	0.279
		1.45	29.26	0.0174	0.4626	0.5852	0.6969	0.3567	0.6875	0.1159	0.28	0	110.6675
		1.44	29.56	0.0155	0.4456	0.5605	0.6592	0.3818	0.6819	0.1177	0.295	0	52.9064
		1.77	55.85	0.0107	0.4092	0.5427	0.4483	0.4623	0.4256	0.1908	0.12	0	98.9258
		1.67	44.97	0.0128	0.4217	0.5601	0.5487	0.4589	0.4469	0.1735	0.165	0	272.5143
	100	2	62.48	0.0087	0.3829	0.4791	0.3213	0.3885	0.0938	0.1762	0	0	0.5136
		2	94.74	0.0061	0.3768	0.4687	0.15	0.5269	0.0069	0.2648	0	0	0.5089
		2	77.55	0.0084	0.3754	0.4806	0.2625	0.4967	0.025	0.2524	0	0	2.2437
		2	178.58	0.0141	0.916	0.9665	0.099	0.6922	0	0.2727	0	0	0.0449
		2	251.93	1e+06	1.0286	1.0577	1	1	1	1	1	1	0.4533
		1.7	44.91	0.0129	0.4107	0.4911	0.5077	0.3883	0.4288	0.1578	0.15	0	115.1314
		1.75	42.39	0.0116	0.4127	0.4819	0.4844	0.3525	0.4762	0.1082	0.125	0	84.3234
		1.98	72.29	0.0065	0.3958	0.4621	0.2406	0.435	0.2156	0.165	0.01	0	143.8402
		1.98	64.03	0.008	0.3953	0.4688	0.3167	0.4238	0.2325	0.158	0.01	0	367.9703
	200	2	81.04	0.0052	0.3823	0.4319	0.1327	0.4048	0.0231	0.2029	0	0	0.4949
		2	106.36	0.0041	0.3824	0.4265	0.0515	0.5317	0	0.2686	0	0	0.5471
		2	87.18	0.0051	0.3824	0.43	0.1125	0.4616	0.0181	0.2559	0	0	2.4422
		2	182.39	0.0144	0.9281	0.9325	0.0823	0.7009	0	0.2727	0	0	0.0731
		2	251.91	1e+06	1.0448	1.0135	1	1	1	1	1	1	0.8711
		2	63.63	0.007	0.3867	0.4388	0.229	0.3378	0.1775	0.239	0	0	152.8211
		1.99	60.03	0.0069	0.393	0.4354	0.2615	0.3436	0.2669	0.1363	0.005	0	140.1328
		2	94.77	0.0041	0.3864	0.4252	0.0715	0.4823	0.0638	0.1824	0	0	199.0385
		2	81.05	0.0048	0.387	0.4271	0.1206	0.4268	0.0663	0.1803	0	0	490.3456
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2	45.94	0.0193	0.2389	0.4056	0.5496	0.445	0.2481	0.1681	0	0	0.5796
		2	73.66	0.012	0.2163	0.3844	0.3308	0.5182	0.04	0.2447	0	0	0.643
		1.98	50.75	0.0228	0.2214	0.4385	0.5854	0.5621	0.1163	0.2293	0.01	0	3.1807
		2	90.57	0.0138	0.9467	1.051	0.4938	0.5052	0	0.2727	0	0	0.0326
		2	251.95	1e+06	1.4477	1.4443	1	1	1	1	1	1	0.3716
		1.27	20.19	0.0233	0.2879	0.3469	0.76	0.2711	0.8413	0.0831	0.395	0	298.6923
		1.44	28.22	0.0205	0.2621	0.3443	0.6885	0.3984	0.6944	0.1278	0.32	0	50.6071
		1.59	44.98	0.0156	0.2485	0.3466	0.5404	0.4406	0.5538	0.2061	0.22	0	96.3045
		1.48	35.64	0.0204	0.2561	0.3644	0.6523	0.4668	0.5769	0.198	0.27	0	268.124
	100	2	70.94	0.0155	0.2184	0.2918	0.2919	0.4165	0.1037	0.1876	0	0	0.5645
		2	82.79	0.0075	0.2193	0.2816	0.1721	0.4748	0.0125	0.2472	0	0	0.6347
		2	60.67	0.0144	0.2182	0.2963	0.3687	0.4481	0.0694	0.2278	0	0	3.0833
		2	69.58	0.0133	0.9297	1.0755	0.5896	0.442	0	0.2727	0	0	0.0452
		2	251.94	1e+06	1.1442	1.1685	1	1	1	1	1	1	0.7816
		1.5	32.63	0.0212	0.2473	0.2903	0.6367	0.3589	0.6419	0.1465	0.25	0	300.5218
		1.61	31.31	0.0182	0.2455	0.2803	0.6387	0.3799	0.5944	0.1127	0.195	0	70.0988
		1.88	61.83	0.0099	0.2304	0.2735	0.3227	0.4127	0.315	0.1998	0.06	0	150.6079
		1.67	42.28	0.0159	0.2382	0.2841	0.5113	0.3843	0.4462	0.1483	0.165	0	321.9842
	200	2	85.21	0.0087	0.216	0.248	0.1356	0.4189	0.0319	0.2094	0	0	0.5184
		2	93	0.0058	0.2177	0.2445	0.0735	0.4764	0.0013	0.2548	0	0	0.6428
		2	69.12	0.0092	0.2169	0.2495	0.2079	0.3931	0.0538	0.236	0	0	3.1673
		2	28.43	0.012	0.9631	1.0052	0.7817	0.3425	0	0.2727	0	0	0.0729
		2	251.94	1e+06	1.1225	1.0533	1	1	1	1	1	1	1.8359
		1.95	52.66	0.0169	0.2245	0.2546	0.4052	0.3603	0.3562	0.2326	0.025	0	389.3686
		1.94	46.47	0.0149	0.2281	0.2513	0.4912	0.397	0.39	0.1262	0.03	0	104.7298
		1.98	80.7	0.0066	0.2207	0.2443	0.1358	0.4348	0.1363	0.2269	0.01	0	219.6161
		1.99	63.09	0.0095	0.2203	0.2481	0.2463	0.3643	0.1588	0.2033	0.005	0	504.81
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2	109.38	0.1396	0.0904	0.6955	0.33	0.6454	0.0862	0.2488	0	0	0.4983
		2	87.04	0.0246	0.0956	0.2728	0.3627	0.6055	0.0769	0.2505	0	0	0.6346
		2	50.44	0.0563	0.103	0.4072	0.6183	0.5939	0.1919	0.2505	0.005	0	3.0361
		2	124.87	0.0161	0.9548	1.2847	0.2733	0.682	0	0.2727	0	0	0.0329
		2	251.91	1e+06	8.9623	7.5275	1	1	1	1	1	1	0.3119
		1.71	17.72	0.0523	0.1268	0.1631	0.7723	0.1589	0.8544	0.0658	0.355	0	8976.697
		1.76	28.41	0.0401	0.1111	0.2011	0.7237	0.4052	0.6762	0.1709	0.265	0	55.3885
		1.7	35.99	0.0345	0.1093	0.1984	0.6225	0.4119	0.6031	0.2272	0.29	0	93.618
		1.64	27.62	0.0543	0.1136	0.2457	0.711	0.3885	0.6406	0.1848	0.345	0	329.5247
	100	2	95.02	0.0384	0.0861	0.1714	0.3396	0.5974	0.0625	0.2305	0	0	0.4893
		2	92.4	0.0128	0.0883	0.1371	0.2948	0.5852	0.0338	0.2555	0	0	0.6433
		2	59.45	0.0264	0.0882	0.1623	0.4996	0.5257	0.1456	0.2363	0	0	3.345
		2	121.68	0.0157	0.8569	1.1514	0.281	0.6829	0	0.2727	0	0	0.0456
		2	251.94	1e+06	3.4049	2.8243	1	1	1	1	1	1	0.619
		1.82	20.67	0.0407	0.1	0.1223	0.7535	0.2632	0.7438	0.1337	0.145	0	6577.6766
		1.89	22.39	0.0271	0.0968	0.1181	0.7344	0.3152	0.6844	0.1477	0.08	0	73.1857
		1.85	41.91	0.0222	0.0939	0.126	0.55	0.4115	0.4519	0.2133	0.1	0	117.6777
		1.83	32.01	0.0437	0.0942	0.1367	0.6387	0.3615	0.5094	0.1742	0.115	0	340.9019
	200	2	106.06	0.0275	0.0794	0.098	0.2983	0.6023	0.0594	0.2277	0	0	0.4899
		2	98.01	0.0108	0.0805	0.095	0.2481	0.5867	0.0094	0.2521	0	0	0.613
		2	63.15	0.0192	0.0802	0.0979	0.4204	0.4954	0.0963	0.2209	0	0	3.5035
		2	119.77	0.0157	0.8907	1.1585	0.2835	0.6777	0	0.2727	0	0	0.0737
		2	251.95	1e+06	1.4586	1.4436	1	1	1	1	1	1	1.1052
		1.99	27.38	0.0411	0.0837	0.0919	0.7092	0.3297	0.6444	0.1492	0.01	0	5687.8032
		1.96	30.59	0.0236	0.084	0.0916	0.6825	0.3693	0.595	0.1252	0.02	0	99.1945
		1.83	48.51	0.0211	0.0838	0.0945	0.4681	0.4046	0.3462	0.1921	0.09	0	135.2306
		1.95	33.08	0.025	0.0824	0.0936	0.5865	0.3255	0.4431	0.1574	0.025	0	387.0044

Table 17: Simulation N=10 with 3 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.96	38.74	0.0122	0.3933	0.6207	0.7085	0.3992	0.3883	0.1397	0.0133	0	0.6414
		3	94.25	0.0083	0.3282	0.5653	0.4233	0.5148	0.0675	0.2557	0	0	0.674
		3	67.63	0.0114	0.3493	0.6098	0.6115	0.5442	0.1217	0.2366	0	0	3.3447
		3	267.31	0.0121	0.9104	0.931	0.1023	0.6915	0	0.2727	0	0	0.0369
		3	332.91	1e+06	1.2155	1.2146	1	1	1	1	1	1	0.8502
		1.9	29.1	0.0142	0.4532	0.5788	0.7906	0.3597	0.7837	0.0802	0.3833	0	199.1502
		1.7	30.52	0.0127	0.4343	0.5534	0.7506	0.3601	0.7883	0.0999	0.4567	0	89.3245
		2.64	66.75	0.0091	0.378	0.537	0.525	0.428	0.47	0.1776	0.13	0	184.9688
		2.35	52.72	0.011	0.3981	0.5559	0.6369	0.4425	0.5404	0.1653	0.23	0	573.6428
	100	2.99	68.11	0.0065	0.3605	0.4737	0.3958	0.2896	0.1637	0.1514	0.0033	0	0.6141
		3	115.94	0.0054	0.3483	0.4615	0.2119	0.4635	0.0254	0.2575	0	0	0.6195
		3	91.35	0.0075	0.347	0.4805	0.3727	0.4562	0.0542	0.2383	0	0	2.9416
		3	267.08	0.012	0.9091	0.9593	0.1044	0.6918	0	0.2727	0	0	0.0523
		3	332.88	1e+06	1.0442	1.0577	1	1	1	1	1	1	0.9267
		2.51	48.02	0.0105	0.3974	0.4872	0.619	0.3412	0.56	0.1399	0.1667	0	182.0744
		2.32	42.23	0.0102	0.4065	0.4755	0.6383	0.3209	0.6242	0.107	0.2433	0	135.3301
		2.9	87.68	0.0063	0.3742	0.4529	0.3418	0.3986	0.3058	0.1746	0.0333	0	267.9179
		2.93	83.59	0.0068	0.3721	0.466	0.3715	0.3889	0.245	0.1577	0.0233	0	806.9209
	200	3	95.94	0.0041	0.3608	0.4203	0.1628	0.2851	0.0638	0.1719	0	0	0.6621
		3	131.31	0.0037	0.3599	0.4148	0.0778	0.4473	0.0129	0.2568	0	0	0.6781
		3	110.22	0.0046	0.3576	0.4221	0.1726	0.4076	0.04	0.2424	0	0	3.2173
		3	287.2	0.0124	0.9149	0.9194	0.0418	0.7228	0	0.2727	0	0	0.0905
		3	332.89	1e+06	1.0465	1.0156	1	1	1	1	1	1	1.7186
		2.98	73.62	0.0063	0.369	0.4343	0.3662	0.3035	0.2983	0.203	0.0067	0	233.0591
		2.9	69.79	0.0069	0.3778	0.432	0.4155	0.3213	0.3463	0.1265	0.0333	0	269.1183
		3	119.06	0.0043	0.3674	0.4161	0.135	0.4232	0.12	0.2118	0	0	390.5686
		3	109.93	0.0039	0.3646	0.4162	0.1353	0.3782	0.0542	0.193	0	0	1209.8113
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3	56.36	0.0145	0.2193	0.4162	0.5803	0.3945	0.2862	0.1717	0.0033	0	0.7348
		3	89.34	0.01	0.1936	0.3792	0.3891	0.4608	0.0833	0.2296	0	0	0.8007
		3	58.12	0.018	0.2031	0.4384	0.6576	0.5341	0.1646	0.2202	0	0	4.2553
		3	132.38	0.0133	0.9472	1.0508	0.5238	0.4944	0	0.2727	0	0	0.0369
		3	332.94	1e+06	1.6808	1.6881	1	1	1	1	1	1	0.7699
		1.81	24.11	0.0188	0.275	0.3421	0.8113	0.279	0.8575	0.0843	0.4467	0	533.2657
		1.85	27.45	0.0175	0.2545	0.343	0.7883	0.3775	0.7925	0.1138	0.4367	0	88.596
		2.56	58.45	0.0119	0.2257	0.334	0.5595	0.4018	0.5225	0.178	0.1633	0	211.8615
		2.09	41.14	0.0172	0.2416	0.3657	0.7218	0.4473	0.6221	0.2038	0.3333	0	655.0017
	100	3	83.89	0.0095	0.2025	0.2777	0.319	0.3206	0.1387	0.1609	0	0	0.6807
		3	104.51	0.0064	0.2011	0.2697	0.2009	0.3968	0.0358	0.2238	0	0	0.7655
		3	75.92	0.0118	0.1989	0.2911	0.431	0.4038	0.1187	0.2188	0	0	3.9447
		3	110.74	0.0131	0.9321	1.0748	0.5935	0.4537	0	0.2727	0	0	0.0548
		3	332.93	1e+06	1.1872	1.203	1	1	1	1	1	1	1.7088
		2.48	38.4	0.0165	0.2341	0.2811	0.6947	0.3235	0.6788	0.1331	0.2067	0	476.3854
		2.47	33.88	0.0161	0.233	0.2726	0.7322	0.3618	0.6596	0.0978	0.2267	0	130.1143
		2.95	77.76	0.0082	0.2135	0.2608	0.3682	0.3519	0.3479	0.1577	0.03	0	303.6241
		2.84	61.21	0.0119	0.2172	0.2748	0.4999	0.3403	0.3733	0.1622	0.0833	0	815.9133
	200	3	113.61	0.0067	0.1988	0.2357	0.1177	0.331	0.05	0.1862	0	0	0.67
		3	118.67	0.0046	0.2017	0.2302	0.0792	0.3874	0.0096	0.23	0	0	0.7964
		3	88.8	0.0069	0.2008	0.2363	0.2329	0.3137	0.1062	0.2136	0	0	4.0343
		3	38.58	0.0122	0.9661	1.0047	0.8219	0.3429	0	0.2727	0	0	0.0911
		3	332.91	1e+06	1.1225	1.0571	1	1	1	1	1	1	3.7557
		3	68.42	0.0129	0.2065	0.2425	0.4551	0.3438	0.4117	0.2269	0.0067	0	600.4835
		2.94	49.41	0.0138	0.2166	0.2418	0.6226	0.369	0.5054	0.1179	0.03	0	212.1752
		3	102.15	0.0059	0.2057	0.2308	0.1787	0.3654	0.1708	0.1967	0	0	464.3989
		3	88.49	0.0073	0.2039	0.2343	0.2212	0.3019	0.1279	0.1967	0	0	1286.0718
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3	160.83	0.0863	0.0785	0.5913	0.3144	0.6321	0.0804	0.2474	0.0033	0	0.5129
		3	123.32	0.0121	0.0861	0.2583	0.3724	0.5897	0.0879	0.2474	0	0	0.6212
		2.95	71.03	0.0305	0.0957	0.3918	0.6231	0.5665	0.2188	0.2352	0.0167	0	3.3817
		3	157.46	0.0159	0.9547	1.2901	0.3474	0.6468	0	0.2727	0	0	0.0372
		3	332.92	1e+06	9.229	7.9482	1	1	1	1	1	1	0.6176
		2.51	24.81	0.0326	0.113	0.1623	0.7987	0.2371	0.8412	0.0974	0.3767	0	15709.9208
		2.53	29.28	0.0267	0.111	0.2012	0.7942	0.3835	0.7442	0.1694	0.33	0	94.6643
		2.5	49.81	0.0196	0.1018	0.1801	0.6526	0.4115	0.5796	0.2141	0.2667	0	198.0857
		2.27	35.36	0.0516	0.1096	0.2279	0.7488	0.383	0.6475	0.1897	0.36	0	668.7243
	100	3	163.75	0.0452	0.0759	0.1535	0.2731	0.6111	0.0492	0.243	0	0	0.54
		3	136.9	0.0097	0.08	0.1223	0.2855	0.576	0.0258	0.2503	0	0	0.6117
		3	92.04	0.0206	0.0789	0.1457	0.471	0.5242	0.1154	0.2337	0	0	3.5196
		3	151.33	0.0156	0.8568	1.148	0.3508	0.6398	0	0.2727	0	0	0.0529
		3	332.97	1e+06	3.7853	2.8731	1	1	1	1	1	1	1.0601
		2.82	30.76	0.037	0.0885	0.1123	0.7654	0.2946	0.7337	0.1374	0.1233	0	10405.0812
		2.87	27.13	0.0271	0.088	0.1115	0.785	0.3036	0.7171	0.1298	0.0967	0	143.9537
		2.84	59.07	0.0175	0.0838	0.1096	0.5676	0.4049	0.4321	0.1891	0.0633	0	227.0591
		2.76	41.98	0.0245	0.0875	0.1284	0.6665	0.3488	0.5154	0.1657	0.12	0	767.4577
	200	3	179.67	0.017	0.0718	0.089	0.2214	0.6202	0.0204	0.2414	0	0	0.5584
		3	156.18	0.0086	0.0732	0.0859	0.2035	0.5884	0.005	0.2549	0	0	0.638
		3	104.1	0.0115	0.0729	0.09	0.3773	0.5091	0.0567	0.2103	0	0	3.6536
		3	148.88	0.0155	0.8928	1.1574	0.3529	0.636	0	0.2727	0	0	0.0934
		3	332.94	1e+06	1.5518	1.589	1	1	1	1	1	1	1.868
		2.98	40.69	0.0278	0.0754	0.0849	0.7164	0.3644	0.625	0.1767	0.0067	0	8474.8954
		3	35.57	0.0202	0.0765	0.084	0.7469	0.3651	0.6387	0.0998	0.01	0	189.1646
		2.76	60.02	0.0175	0.0775	0.0866	0.5467	0.3874	0.405	0.186	0.0967	0	250.331
		2.96	48.13	0.0268	0.075	0.085	0.5923	0.3132	0.4233	0.1697	0.02	0	948.3274

Table 18: Simulation N=10 with 4 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	3.88	40.55	0.0094	0.3958	0.6433	0.7327	0.4623	0.4288	0.2654	0.02	0.2317	0.9263
		4	96.63	0.0066	0.3223	0.5848	0.481	0.5744	0.1121	0.4237	0	0.25	0.9749
		4	75.55	0.009	0.3443	0.6329	0.6447	0.6283	0.14	0.4063	0	0.25	5.306
		4	354.91	0.009	0.9128	0.9302	0.1141	0.8262	0	0.4545	0	0.25	0.0407
		4	413.92	1e+06	1.2637	1.2175	1	1	1	1	1	1	1.6963
		2.24	29.42	0.0104	0.4512	0.5756	0.781	0.3494	0.7787	0.1188	0.3467	0.0575	360.1791
		1.71	30.5	0.0097	0.4304	0.5566	0.7588	0.3742	0.7858	0.1097	0.4867	0.0225	134.5606
		3	64.26	0.0071	0.3804	0.5395	0.5668	0.4511	0.5233	0.2436	0.1733	0.1083	269.1805
		2.36	52.1	0.0084	0.4031	0.5629	0.6658	0.4778	0.5738	0.2209	0.3167	0.0583	766.9719
	100	3.99	70.76	0.0053	0.36	0.4822	0.4359	0.3551	0.2037	0.299	0	0.2475	0.7518
		4	122.98	0.0044	0.3441	0.47	0.2526	0.5186	0.0463	0.422	0	0.25	0.7534
		4	95.24	0.0061	0.3446	0.4941	0.421	0.5176	0.0821	0.3972	0	0.25	3.6829
		4	362.9	0.0091	0.9068	0.9524	0.0946	0.8225	0	0.4545	0	0.25	0.0587
		4	413.88	1e+06	1.0393	1.0682	1	1	1	1	1	1	2.3952
		3.05	53.49	0.0076	0.402	0.4832	0.609	0.3983	0.6096	0.1605	0.1667	0.1308	277.2846
		2.16	40.8	0.0082	0.4103	0.4841	0.6744	0.3554	0.6592	0.1322	0.3533	0.0408	170.5989
		3.28	84.7	0.0048	0.3778	0.4563	0.3751	0.4048	0.3521	0.2213	0.05	0.105	370.3334
		3.37	79.09	0.0056	0.3778	0.4697	0.436	0.4187	0.2908	0.2214	0.03	0.1125	1015.309
	200	4	95.16	0.0031	0.3615	0.4215	0.1937	0.322	0.1046	0.3213	0	0.25	0.8583
		4	142.29	0.0029	0.3572	0.4186	0.0992	0.5013	0.0213	0.429	0	0.25	0.8548
		4	113.77	0.0037	0.3554	0.4271	0.2085	0.4508	0.06	0.4017	0	0.25	4.1048
		4	382.21	0.0092	0.913	0.9166	0.046	0.8129	0	0.4545	0	0.25	0.1059
		4	413.82	1e+06	1.0481	1.0179	1	1	1	1	1	1	3.71
		3.73	76.24	0.0049	0.3777	0.4333	0.3892	0.3568	0.4117	0.2037	0.0133	0.1908	335.9627
		3.19	58.93	0.0059	0.3878	0.4378	0.5056	0.3099	0.4483	0.1603	0.0633	0.0925	330.5509
		3.32	115.06	0.0034	0.3706	0.4177	0.1571	0.4151	0.1454	0.2448	0.0033	0.0825	529.4796
		3.29	104.48	0.0035	0.367	0.4215	0.2146	0.3936	0.1054	0.2363	0.0067	0.0775	1372.5046
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3.97	59.76	0.0119	0.2188	0.4354	0.6215	0.4729	0.34	0.3147	0.0033	0.2433	0.9135
		4	96.37	0.0077	0.1908	0.399	0.4327	0.5325	0.1271	0.4013	0	0.25	0.9978
		4	63.86	0.0138	0.2014	0.4658	0.6869	0.6115	0.1971	0.3855	0	0.25	5.6736
		4	161.96	0.0099	0.9563	1.0471	0.6055	0.9147	0	0.4545	0	0.25	0.0417
		4	413.92	1e+06	2.6835	2.6719	1	1	1	1	1	1	1.7554
		2.25	27.49	0.0141	0.27	0.3365	0.7869	0.2969	0.8346	0.1131	0.3633	0.06	973.1793
		1.92	27.82	0.013	0.2537	0.35	0.7851	0.3756	0.7967	0.1272	0.46	0.0175	129.3609
		2.74	52.82	0.0097	0.2316	0.342	0.6254	0.4274	0.6258	0.2548	0.25	0.0992	265.3379
		2.15	37.56	0.013	0.248	0.3689	0.7618	0.4761	0.6762	0.2479	0.3967	0.0525	909.3491
	100	4	89.03	0.0069	0.2034	0.2813	0.3462	0.3864	0.1863	0.3361	0	0.25	0.8288
		4	115.39	0.0051	0.1983	0.2754	0.2247	0.4682	0.0571	0.3959	0	0.25	0.9146
		4	77.52	0.0092	0.1975	0.302	0.4736	0.4598	0.1529	0.3712	0	0.25	4.94
		4	136.5	0.0097	0.9382	1.0756	0.6728	0.9322	0	0.4545	0	0.25	0.0596
		4	413.9	1e+06	1.1868	1.2268	1	1	1	1	1	1	3.8347
		3.14	42.39	0.011	0.2355	0.2732	0.6494	0.3125	0.725	0.1604	0.16	0.13	686.4236
		2.65	32.14	0.0119	0.2354	0.2733	0.7373	0.3508	0.6996	0.1116	0.22	0.0483	168.4973
		3.26	74.66	0.0065	0.2161	0.2619	0.4032	0.3553	0.4204	0.2105	0.0467	0.0925	379.8588
		3.02	54.23	0.0094	0.2243	0.2784	0.5776	0.3671	0.4888	0.2218	0.1233	0.0825	1009.6784
	200	4	117.74	0.0045	0.1995	0.2355	0.1438	0.3836	0.0763	0.349	0	0.25	0.8534
		4	131.12	0.0037	0.2006	0.2322	0.0997	0.4581	0.0213	0.4045	0	0.25	1.0393
		4	89.87	0.0054	0.2005	0.2389	0.2672	0.355	0.1412	0.3604	0	0.25	4.9797
		4	67.74	0.0093	0.9694	1.0073	0.8513	0.9707	0	0.4545	0	0.25	0.114
		4	413.83	1e+06	1.1267	1.0622	1	1	1	1	1	1	8.232
		3.5	66.73	0.0081	0.2119	0.2396	0.451	0.3281	0.5837	0.1699	0.0067	0.1258	920.3013
		3.23	46.15	0.0105	0.2189	0.2433	0.6495	0.3702	0.5421	0.146	0.06	0.0775	269.3938
		3.41	99.29	0.0047	0.2075	0.2316	0.2164	0.3729	0.2325	0.2552	0.0033	0.1025	542.1649
		3.2	80.32	0.0059	0.2068	0.2352	0.2819	0.2875	0.205	0.204	0.0033	0.05	1291.8228
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	4	202.76	0.0565	0.0799	0.852	0.3351	0.7079	0.1117	0.4355	0.0067	0.2525	0.5806
		4	159.86	0.0121	0.0839	0.2772	0.3958	0.689	0.0933	0.4179	0	0.25	0.6819
		3.92	88.22	0.0301	0.0956	0.4347	0.635	0.6374	0.2467	0.3962	0.02	0.245	3.6581
		4	184.82	0.0119	0.952	1.2878	0.3844	0.7117	0	0.4545	0	0.25	0.0417
		4	413.95	1e+06	18.646	17.6417	1	1	1	1	1	1	1.4257
		3.2	30.98	0.0265	0.1079	0.1764	0.8095	0.4258	0.8425	0.3375	0.3167	0.22	22345.9319
		2.98	31.99	0.0277	0.1087	0.2138	0.8558	0.5746	0.8083	0.3977	0.3967	0.2392	139.6948
		3.01	52.28	0.0162	0.1005	0.1899	0.7165	0.5203	0.6608	0.3725	0.2833	0.1758	283.8358
		2.8	40.18	0.0251	0.1072	0.2484	0.7638	0.4783	0.6571	0.3327	0.36	0.1825	1085.4622
	100	4	209.52	0.0333	0.0745	0.1853	0.2736	0.6965	0.0529	0.4259	0	0.25	0.6005
		4	177.24	0.0079	0.0788	0.1267	0.285	0.6739	0.0237	0.4332	0	0.25	0.6709
		4	116.38	0.016	0.0776	0.1523	0.4671	0.614	0.105	0.4036	0	0.25	4.054
		4	178.72	0.0116	0.8589	1.1455	0.3827	0.7037	0	0.4545	0	0.25	0.0596
		4	413.95	1e+06	4.4705	3.6657	1	1	1	1	1	1	2.5244
		3.21	37.17	0.0213	0.0891	0.1114	0.7382	0.3528	0.7804	0.2314	0.1067	0.1092	15875.434
		3.5	28.14	0.0177	0.0878	0.1151	0.8065	0.3856	0.7688	0.2948	0.08	0.1533	198.2146
		3.54	60.82	0.0141	0.0845	0.1126	0.6076	0.4431	0.5204	0.317	0.0567	0.1625	308.75
		3.31	48.16	0.0221	0.0864	0.1278	0.6664	0.3929	0.5379	0.2822	0.1	0.1375	1167.371
	200	4	230.61	0.0139	0.0714	0.0911	0.2355	0.6977	0.0421	0.4168	0	0.25	0.6379
		4	203.67	0.0072	0.0727	0.0868	0.1962	0.6833	0.0037	0.4397	0	0.25	0.711
		4	143.72	0.0113	0.0722	0.0913	0.3591	0.6252	0.0479	0.4047	0	0.25	4.1202
		4	172.58	0.0117	0.8943	1.1594	0.3854	0.6915	0	0.4545	0	0.25	0.1053
		4	413.93	1e+06	1.5256	1.5587	1	1	1	1	1	1	3.8216
		3.27	50.06	0.0175	0.0753	0.083	0.619	0.3271	0.6921	0.1687	0.0133	0.075	14938.9016
		3.55	31.83	0.0147	0.0771	0.0844	0.7682	0.3668	0.6892	0.2033	0.0233	0.1475	271.5324
		3.4	66.56	0.0134	0.0755	0.0852	0.5441	0.4267	0.42	0.2925	0.0533	0.14	343.5441
		3.58	58.07	0.0175	0.0744	0.0853	0.566	0.3567	0.4129	0.268	0	0.145	1239.4563

Table 19: Simulation N=20 with 2 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.63	7	0.0033	0.9504	1.0108	0.9669	0.4088	0.814	0.3428	0.07	0.35	1.1442
		1.92	69.83	0.003	0.8244	0.9867	0.8058	0.66	0.2887	0.5637	0.04	0.48	1.173
		1.84	36.34	0.0031	0.8901	0.9978	0.905	0.6949	0.496	0.5618	0.1	0.47	5.7682
		2	723.99	0.003	0.9808	0.9954	0.0861	0.8811	0	0.6429	0	0.5	0.0633
		2	1101.71	1e+06	1.0542	1.0958	1	1	1	1	1	1	2.3315
		1.7	37.02	0.0034	0.8514	0.9991	0.8065	0.4295	0.6593	0.3325	0.03	0.365	371.3815
		1	29.93	0.003	0.8613	0.9756	0.7752	0.2197	0.8193	0.0773	0.03	0.015	95.0836
		1.05	59.44	0.0026	0.815	0.9599	0.6684	0.3767	0.5673	0.1545	0.01	0.03	130.9477
		1.16	44.11	0.0028	0.8446	0.9722	0.7518	0.3888	0.5867	0.1889	0	0.08	360.8255
	100	1.81	24.69	0.0034	0.9045	0.9964	0.87	0.3688	0.6067	0.3765	0	0.405	0.9239
		2	159.88	0.0025	0.7805	0.9483	0.533	0.6934	0.0327	0.6288	0	0.5	0.8789
		1.99	106.12	0.0028	0.8071	0.9601	0.6445	0.6398	0.1133	0.6035	0	0.495	3.9996
		2	767.85	0.003	0.9856	0.9888	0.0344	0.8755	0	0.6429	0	0.5	0.0896
		2	1101.66	1e+06	1.0137	1.0209	1	1	1	1	1	1	2.7863
		1.31	57.12	0.0022	0.8507	0.9343	0.607	0.254	0.7047	0.1348	0	0.155	187.6411
		1.02	58.34	0.002	0.8365	0.9267	0.5569	0.205	0.7107	0.0565	0	0.01	122.8081
		1.12	93.76	0.0018	0.8137	0.9204	0.4466	0.3639	0.3687	0.1964	0	0.06	145.5654
		1.1	74.71	0.002	0.8236	0.9286	0.5207	0.3207	0.404	0.1879	0	0.05	388.0066
	200	2	79.12	0.0027	0.82	0.9433	0.5634	0.4162	0.2253	0.5387	0	0.5	1.4767
		2	243.34	0.0017	0.7836	0.9095	0.2856	0.6967	0.0073	0.6405	0	0.5	1.0165
		2	176.3	0.0019	0.793	0.9151	0.3652	0.6264	0.0253	0.6315	0	0.5	4.5115
		2	788.99	0.0029	0.9891	0.9902	0.0044	0.8711	0	0.6429	0	0.5	0.1531
		2	1101.54	1e+06	0.9995	1.01	1	1	1	1	1	1	3.6472
		1.05	104.64	0.0014	0.8295	0.9017	0.3436	0.3271	0.5793	0.0655	0	0.025	182.9293
		1.15	87.21	0.0012	0.8324	0.8925	0.3551	0.2282	0.5827	0.0946	0	0.075	193.5659
		1.29	129.26	0.0011	0.8183	0.8881	0.2747	0.403	0.216	0.2968	0	0.145	223.1616
		1.18	107.61	0.0011	0.8227	0.8906	0.3081	0.3265	0.2687	0.2388	0	0.09	560.9083
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.84	19.6	0.0051	0.8095	1.0037	0.9241	0.4959	0.7	0.451	0.04	0.44	1.4127
		2	112.56	0.004	0.6571	0.9383	0.7151	0.732	0.156	0.617	0	0.5	1.3777
		1.91	77.24	0.0046	0.7187	0.9657	0.8206	0.7314	0.26	0.5838	0.04	0.475	6.94
		2	574.58	0.004	0.9695	1.0051	0.2826	0.9055	0	0.6429	0	0.5	0.0633
		2	1101.73	1e+06	1.0927	1.1643	1	1	1	1	1	1	2.4421
		1.62	38.04	0.0038	0.7473	0.8893	0.7519	0.2653	0.7673	0.2805	0	0.31	574.0225
		1.03	39.86	0.0036	0.7303	0.8774	0.7336	0.3085	0.7973	0.1235	0	0.015	115.2244
		1.11	70.94	0.0032	0.6918	0.8784	0.6376	0.4395	0.4793	0.221	0	0.055	155.4756
		1.13	60.69	0.0034	0.7129	0.8931	0.6882	0.4417	0.4827	0.2308	0	0.065	443.9513
	100	2	57.21	0.0044	0.6953	0.8926	0.744	0.5067	0.3807	0.5336	0	0.5	1.2578
		2	202.04	0.003	0.6308	0.849	0.4631	0.7252	0.0133	0.6374	0	0.5	1.0322
		2	145.79	0.0035	0.6477	0.8672	0.5572	0.6833	0.046	0.6305	0	0.5	4.8688
		2	639.05	0.0039	0.9848	0.9941	0.1876	0.8902	0	0.6429	0	0.5	0.093
		2	1101.77	1e+06	1.0366	1.0403	1	1	1	1	1	1	3.4224
		1.26	54.22	0.0028	0.742	0.8252	0.6417	0.2114	0.7853	0.1305	0	0.13	298.2929
		1.15	64.75	0.0026	0.7141	0.8186	0.5695	0.2897	0.7147	0.1157	0	0.075	150.7565
		1.41	105.91	0.0023	0.6876	0.8088	0.4608	0.454	0.4007	0.3015	0	0.205	200.0462
		1.32	93.92	0.0024	0.6901	0.816	0.4933	0.4217	0.3233	0.2973	0	0.16	503.6622
	200	2	100.59	0.0029	0.679	0.8054	0.5361	0.5086	0.1867	0.5571	0	0.5	1.4375
		2	277.18	0.002	0.648	0.7838	0.2688	0.7287	0.0027	0.6416	0	0.5	1.1772
		2	202.26	0.0021	0.6568	0.788	0.3351	0.6602	0.0147	0.6351	0	0.5	5.1212
		2	708.21	0.0039	0.9941	0.9918	0.106	0.8836	0	0.6429	0	0.5	0.1622
		2	1101.66	1e+06	1.0046	1.0129	1	1	1	1	1	1	4.5235
		1.03	101.64	0.0017	0.711	0.7794	0.3698	0.3441	0.5733	0.0814	0	0.015	258.1891
		1.7	104.61	0.0018	0.6982	0.7687	0.3679	0.3613	0.618	0.2304	0	0.35	257.5413
		1.92	163.86	0.0016	0.6799	0.7626	0.2852	0.5412	0.2907	0.4777	0	0.46	334.3423
		1.88	141.14	0.0017	0.682	0.7659	0.3134	0.4887	0.29	0.4753	0	0.44	809.9175
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.96	76.59	0.0077	0.3598	0.7363	0.7905	0.664	0.382	0.5859	0	0.48	1.6864
		2	161.22	0.0055	0.3159	0.6852	0.6259	0.7617	0.09	0.6352	0	0.5	1.7743
		1.98	128.24	0.0078	0.3456	0.7468	0.7309	0.7822	0.102	0.6276	0.01	0.495	8.8839
		2	219.46	0.0056	0.9307	1.0544	0.7415	0.9665	0	0.6429	0	0.5	0.0647
		2	1101.67	1e+06	1.5369	1.4532	1	1	1	1	1	1	2.7116
		1.33	29.02	0.0048	0.4461	0.5388	0.7864	0.1581	0.8953	0.2019	0	0.165	1192.6712
		1.12	44.46	0.0047	0.4113	0.5544	0.7503	0.4033	0.8013	0.2253	0	0.06	110.8446
		1.16	73.94	0.0042	0.3872	0.557	0.6549	0.4991	0.4707	0.2787	0	0.08	173.6202
		1.11	64.82	0.0046	0.3947	0.5744	0.6924	0.4959	0.4253	0.2787	0	0.055	555.4332
	100	2	128.01	0.0051	0.3134	0.5082	0.6301	0.6854	0.156	0.6185	0	0.5	1.2637
		2	221.89	0.0036	0.3018	0.4937	0.4503	0.7455	0.0093	0.6393	0	0.5	1.3194
		2	166.15	0.0048	0.3074	0.517	0.5364	0.7108	0.0353	0.6352	0	0.5	6.3406
		2	89.61	0.0056	0.9702	1.0344	0.9102	0.9885	0	0.6429	0	0.5	0.0932
		2	1101.74	1e+06	1.1667	1.1314	1	1	1	1	1	1	3.4446
		1.25	44.08	0.0047	0.3995	0.4579	0.7141	0.2274	0.8273	0.1779	0	0.125	759.65
		1.2	64.54	0.0042	0.37	0.4534	0.6565	0.4245	0.646	0.2329	0	0.1	129.2977
		1.44	109.07	0.0036	0.3528	0.4452	0.5257	0.543	0.3727	0.3664	0	0.22	227.3589
		1.35	90.95	0.0039	0.358	0.4517	0.5649	0.4968	0.39	0.3367	0	0.175	540.4416
	200	2	180.3	0.0036	0.315	0.4145	0.4875	0.6932	0.0733	0.628	0	0.5	1.4824
		2	273.89	0.0025	0.3104	0.3983	0.3092	0.7414	0.0073	0.6428	0	0.5	1.5352
		2	200.9	0.0029	0.3149	0.4007	0.3678	0.6741	0.0233	0.6384	0	0.5	7.1987
		2	34.67	0.0056	0.9871	0.9939	0.98	0.9974	0	0.6429	0	0.5	0.1569
		2	1101.65	1e+06	1.06	1.0217	1	1	1	1	1	1	6.9266
		1.21	103.45	0.0035	0.3539	0.4062	0.4502	0.4354	0.4413	0.1882	0	0.105	675.9879
		1.36	97.12	0.0034	0.3484	0.4032	0.4818	0.4382	0.482	0.302	0	0.18	209.7751
		1.83	165.97	0.0026	0.3374	0.3882	0.3708	0.5928	0.3293	0.4675	0	0.415	424.9613
		1.85	136.45	0.0029	0.3378	0.3896	0.3882	0.5251	0.314	0.479	0	0.425	1089.5758

Table 20: Simulation N=20 with 3 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.34	6.84	0.0042	0.9531	1.0083	0.9805	0.3174	0.8797	0.2093	0.255	0.195	1.238
		2.86	108.94	0.0039	0.7442	0.9777	0.8101	0.6009	0.2666	0.4609	0.045	0.3183	1.2834
		2.77	52.04	0.004	0.8484	0.9931	0.9121	0.5817	0.5	0.4118	0.1	0.275	5.4801
		3	1062.02	0.004	0.9842	0.9959	0.1168	0.8415	0	0.5397	0	0.3333	0.0933
		3	1462.67	1e+06	1.3324	1.3675	1	1	1	1	1	1	7.3598
		2.85	45.92	0.0041	0.8111	0.9854	0.8459	0.3081	0.7893	0.2057	0.075	0.1917	530.6694
		2.3	46.12	0.0038	0.8086	0.9594	0.82	0.1918	0.8717	0.0501	0.225	0.0167	251.4184
		2.92	94.3	0.0033	0.7283	0.9337	0.6948	0.3185	0.6376	0.1477	0.025	0.0233	387.3551
		2.8	77.23	0.0035	0.765	0.9527	0.7584	0.3518	0.5903	0.1976	0.055	0.0567	1081.797
	100	2.88	32.26	0.0042	0.8717	0.9916	0.8991	0.2811	0.6414	0.2449	0.04	0.2433	1.412
		3	255.03	0.0031	0.6693	0.9103	0.52	0.6127	0.03	0.5311	0	0.3333	1.2603
		3	171.22	0.0035	0.7156	0.9338	0.6576	0.5882	0.0762	0.516	0	0.3333	6.246
		3	1141.99	0.004	0.9877	0.9886	0.0499	0.8346	0	0.5397	0	0.3333	0.1299
		3	1462.52	1e+06	1.0287	1.0322	1	1	1	1	1	1	10.0652
		2.94	76.84	0.0029	0.801	0.9003	0.7009	0.1811	0.7783	0.0662	0.015	0.04	372.697
		3	113.35	0.0023	0.7345	0.8697	0.5508	0.1857	0.7266	0.0259	0	0	365.9125
		3	172.72	0.0021	0.6965	0.8545	0.4231	0.3073	0.3959	0.1608	0	0	405.6239
		3	155.9	0.0022	0.7083	0.8636	0.4627	0.2895	0.4052	0.1702	0	0.01	1129.7488
	200	3	150.66	0.0028	0.7028	0.8874	0.5169	0.3356	0.1648	0.4316	0	0.3333	2.3788
		3	390.2	0.002	0.6733	0.8453	0.2553	0.6106	0.0017	0.538	0	0.3333	1.4258
		3	292.95	0.0022	0.6842	0.855	0.3435	0.5425	0.0145	0.5329	0	0.3333	6.5069
		3	1177.11	0.0039	0.9889	0.9888	0.0195	0.8309	0	0.5397	0	0.3333	0.1868
		3	1462.14	1e+06	1.0019	1.0106	1	1	1	1	1	1	7.9381
		3	178.71	0.0018	0.7272	0.8351	0.3906	0.2759	0.4859	0.1497	0	0.1533	344.8152
		3	170.27	0.0012	0.7224	0.8097	0.331	0.1951	0.6062	0.028	0	0	523.4352
		3	230.18	0.0011	0.7062	0.8031	0.2399	0.3233	0.1948	0.2155	0	0	530.6828
		3	212.1	0.0012	0.7099	0.8047	0.2625	0.2876	0.2038	0.2119	0	0	1439.6474
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.82	25.06	0.0059	0.7766	0.9925	0.9379	0.3848	0.7459	0.3139	0.065	0.26	1.5421
		3	161.7	0.0049	0.5557	0.9081	0.7261	0.6531	0.13	0.5105	0	0.3333	1.4796
		2.95	104.58	0.0055	0.6466	0.955	0.8372	0.6665	0.2576	0.4951	0.02	0.3233	6.7626
		3	856.71	0.0053	0.9749	1.0043	0.2897	0.8627	0	0.5397	0	0.3333	0.1001
		3	1462.71	1e+06	1.4619	1.5475	1	1	1	1	1	1	7.3499
		2.86	49.63	0.0046	0.6896	0.8577	0.8164	0.223	0.8255	0.2318	0.045	0.1833	749.2093
		2.8	63.96	0.004	0.6499	0.8218	0.7617	0.2327	0.8603	0.0939	0.06	0.0167	288.0455
		2.98	97.63	0.0035	0.611	0.8076	0.6773	0.3046	0.6259	0.1591	0.005	0.02	402.9416
		2.92	92.89	0.0038	0.6179	0.8253	0.7035	0.3318	0.5821	0.2127	0.02	0.0333	1199.0336
	100	3	98.27	0.0045	0.5871	0.8337	0.7249	0.4113	0.3186	0.421	0	0.3333	2.007
		3	287.17	0.0034	0.5278	0.781	0.458	0.6133	0.0183	0.5347	0	0.3333	1.5115
		3	212.85	0.0042	0.5568	0.8184	0.5853	0.6008	0.0379	0.5251	0	0.3333	7.2085
		3	937.1	0.0052	0.9875	0.9937	0.221	0.8533	0	0.5397	0	0.3333	0.1301
		3	1462.56	1e+06	1.0631	1.0544	1	1	1	1	1	1	10.8302
		3	67.36	0.0031	0.6666	0.7504	0.7317	0.1405	0.7717	0.1756	0	0.1467	517.552
		3	102.77	0.0025	0.6138	0.7195	0.586	0.1729	0.7593	0.0263	0	0	367.0746
		3	164.79	0.0022	0.5791	0.7099	0.4493	0.3024	0.3962	0.176	0	0	468.2476
		3	149.82	0.0024	0.5868	0.7179	0.4863	0.2922	0.3707	0.1889	0	0.0033	1282.3062
	200	3	187.28	0.0026	0.5575	0.72	0.4552	0.3938	0.1038	0.4639	0	0.3333	2.3245
		3	397.09	0.002	0.5413	0.6915	0.2357	0.6073	0.0017	0.5376	0	0.3333	1.6535
		3	301.63	0.0021	0.5484	0.6963	0.3083	0.5323	0.0114	0.5318	0	0.3333	7.1398
		3	1048.91	0.0052	0.9952	0.9909	0.1259	0.8413	0	0.5397	0	0.3333	0.1867
		3	1462.26	1e+06	1.0082	1.0142	1	1	1	1	1	1	8.4923
		3	158.91	0.0018	0.5912	0.6834	0.4275	0.2547	0.4379	0.1913	0	0.2033	554.3589
		3	149.6	0.0014	0.594	0.666	0.3904	0.1667	0.6221	0.0306	0	0.0033	571.1515
		3	229.53	0.0012	0.5756	0.6567	0.2576	0.3309	0.2193	0.197	0	0	612.2672
		3	209.39	0.0012	0.5773	0.6571	0.2696	0.2822	0.1872	0.2065	0	0	1761.4659
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3	101.79	0.0075	0.3054	0.7042	0.8016	0.5717	0.3931	0.4928	0	0.3233	1.684
		3	216.5	0.0061	0.2479	0.6342	0.6332	0.6523	0.0772	0.5226	0	0.3333	1.7439
		3	158.41	0.008	0.2825	0.7209	0.7586	0.6902	0.1255	0.5178	0	0.3333	8.2408
		3	321.1	0.0075	0.943	1.0541	0.7403	0.9191	0	0.5397	0	0.3333	0.0967
		3	1462.7	1e+06	3.244	3.2265	1	1	1	1	1	1	7.3299
		2.48	41.16	0.0062	0.4062	0.5165	0.8498	0.1884	0.8707	0.1985	0.14	0.14	1594.9846
		2.39	60.83	0.0055	0.3586	0.4976	0.8008	0.3293	0.8466	0.1543	0.16	0.0217	278.7558
		2.84	94.55	0.0042	0.3341	0.4771	0.7201	0.373	0.6876	0.2143	0.04	0.0467	458.8032
		2.48	83.28	0.0052	0.3495	0.5069	0.7566	0.3912	0.6617	0.2323	0.135	0.03	1386.9428
	100	3	195.71	0.0049	0.2504	0.4549	0.5939	0.542	0.1428	0.5043	0	0.3333	1.8787
		3	283.22	0.0035	0.244	0.4115	0.4377	0.5948	0.0159	0.5284	0	0.3333	1.7853
		3	232.59	0.0049	0.2466	0.4551	0.5384	0.5936	0.0276	0.5283	0	0.3333	8.8302
		3	147.91	0.0074	0.9767	1.0355	0.8866	0.9369	0	0.5397	0	0.3333	0.1345
		3	1462.58	1e+06	1.2255	1.198	1	1	1	1	1	1	9.8433
		3	84.43	0.0038	0.308	0.3854	0.7095	0.2626	0.6472	0.3048	0	0.2767	1480.7103
		2.96	75.95	0.004	0.3116	0.3805	0.7255	0.2616	0.7248	0.17	0.01	0.0433	396.0293
		3	149.43	0.0028	0.2875	0.3674	0.5611	0.3781	0.4628	0.2316	0	0.06	704.8463
		2.96	121.05	0.0036	0.3018	0.3841	0.6348	0.3631	0.5086	0.2465	0.01	0.0433	1667.2242
	200	3	339.78	0.0033	0.2381	0.3586	0.3571	0.5724	0.0307	0.5252	0	0.3333	2.2379
		3	363.15	0.002	0.2458	0.3201	0.2434	0.5746	0.0045	0.5338	0	0.3333	1.9391
		3	277.83	0.0021	0.2475	0.3198	0.3146	0.4952	0.0176	0.5236	0	0.3333	9.4167
		3	42.69	0.0074	0.9905	0.9937	0.9754	0.9475	0	0.5397	0	0.3333	0.2034
		3	1462.3	1e+06	1.0666	1.0253	1	1	1	1	1	1	8.9683
		3	155.28	0.0021	0.2651	0.3187	0.4522	0.2619	0.3066	0.2671	0	0.2567	1261.2846
		3	97.47	0.0027	0.2888	0.3265	0.6187	0.192	0.5603	0.1651	0	0.0233	611.2147
		3	248.58	0.0018	0.2618	0.3127	0.2938	0.4125	0.1872	0.27	0	0.0033	1035.9193
		3	221.25	0.0018	0.2597	0.3118	0.3276	0.3655	0.1279	0.3257	0	0.07	2830.5442

Table 21: Simulation N=20 with 4 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.62	5.07	0.0031	0.962	1.0089	0.9866	0.3211	0.9159	0.2728	0.35	0.2667	1.0953
		3.8	98.84	0.003	0.7639	0.9843	0.8519	0.6355	0.3759	0.5735	0.065	0.485	1.1807
		3.47	47.47	0.0031	0.8514	0.9977	0.9271	0.5885	0.5955	0.4885	0.16	0.43	4.342
		4	1394.09	0.003	0.9866	0.9955	0.1135	0.8796	0	0.6548	0	0.5	0.1216
		4	1823.75	1e+06	226.2594	226.9187	1	1	1	1	1	1	23.2853
		3.32	45.94	0.003	0.8232	0.9827	0.8566	0.3356	0.8141	0.2755	0.08	0.3117	522.4216
		2.34	44.83	0.0029	0.8084	0.9626	0.8252	0.1835	0.8724	0.0598	0.21	0.0133	380.9225
		2.93	95.2	0.0025	0.7243	0.9369	0.7003	0.333	0.63	0.1576	0.03	0.04	619.2311
		2.87	67.97	0.0027	0.7811	0.9603	0.7867	0.3457	0.6472	0.2098	0.085	0.0933	1755.0973
	100	3.43	23.21	0.0032	0.8988	0.9934	0.93	0.2831	0.7445	0.2914	0.075	0.3283	2.0595
		4	257.85	0.0025	0.6728	0.9205	0.5773	0.6616	0.0538	0.638	0	0.5	1.9577
		4	167.21	0.0028	0.7425	0.948	0.7299	0.6665	0.1341	0.6186	0	0.5	9.852
		4	1506.6	0.003	0.9879	0.9877	0.0466	0.8753	0	0.6548	0	0.5	0.1397
		4	1823.48	1e+06	1.055	1.0595	1	1	1	1	1	1	31.8779
		3.2626	80.899	0.0022	0.7952	0.8966	0.6922	0.1924	0.7924	0.1167	0.0101	0.1599	674.1173
		3	112.33	0.0018	0.7366	0.87	0.5536	0.1823	0.7307	0.0245	0	0	478.1755
		3	172.76	0.0016	0.6965	0.857	0.4294	0.3125	0.3903	0.1707	0	0	528.6897
		3.02	157.39	0.0017	0.7113	0.8649	0.469	0.3045	0.3917	0.1932	0	0.0167	1498.0039
	200	4	132.18	0.0023	0.7179	0.9003	0.5897	0.3527	0.25	0.502	0	0.5	3.0809
		4	410.79	0.0016	0.6718	0.8553	0.2997	0.6519	0.0086	0.651	0	0.5	1.9521
		4	299.49	0.0018	0.6883	0.8677	0.4018	0.5917	0.0293	0.6414	0	0.5	8.6635
		4	1550.36	0.003	0.9894	0.9888	0.0171	0.8712	0	0.6548	0	0.5	0.2425
		4	1823.31	1e+06	1.0048	1.0128	1	1	1	1	1	1	30.6641
		3.53	175.16	0.0014	0.7288	0.8382	0.4054	0.2779	0.5024	0.2067	0	0.2567	479.4071
		3	169.69	9e-04	0.7217	0.8098	0.3282	0.1894	0.6041	0.022	0	0	642.9421
		3	230.3	8e-04	0.706	0.8036	0.239	0.3235	0.2069	0.2143	0	0	647.7607
		3	214.31	9e-04	0.7099	0.8055	0.2599	0.2918	0.2262	0.2056	0	0	1779.8237
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3.27	20.42	0.0044	0.8099	1.0014	0.956	0.3991	0.8093	0.3656	0.135	0.34	1.4056
		3.99	158.06	0.0038	0.5657	0.9241	0.7719	0.6999	0.2166	0.6227	0	0.4983	1.4487
		3.93	97.19	0.0042	0.6489	0.9677	0.8669	0.6977	0.3338	0.5822	0.01	0.4867	5.8158
		4	1136.46	0.004	0.9778	1.0031	0.2835	0.9059	0	0.6548	0	0.5	0.1176
		4	1823.73	1e+06	107.7559	108.2023	1	1	1	1	1	1	23.3344
		3.29	54.35	0.0033	0.688	0.8489	0.8085	0.2398	0.8431	0.284	0.07	0.29	687.4838
		2.76	62.32	0.003	0.6519	0.8243	0.763	0.2233	0.8579	0.0824	0.075	0.0167	429.897
		3.03	94.87	0.0026	0.6119	0.8088	0.6784	0.2922	0.6603	0.1519	0.005	0.0267	616.0473
		2.91	91.13	0.0029	0.6232	0.8323	0.7054	0.3261	0.5879	0.2071	0.03	0.035	1833.7403
	100	3.99	92.05	0.0036	0.5999	0.847	0.7661	0.4615	0.4062	0.5183	0	0.495	2.6372
		4	295.09	0.0028	0.5272	0.7946	0.5098	0.6591	0.0352	0.6423	0	0.5	2.1821
		4	231.65	0.0035	0.565	0.8419	0.642	0.684	0.0645	0.6388	0	0.5	11.03
		4	1258.52	0.0039	0.9897	0.9929	0.1938	0.8891	0	0.6548	0	0.5	0.1492
		4	1823.56	1e+06	1.0975	1.0958	1	1	1	1	1	1	32.66
		3.42	67.76	0.0023	0.6689	0.7472	0.7322	0.1514	0.7921	0.2308	0	0.2667	980.817
		3	101.42	0.0019	0.6164	0.7213	0.5938	0.1781	0.7659	0.0239	0	0	507.691
		3	161.62	0.0017	0.5805	0.7103	0.4602	0.3077	0.3517	0.2009	0	0	598.7434
		3	143.94	0.0018	0.5967	0.7218	0.5127	0.2982	0.4034	0.1961	0	0.01	1652.5903
	200	4	176.37	0.0021	0.5664	0.7285	0.5174	0.4309	0.1745	0.5591	0	0.5	2.9052
		4	420.44	0.0017	0.5393	0.7011	0.2763	0.6486	0.0062	0.6508	0	0.5	2.1799
		4	324.21	0.0018	0.546	0.7094	0.3522	0.5921	0.0217	0.6437	0	0.5	9.7498
		4	1385.83	0.0039	0.9957	0.9906	0.1182	0.8818	0	0.6548	0	0.5	0.246
		4	1823.25	1e+06	1.0119	1.0169	1	1	1	1	1	1	29.9101
		3.72	158.32	0.0014	0.5977	0.6865	0.4503	0.2762	0.4845	0.2668	0	0.375	761.6288
		3	148.04	0.0011	0.595	0.6673	0.3992	0.1682	0.6152	0.0321	0	0.0033	716.7486
		3	226.37	9e-04	0.5768	0.6575	0.2632	0.3297	0.2183	0.2016	0	0	778.6979
		3	211.45	9e-04	0.5775	0.6584	0.2719	0.2914	0.2059	0.2029	0	0	2179.4534
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.99	113.96	0.0059	0.298	0.7249	0.8165	0.6457	0.42	0.603	0	0.4933	1.6117
		4	225.74	0.0048	0.2446	0.6578	0.6797	0.7088	0.1386	0.6395	0	0.5	1.647
		3.96	168.47	0.0063	0.2818	0.7476	0.785	0.726	0.1841	0.6234	0.01	0.4933	7.3509
		4	403.18	0.0056	0.9525	1.0549	0.7536	0.9678	0	0.6548	0	0.5	0.1253
		4	1823.7	1e+06	169.6463	169.4747	1	1	1	1	1	1	23.0163
		3.12	43.03	0.0046	0.4089	0.5198	0.853	0.2342	0.8683	0.3414	0.085	0.2933	1340.2444
		2.46	59.84	0.0042	0.36	0.4981	0.8069	0.3403	0.8517	0.1851	0.165	0.0533	391.8362
		2.83	87.85	0.0033	0.3432	0.483	0.7315	0.3607	0.7352	0.1996	0.07	0.0517	656.2881
		2.71	85.56	0.004	0.3473	0.5221	0.7565	0.4054	0.6286	0.2523	0.105	0.0633	2149.1097
	100	4	215.81	0.004	0.2479	0.4702	0.6232	0.604	0.1824	0.6149	0	0.5	2.3081
		4	307.96	0.0029	0.2408	0.4242	0.4778	0.6531	0.0407	0.6431	0	0.5	2.2774
		4	254.27	0.0042	0.2475	0.4878	0.5948	0.6741	0.0421	0.6404	0	0.5	12.0542
		4	190.23	0.0056	0.984	1.0375	0.891	0.9859	0	0.6548	0	0.5	0.1474
		4	1823.6	1e+06	1.3867	1.4238	1	1	1	1	1	1	30.8399
		3.81	82.56	0.0027	0.3125	0.3832	0.732	0.3	0.7162	0.4346	0	0.4283	2426.7091
		3.11	70.34	0.0032	0.3199	0.387	0.7456	0.256	0.7628	0.187	0.02	0.095	533.9346
		3.09	144.37	0.0022	0.2911	0.3685	0.5794	0.3814	0.5055	0.2362	0	0.06	993.4725
		3	117.41	0.0028	0.3079	0.3912	0.6491	0.3661	0.5269	0.2344	0.02	0.0567	2479.7311
	200	4	375.12	0.0028	0.2369	0.3707	0.4085	0.6294	0.0562	0.6361	0	0.5	2.7165
		4	392.8	0.0017	0.2446	0.3253	0.2865	0.6275	0.0083	0.6452	0	0.5	2.4666
		4	304.11	0.0018	0.2452	0.326	0.3476	0.5597	0.0303	0.6391	0	0.5	11.8586
		4	49.74	0.0056	0.9935	0.9938	0.9804	0.9974	0	0.6548	0	0.5	0.2649
		4	1823.28	1e+06	1.0758	1.0361	1	1	1	1	1	1	35.4651
		3.76	162.9	0.0016	0.264	0.319	0.4524	0.3028	0.3417	0.3552	0	0.3983	1979.831
		3.09	91.29	0.0022	0.2933	0.3305	0.6468	0.2052	0.5866	0.18	0	0.05	853.8285
		3	236.49	0.0014	0.2646	0.3139	0.3167	0.4034	0.1959	0.2659	0	0	1481.1951
		3.04	186.6	0.0015	0.2678	0.3155	0.3848	0.3205	0.179	0.2646	0	0.0183	3451.3989

Table 22: Simulation N=20 with 2 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.59	6.91	0.0033	0.9559	0.9917	0.967	0.4097	0.8207	0.3542	0.1	0.345	1.019
		1.93	72.98	0.003	0.8243	0.9703	0.8026	0.6636	0.288	0.5634	0.03	0.48	1.1549
		1.8	36.78	0.0031	0.8962	0.9804	0.9045	0.6851	0.4947	0.5414	0.12	0.46	5.5911
		2	722.95	0.003	0.9868	0.9788	0.0876	0.8811	0	0.6429	0	0.5	0.0591
		2	1101.84	1e+06	1.039	1.0775	1	1	1	1	1	1	2.154
		1.71	38.62	0.0034	0.8535	0.9778	0.8075	0.4327	0.6513	0.3306	0.02	0.365	377.5787
		1	30.73	0.003	0.8632	0.9604	0.7716	0.2264	0.812	0.0857	0.04	0.02	94.8279
		1.04	59.05	0.0026	0.8196	0.9447	0.6658	0.3783	0.5447	0.1728	0.01	0.025	130.2239
		1.14	45.25	0.0028	0.8486	0.9558	0.7404	0.3902	0.586	0.1991	0.01	0.075	356.9989
	100	1.78	24.15	0.0034	0.9091	0.9874	0.8729	0.3588	0.602	0.3627	0	0.39	0.8928
		2	159.18	0.0025	0.7837	0.9404	0.5401	0.6951	0.0353	0.6293	0	0.5	0.8861
		2	107.01	0.0028	0.8087	0.9519	0.6439	0.6427	0.116	0.6098	0	0.5	4.0318
		2	768.07	0.003	0.9884	0.9802	0.0336	0.8754	0	0.6429	0	0.5	0.0897
		2	1101.71	1e+06	1.0051	1.012	1	1	1	1	1	1	2.9351
		1.33	60.62	0.0022	0.8508	0.9271	0.6012	0.2745	0.6613	0.1562	0	0.165	189.9551
		1.02	57.28	0.002	0.8411	0.9186	0.5596	0.2026	0.706	0.0481	0	0.01	122.681
		1.06	89.94	0.0018	0.8191	0.9113	0.4525	0.3471	0.3873	0.1758	0	0.03	141.1968
		1.12	74.99	0.002	0.8273	0.9187	0.524	0.3248	0.3887	0.2089	0	0.06	388.5112
	200	2	76.78	0.0027	0.823	0.9393	0.5734	0.4149	0.2393	0.5406	0	0.5	1.4395
		2	244.9	0.0018	0.7842	0.9057	0.2853	0.6981	0.004	0.6398	0	0.5	1.0152
		2	177.18	0.0019	0.7937	0.9112	0.366	0.629	0.0267	0.633	0	0.5	4.4575
		2	789	0.0029	0.9906	0.9859	0.0052	0.8712	0	0.6429	0	0.5	0.153
		2	1101.6	1e+06	0.995	1.0056	1	1	1	1	1	1	3.8872
		1.06	104.03	0.0014	0.8314	0.8971	0.3498	0.3276	0.5887	0.0728	0	0.03	184.1573
		1.15	88.63	0.0012	0.8333	0.8885	0.3509	0.2355	0.6047	0.0933	0	0.075	198.7032
		1.29	127.22	0.0011	0.8207	0.8845	0.2848	0.3987	0.2507	0.2815	0	0.145	220.6999
		1.2	108.64	0.0011	0.8237	0.887	0.3076	0.3317	0.2707	0.2403	0	0.1	568.5941
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.82	19.31	0.005	0.8186	0.9839	0.9247	0.4939	0.6953	0.4394	0.03	0.425	1.3023
		2	115.74	0.004	0.6592	0.9238	0.7137	0.7351	0.156	0.6199	0	0.5	1.3797
		1.92	77.58	0.0045	0.7267	0.9503	0.8192	0.7371	0.268	0.5976	0.03	0.475	6.8675
		2	574.98	0.004	0.9782	0.9903	0.2842	0.9077	0	0.6429	0	0.5	0.0612
		2	1101.74	1e+06	1.0833	1.1483	1	1	1	1	1	1	2.2875
		1.65	37.92	0.0038	0.7534	0.8747	0.7554	0.2828	0.782	0.2893	0	0.325	570.071
		1.04	39.4	0.0036	0.7386	0.8654	0.741	0.3159	0.812	0.133	0	0.02	117.7507
		1.14	74.62	0.0032	0.6957	0.8654	0.6323	0.4551	0.4567	0.2349	0	0.07	154.5111
		1.19	61.2	0.0034	0.717	0.8775	0.6876	0.4506	0.494	0.258	0	0.095	447.8518
	100	2	56.44	0.0044	0.7003	0.8832	0.7454	0.5088	0.378	0.5432	0	0.5	1.1464
		2	201.13	0.003	0.635	0.842	0.4643	0.7243	0.0113	0.6368	0	0.5	1.001
		2	145.19	0.0035	0.6519	0.8603	0.559	0.6833	0.046	0.6307	0	0.5	4.7284
		2	633.76	0.0039	0.9889	0.986	0.2041	0.8952	0	0.6429	0	0.5	0.0878
		2	1101.72	1e+06	1.0271	1.031	1	1	1	1	1	1	3.0702
		1.2626	57.1313	0.0028	0.7433	0.8187	0.6329	0.2276	0.7751	0.1283	0	0.1313	301.1114
		1.18	65.6	0.0026	0.7167	0.8111	0.5661	0.2984	0.7027	0.1332	0	0.09	141.8299
		1.41	108.03	0.0022	0.6909	0.8022	0.462	0.4706	0.3533	0.321	0	0.205	191.9929
		1.23	93.01	0.0024	0.6952	0.809	0.4839	0.4095	0.3193	0.2739	0	0.115	475.1248
	200	2	98.71	0.0029	0.6828	0.8026	0.5428	0.5069	0.2113	0.5645	0	0.5	1.4433
		2	278.41	0.002	0.6492	0.7808	0.2678	0.7296	0.002	0.6417	0	0.5	1.1689
		2	203.66	0.0021	0.6579	0.785	0.3351	0.6627	0.014	0.6365	0	0.5	5.1276
		2	710.98	0.0039	0.9962	0.9878	0.1	0.8797	0	0.6429	0	0.5	0.1461
		2	1101.59	1e+06	1.001	1.0091	1	1	1	1	1	1	4.7011
		1.05	103.1	0.0017	0.7123	0.7763	0.3684	0.3463	0.568	0.0902	0	0.025	255.1034
		1.72	110.23	0.0018	0.6974	0.7655	0.353	0.38	0.6013	0.2376	0	0.36	256.8356
		1.91	165.42	0.0016	0.6817	0.7594	0.2872	0.5487	0.2447	0.4949	0	0.455	330.33
		1.88	138.36	0.0017	0.6851	0.7627	0.3129	0.4802	0.322	0.4755	0	0.44	806.9069
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.95	73.38	0.0077	0.3728	0.7314	0.7956	0.662	0.3993	0.5913	0	0.475	1.509
		2	163.55	0.0055	0.3189	0.6763	0.6255	0.7642	0.084	0.6372	0	0.5	1.654
		1.98	127.37	0.0077	0.3536	0.7416	0.7414	0.7879	0.1193	0.634	0.01	0.495	8.7278
		2	218.24	0.0056	0.9432	1.0434	0.7429	0.9664	0	0.6429	0	0.5	0.0611
		2	1101.81	1e+06	1.4865	1.4204	1	1	1	1	1	1	2.0557
		1.34	27.22	0.0049	0.4576	0.532	0.7909	0.1306	0.904	0.2039	0	0.17	1213.4078
		1.06	44.44	0.0048	0.4185	0.5494	0.7505	0.4053	0.77	0.2089	0	0.03	112.2351
		1.13	75.87	0.0042	0.3914	0.5513	0.6519	0.5056	0.4267	0.2776	0	0.065	170.0303
		1.19	68.75	0.0047	0.3989	0.5673	0.6967	0.5244	0.424	0.3146	0	0.095	557.9141
	100	2	128.15	0.0052	0.3168	0.5066	0.6309	0.685	0.1573	0.6194	0	0.5	1.3033
		2	223.64	0.0036	0.3038	0.4905	0.4491	0.7471	0.0093	0.6391	0	0.5	1.3221
		2	167.49	0.0048	0.3098	0.5131	0.5336	0.7113	0.0307	0.6336	0	0.5	6.3798
		2	89.61	0.0056	0.9767	1.0283	0.9101	0.9885	0	0.6429	0	0.5	0.0922
		2	1101.69	1e+06	1.1696	1.1418	1	1	1	1	1	1	3.6582
		1.28	44.1	0.0047	0.4023	0.4571	0.7091	0.2223	0.8073	0.1724	0	0.14	756.9245
		1.14	59.63	0.0042	0.3778	0.4514	0.6632	0.399	0.6927	0.2136	0	0.07	131.8932
		1.4	110.99	0.0035	0.3549	0.4439	0.5186	0.5404	0.3573	0.3379	0	0.2	229.305
		1.32	92.03	0.0039	0.3612	0.4489	0.561	0.5032	0.3333	0.3263	0	0.16	545.9053
	200	2	180.13	0.0036	0.3163	0.4132	0.4864	0.6915	0.068	0.6254	0	0.5	1.4574
		2	273.73	0.0025	0.3119	0.3973	0.3101	0.7416	0.0067	0.6422	0	0.5	1.5083
		2	201.59	0.0029	0.3165	0.3996	0.3668	0.6747	0.0207	0.6386	0	0.5	7.1622
		2	31.13	0.0056	0.9902	0.9911	0.9825	0.9968	0	0.6429	0	0.5	0.1539
		2	1101.62	1e+06	1.0544	1.0183	1	1	1	1	1	1	6.2046
		1.14	103.22	0.0034	0.3572	0.4048	0.4449	0.4298	0.4787	0.165	0	0.07	726.2264
		1.27	99.33	0.0033	0.3497	0.4031	0.4632	0.4319	0.4407	0.2861	0	0.135	205.7459
		1.87	161.3	0.0027	0.34	0.3865	0.3759	0.5847	0.346	0.4587	0	0.435	439.7423
		1.92	136.21	0.0029	0.3386	0.3886	0.3988	0.5283	0.382	0.4803	0	0.46	1125.3247

Table 23: Simulation N=20 with 3 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.35	7.66	0.0042	0.9377	0.9945	0.9784	0.2963	0.8724	0.2095	0.255	0.1933	1.2673
		2.9	114.31	0.0038	0.7266	0.9597	0.8011	0.6019	0.2521	0.4721	0.035	0.3267	1.3041
		2.73	55.81	0.004	0.8311	0.9759	0.9048	0.561	0.4762	0.4045	0.12	0.28	5.5593
		3	1066.65	0.004	0.9756	0.9792	0.1116	0.84	0	0.5397	0	0.3333	0.0743
		3	1462.69	1e+06	1.4702	1.4886	1	1	1	1	1	1	7.1203
		2.84	46.34	0.0041	0.8038	0.9652	0.8426	0.3028	0.7997	0.1978	0.075	0.1833	538.0873
		2.38	46.37	0.0037	0.8005	0.944	0.8176	0.1943	0.8703	0.0615	0.22	0.0167	249.0534
		2.86	96.93	0.0033	0.7128	0.9159	0.6896	0.3212	0.6286	0.1513	0.045	0.0267	382.0525
		2.92	79.94	0.0035	0.7486	0.9332	0.7475	0.344	0.609	0.1963	0.04	0.05	1071.3511
	100	2.89	34.06	0.0042	0.8616	0.9813	0.8935	0.2767	0.6359	0.2478	0.04	0.2333	1.4477
		3	259.96	0.0031	0.6603	0.9008	0.5124	0.6145	0.0276	0.5319	0	0.3333	1.2688
		3	174.81	0.0035	0.7067	0.9244	0.6507	0.5879	0.0745	0.5179	0	0.3333	6.2196
		3	1142.4	0.004	0.983	0.98	0.0499	0.8347	0	0.5397	0	0.3333	0.112
		3	1462.61	1e+06	1.0209	1.0236	1	1	1	1	1	1	10.6075
		2.9798	73.7576	0.0029	0.7975	0.8919	0.7063	0.1651	0.7945	0.0652	0.0051	0.0505	380.7903
		3	116.57	0.0023	0.7275	0.8619	0.5404	0.1892	0.7221	0.0308	0	0	365.2044
		3	173.96	0.002	0.6911	0.8466	0.4205	0.309	0.3741	0.1697	0	0.0033	408.8365
		3	159.94	0.0022	0.6997	0.8543	0.4514	0.2905	0.3945	0.177	0	0.0033	1119.1027
	200	3	151.9	0.0027	0.6989	0.8824	0.5137	0.338	0.1559	0.4317	0	0.3333	2.3438
		3	392.4	0.002	0.67	0.8409	0.2525	0.6112	0.0021	0.5381	0	0.3333	1.4241
		3	293.97	0.0021	0.681	0.8504	0.3399	0.5414	0.0138	0.5331	0	0.3333	6.3442
		3	1177.14	0.0039	0.9866	0.9845	0.0203	0.8311	0	0.5397	0	0.3333	0.1919
		3	1462.34	1e+06	0.9974	1.006	1	1	1	1	1	1	8.5749
		3	176.86	0.0018	0.7249	0.8337	0.3934	0.2724	0.4848	0.1528	0	0.1667	348.1568
		3	172.23	0.0012	0.7182	0.8065	0.3287	0.202	0.5979	0.0316	0	0	513.5993
		3	232.72	0.0011	0.7023	0.799	0.2381	0.3278	0.1917	0.2243	0	0	519.7301
		3	212.79	0.0011	0.7062	0.8009	0.2587	0.2866	0.2017	0.2053	0	0	1433.5431
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.82	25.9	0.0058	0.768	0.9763	0.9358	0.3862	0.7393	0.3109	0.065	0.2467	1.6387
		3	166.67	0.0048	0.5428	0.8897	0.7168	0.6512	0.1303	0.5128	0	0.3333	1.5458
		2.91	107.93	0.0055	0.635	0.9372	0.8309	0.6494	0.2479	0.4827	0.035	0.325	6.8707
		3	861.64	0.0053	0.9711	0.9888	0.2863	0.8632	0	0.5397	0	0.3333	0.0752
		3	1462.8	1e+06	1.3907	1.4745	1	1	1	1	1	1	6.878
		2.88	51.32	0.0044	0.6819	0.8341	0.8061	0.1991	0.8179	0.1925	0.05	0.1767	756.9451
		2.9	69.26	0.0039	0.6305	0.8063	0.7439	0.2419	0.8452	0.1018	0.04	0.0167	296.5566
		2.96	101.99	0.0035	0.599	0.7955	0.668	0.3158	0.6159	0.1766	0.01	0.0233	401.55
		2.96	94.71	0.0038	0.6087	0.8076	0.6917	0.3231	0.5828	0.1933	0.01	0.03	1208.9789
	100	3	97.45	0.0044	0.5835	0.8203	0.7218	0.401	0.3269	0.4175	0	0.3333	1.8143
		3	291.71	0.0034	0.5216	0.7722	0.4505	0.6143	0.0155	0.5341	0	0.3333	1.4466
		3	217.23	0.0041	0.5495	0.8092	0.5774	0.6012	0.0331	0.5257	0	0.3333	6.9496
		3	936	0.0052	0.9857	0.9859	0.2222	0.851	0	0.5397	0	0.3333	0.1166
		3	1462.49	1e+06	1.0542	1.0462	1	1	1	1	1	1	10.0694
		3	64.72	0.0031	0.6662	0.7437	0.7361	0.1311	0.7879	0.1552	0	0.1233	518.4706
		3	101.57	0.0025	0.6122	0.7142	0.5902	0.1698	0.7672	0.0275	0	0.0033	359.8957
		3	164.24	0.0022	0.5759	0.7037	0.4545	0.3049	0.401	0.1724	0	0	447.3941
		3	150.3	0.0024	0.5838	0.7116	0.49	0.2986	0.36	0.1962	0	0.0033	1205.1425
	200	3	187.72	0.0026	0.5546	0.7159	0.4514	0.3919	0.1038	0.4643	0	0.3333	2.2999
		3	399.28	0.002	0.5385	0.688	0.2332	0.6083	0.0014	0.5376	0	0.3333	1.6344
		3	301.1	0.0021	0.5465	0.6927	0.3075	0.5309	0.0117	0.5318	0	0.3333	7.0326
		3	1048.78	0.0052	0.9943	0.987	0.1264	0.8408	0	0.5397	0	0.3333	0.2055
		3	1462.3	1e+06	1.0044	1.0102	1	1	1	1	1	1	8.7192
		3	163.05	0.0018	0.5878	0.679	0.4205	0.2657	0.4455	0.1987	0	0.21	548.6931
		3	150.58	0.0014	0.5914	0.6627	0.391	0.1704	0.6231	0.0401	0	0	564.9763
		3	226.73	0.0012	0.5741	0.654	0.2622	0.326	0.2148	0.2024	0	0.0033	620.3496
		3	214.48	0.0012	0.5731	0.6538	0.2608	0.2901	0.1834	0.2071	0	0	1767.1127
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.98	106.36	0.0074	0.3017	0.6852	0.7939	0.565	0.3807	0.4887	0.005	0.3233	1.7168
		3	218.68	0.006	0.2445	0.6184	0.6268	0.6497	0.0759	0.5233	0	0.3333	1.7169
		3	165	0.008	0.2749	0.7046	0.7491	0.6891	0.1097	0.5218	0	0.3333	8.153
		3	327.53	0.0075	0.9503	1.0422	0.7348	0.9176	0	0.5397	0	0.3333	0.0759
		3	1462.78	1e+06	7.9068	7.825	1	1	1	1	1	1	7.3684
		2.52	45.56	0.0061	0.3962	0.5109	0.8411	0.2126	0.8517	0.2272	0.13	0.17	1670.1995
		2.43	58.57	0.0055	0.3603	0.4903	0.8054	0.3224	0.8393	0.1405	0.15	0.0183	280.8114
		2.82	91.89	0.0042	0.3339	0.4713	0.7184	0.3501	0.7348	0.19	0.045	0.0267	462.3572
		2.62	86.96	0.005	0.343	0.4968	0.7438	0.3883	0.6638	0.241	0.1	0.0333	1432.6602
	100	3	195.99	0.0048	0.2486	0.4483	0.5877	0.5413	0.1362	0.5073	0	0.3333	1.8962
		3	284.86	0.0035	0.2421	0.4069	0.4327	0.5934	0.0186	0.5296	0	0.3333	1.7478
		3	233.31	0.0049	0.2451	0.4488	0.5365	0.5931	0.0269	0.5284	0	0.3333	8.8334
		3	136.74	0.0075	0.9803	1.0299	0.8961	0.9376	0	0.5397	0	0.3333	0.1132
		3	1462.64	1e+06	1.3008	1.2774	1	1	1	1	1	1	10.9432
		2.96	82.79	0.0038	0.306	0.3846	0.7148	0.2616	0.6259	0.3	0.01	0.2733	1489.6277
		3	71.36	0.004	0.3114	0.3767	0.7321	0.2368	0.7314	0.1529	0	0.0433	400.0558
		3	151.68	0.0028	0.2865	0.3649	0.5601	0.3831	0.4624	0.2375	0	0.0433	708.6082
		2.98	125.34	0.0035	0.2975	0.3799	0.6204	0.3529	0.5062	0.2512	0.005	0.0367	1661.0423
	200	3	349.63	0.0033	0.2362	0.3591	0.3494	0.5788	0.0248	0.5246	0	0.3333	2.1713
		3	361.49	0.002	0.2454	0.3188	0.2442	0.5731	0.0045	0.5334	0	0.3333	1.8864
		3	279.93	0.0021	0.2465	0.3184	0.3113	0.4968	0.0179	0.5246	0	0.3333	9.3849
		3	41.6	0.0074	0.9923	0.9909	0.9763	0.9471	0	0.5397	0	0.3333	0.2058
		3	1462.17	1e+06	1.0635	1.0224	1	1	1	1	1	1	9.7786
		3	160.55	0.0021	0.2631	0.317	0.4384	0.2672	0.3097	0.2644	0	0.26	1284.9416
		3	100.62	0.0027	0.2876	0.3248	0.6139	0.2036	0.5645	0.179	0	0.0333	599.2616
		3	251.23	0.0018	0.2605	0.3114	0.2899	0.4177	0.1666	0.2741	0	0.0033	1033.9569
		3	221.37	0.0018	0.2591	0.3103	0.3223	0.3623	0.1272	0.3274	0	0.0733	2898.1817

Table 24: Simulation N=20 with 4 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.7	4.75	0.0031	0.9518	0.9919	0.9872	0.3206	0.9159	0.2803	0.345	0.2767	1.0878
		3.83	103.39	0.003	0.7452	0.9674	0.8475	0.6491	0.3634	0.5803	0.055	0.4867	1.1947
		3.47	49.34	0.0031	0.8354	0.9804	0.9256	0.5931	0.5886	0.5	0.16	0.4317	4.4359
		4	1398.55	0.003	0.9747	0.9791	0.1097	0.8802	0	0.6548	0	0.5	0.0912
		4	1823.75	1e+06	223.6835	224.7054	1	1	1	1	1	1	22.3504
		3.45	47.67	0.0031	0.8062	0.9635	0.8524	0.3348	0.8245	0.2971	0.08	0.335	509.1624
		2.41	46.06	0.0029	0.7958	0.9472	0.8205	0.184	0.8683	0.0575	0.235	0.0067	383.6072
		3	94.41	0.0025	0.7149	0.9218	0.7045	0.3338	0.6659	0.1666	0.025	0.055	617.8081
		2.93	70.8	0.0027	0.7648	0.9426	0.7788	0.3455	0.6345	0.2155	0.065	0.08	1752.7117
	100	3.47	24.3	0.0032	0.8865	0.9837	0.9274	0.2978	0.7328	0.3051	0.075	0.3333	2.0996
		4	260.82	0.0025	0.6648	0.9117	0.5752	0.6642	0.0534	0.6393	0	0.5	1.9681
		4	170.69	0.0028	0.7339	0.9386	0.7248	0.6681	0.1162	0.6162	0	0.5	9.9123
		4	1506.65	0.003	0.9818	0.9792	0.046	0.8752	0	0.6548	0	0.5	0.1449
		4	1823.62	1e+06	1.0465	1.0507	1	1	1	1	1	1	30.5165
		3.2727	81.101	0.0022	0.7895	0.8868	0.6931	0.1926	0.79	0.1184	0.0101	0.1599	683.9915
		3	112.05	0.0018	0.7313	0.8621	0.5523	0.181	0.7383	0.0163	0	0	471.995
		2.98	173.89	0.0016	0.6911	0.8489	0.4262	0.3107	0.391	0.1646	0.005	0	517.6464
		3.02	157.41	0.0017	0.7054	0.8559	0.4696	0.304	0.3928	0.184	0	0.0117	1482.1458
	200	4	131.27	0.0023	0.7153	0.8954	0.5919	0.3546	0.2541	0.5035	0	0.5	3.0011
		4	411.55	0.0016	0.6688	0.8512	0.2995	0.6525	0.0066	0.6507	0	0.5	1.9141
		4	300.27	0.0018	0.6851	0.8634	0.4002	0.5917	0.0283	0.6412	0	0.5	8.5727
		4	1550.15	0.003	0.9863	0.9846	0.0173	0.8712	0	0.6548	0	0.5	0.2271
		4	1823.12	1e+06	1.0004	1.0084	1	1	1	1	1	1	29.4879
		3.58	186.49	0.0013	0.7198	0.8335	0.3846	0.2949	0.4793	0.2277	0	0.2783	480.5094
		3	171.25	9e-04	0.7183	0.8056	0.3255	0.1931	0.5962	0.0227	0	0	641.2435
		3	225.77	8e-04	0.7049	0.7993	0.2483	0.3165	0.2272	0.2018	0	0	654.3499
		3	218.3	9e-04	0.7054	0.8021	0.2545	0.2996	0.1972	0.2103	0	0	1784.8606
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	3.39	21.54	0.0044	0.7992	0.9812	0.9531	0.3827	0.8041	0.3744	0.12	0.3517	1.3907
		4	162.39	0.0038	0.5514	0.9067	0.7674	0.702	0.2048	0.6226	0	0.5	1.4373
		3.94	101.51	0.0042	0.6336	0.9508	0.8629	0.7069	0.3297	0.5902	0.01	0.485	5.7773
		4	1137.02	0.004	0.9704	0.9878	0.2821	0.9037	0	0.6548	0	0.5	0.0913
		4	1823.72	1e+06	72.1609	72.4504	1	1	1	1	1	1	23.371
		3.35	51.6	0.0033	0.6855	0.839	0.8163	0.2301	0.85	0.2752	0.065	0.29	689.2213
		2.89	66.49	0.003	0.6367	0.8082	0.7565	0.2495	0.8531	0.1216	0.05	0.0417	434.9728
		3.05	99.77	0.0027	0.6018	0.798	0.6789	0.3203	0.621	0.1949	0.01	0.0533	618.931
		3.07	95.69	0.0029	0.607	0.8133	0.6951	0.3384	0.5576	0.2244	0.005	0.055	1839.1909
	100	3.98	91.34	0.0035	0.5965	0.836	0.7663	0.4575	0.4186	0.5225	0	0.4933	2.5066
		4	299.02	0.0028	0.5216	0.7868	0.5054	0.6607	0.0345	0.6433	0	0.5	2.1623
		4	234.72	0.0034	0.5596	0.8328	0.638	0.6851	0.0628	0.6399	0	0.5	10.6619
		4	1250.88	0.0039	0.9857	0.9849	0.2011	0.8914	0	0.6548	0	0.5	0.1455
		4	1823.48	1e+06	1.0849	1.0837	1	1	1	1	1	1	31.3647
		3.41	64.67	0.0023	0.669	0.7413	0.7412	0.1435	0.8041	0.2311	0	0.2567	988.0351
		3	102.84	0.0019	0.6108	0.7166	0.5887	0.1745	0.7655	0.0264	0	0	495.4764
		3	161.87	0.0016	0.5769	0.7037	0.4568	0.3003	0.3862	0.1768	0	0	604.0044
		3	150.19	0.0018	0.586	0.7146	0.4965	0.304	0.3652	0.1989	0	0.0033	1660.712
	200	4	183.69	0.0021	0.5598	0.7268	0.5064	0.4402	0.1586	0.5627	0	0.5	2.9472
		4	421.25	0.0016	0.5369	0.6979	0.2754	0.6489	0.0055	0.651	0	0.5	2.1552
		4	324.76	0.0018	0.5438	0.706	0.3508	0.5918	0.0221	0.644	0	0.5	9.6862
		4	1389.42	0.0039	0.9939	0.9867	0.1152	0.8798	0	0.6548	0	0.5	0.2257
		4	1823.09	1e+06	1.0079	1.0128	1	1	1	1	1	1	29.165
		3.697	162.9697	0.0014	0.5918	0.6819	0.4368	0.2813	0.4646	0.274	0	0.3704	758.5112
		3	152.8	0.0011	0.5905	0.6647	0.3908	0.1807	0.6179	0.0427	0	0	717.9027
		3	232.43	9e-04	0.5722	0.6538	0.2552	0.3398	0.1979	0.2053	0	0	786.7929
		3	216.19	9e-04	0.574	0.6555	0.2684	0.302	0.1997	0.2074	0	0	2179.1415
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.99	120.18	0.006	0.2886	0.7052	0.8116	0.6523	0.411	0.6071	0.005	0.4983	1.6983
		4	226.01	0.0048	0.2416	0.6427	0.6768	0.7074	0.1334	0.6397	0	0.5	1.6485
		4	170.37	0.0063	0.2631	0.7298	0.7805	0.7326	0.1672	0.6277	0	0.4983	7.2715
		4	422.48	0.0056	0.9572	1.0433	0.7395	0.9646	0	0.6548	0	0.5	0.0925
		4	1823.81	1e+06	438.9668	438.3181	1	1	1	1	1	1	23.5583
		2.98	44.81	0.0046	0.402	0.5089	0.8484	0.2272	0.8679	0.3219	0.12	0.2783	1336.1323
		2.61	60.46	0.0041	0.3529	0.4896	0.8051	0.342	0.8417	0.2093	0.14	0.07	402.3687
		2.88	90.77	0.0033	0.3375	0.4773	0.7301	0.3717	0.7279	0.208	0.075	0.0667	643.0468
		2.65	86.51	0.0039	0.3418	0.5079	0.7497	0.3964	0.6134	0.2577	0.125	0.055	2173.5376
	100	4	207.36	0.0039	0.2479	0.4606	0.6269	0.6064	0.1734	0.6161	0	0.5	2.2674
		4	309.96	0.0029	0.2388	0.4199	0.4745	0.653	0.0424	0.6433	0	0.5	2.2956
		4	255.05	0.0042	0.2461	0.482	0.5908	0.6719	0.0441	0.6418	0	0.5	11.7586
		4	174.77	0.0056	0.9855	1.0306	0.9011	0.9872	0	0.6548	0	0.5	0.1488
		4	1823.62	1e+06	1.3685	1.3923	1	1	1	1	1	1	30.1186
		3.81	85.85	0.0027	0.3096	0.3817	0.7258	0.3039	0.6934	0.4301	0	0.435	2618.201
		3.02	70.7	0.0032	0.3174	0.3848	0.7411	0.2525	0.7579	0.1887	0.03	0.0717	546.1273
		3.14	147.8	0.0022	0.2888	0.366	0.5736	0.3884	0.4741	0.2582	0	0.0767	975.793
		3.05	117.82	0.0028	0.3058	0.386	0.649	0.3667	0.5228	0.2492	0.01	0.0583	2440.8938
	200	4	345.23	0.0027	0.2392	0.3645	0.4193	0.619	0.0607	0.6367	0	0.5	2.555
		4	391.57	0.0017	0.2443	0.324	0.2871	0.6269	0.0097	0.6453	0	0.5	2.4049
		4	304.2	0.0018	0.2445	0.3246	0.3458	0.5588	0.0293	0.6389	0	0.5	11.8951
		4	49.85	0.0056	0.9948	0.991	0.9804	0.9974	0	0.6548	0	0.5	0.2496
		4	1823.35	1e+06	1.073	1.0325	1	1	1	1	1	1	35.3256
		3.76	161.91	0.0016	0.2642	0.3172	0.4532	0.3	0.3531	0.3412	0	0.4033	1912.3933
		3.14	93.53	0.0022	0.2927	0.3292	0.6487	0.2167	0.5879	0.196	0	0.08	889.8558
		3.01	240.85	0.0014	0.2633	0.3126	0.3084	0.4087	0.1597	0.277	0	0.0117	1483.3756
		3.06	195.18	0.0015	0.2659	0.314	0.3761	0.339	0.159	0.2844	0	0.0317	3394.6926

Table 25: Simulation N=20 with 2 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.57	5.5	0.0041	0.9857	0.9998	0.9839	0.4	0.8579	0.2046	0.26	0	0.9495
		1.69	25.4	0.004	0.9469	0.9962	0.9415	0.5316	0.6217	0.2794	0.17	0	0.9402
		1.73	11.99	0.0041	0.9724	0.997	0.9718	0.6014	0.7704	0.2918	0.175	0	4.62
		2	588.62	0.0041	1.0012	0.9974	0.2482	0.6849	0	0.4286	0	0	0.0615
		2	1101.78	1e+06	1.0553	1.0605	1	1	1	1	1	1	2.0977
		1.87	26.8	0.0047	0.9096	1.0243	0.9245	0.4698	0.7183	0.2617	0.09	0	302.9651
		0.87	12.91	0.0041	0.9577	0.9992	0.9377	0.1977	0.9213	0.083	0.59	0	86.29
		1.5	38.87	0.0039	0.9042	0.9937	0.8596	0.3882	0.7825	0.1708	0.265	0	107.5539
		1.54	23.73	0.004	0.9364	0.9961	0.9112	0.3765	0.8054	0.1857	0.24	0	293.4321
	100	1.81	12.8	0.0041	0.9755	0.9981	0.949	0.2993	0.7233	0.1812	0.1	0	0.695
		1.96	97.54	0.0037	0.8854	0.9874	0.7529	0.5775	0.1821	0.3905	0.02	0	0.7089
		1.92	51.09	0.0038	0.9212	0.9913	0.8491	0.4691	0.3871	0.315	0.04	0	3.0296
		2	430.66	0.0041	0.9989	0.9978	0.4329	0.5847	0	0.4286	0	0	0.0936
		2	1101.61	1e+06	1.0077	1.0096	1	1	1	1	1	1	3.1415
		1.86	36.42	0.0038	0.937	0.9902	0.8536	0.3226	0.6908	0.1739	0.08	0	139.7624
		1.38	39.01	0.0035	0.9194	0.9846	0.7917	0.1732	0.8492	0.0585	0.325	0	110.0894
		1.69	80.89	0.0032	0.8832	0.9747	0.6821	0.3425	0.5817	0.1875	0.155	0	144.8495
		1.72	56.59	0.0034	0.9013	0.9809	0.7494	0.2758	0.6146	0.1891	0.14	0	369.6882
	200	1.97	43.76	0.0038	0.9392	0.9957	0.8119	0.2715	0.4575	0.2409	0.015	0	1.036
		2	233.8	0.0028	0.8411	0.9645	0.414	0.609	0.0079	0.4257	0	0	0.8764
		2	163.2	0.0029	0.8539	0.9675	0.5004	0.5206	0.0321	0.4115	0	0	3.7543
		2	373.68	0.0041	0.9995	1.002	0.5032	0.5603	0	0.4286	0	0	0.1641
		2	1101.6	1e+06	0.9971	1.0056	1	1	1	1	1	1	4.0224
		1.75	60.2	0.0032	0.9254	0.9749	0.728	0.2096	0.6929	0.1175	0.125	0	126.1253
		1.96	107.35	0.0022	0.8754	0.9531	0.4462	0.1918	0.6258	0.0622	0.02	0	204.7418
		1.98	161.45	0.0021	0.8578	0.9453	0.3449	0.35	0.3333	0.2433	0.01	0	223.0517
		1.98	124.51	0.0022	0.8664	0.9495	0.4263	0.2703	0.3908	0.207	0.01	0	581.313
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.61	6.18	0.0043	0.9707	0.9998	0.9775	0.2922	0.8508	0.1489	0.21	0	1.0179
		1.88	50.28	0.004	0.87	0.9882	0.8749	0.5308	0.4333	0.318	0.065	0	1.0796
		1.75	21.89	0.0041	0.937	0.9944	0.9494	0.5519	0.66	0.269	0.145	0	4.9227
		2	472.61	0.0041	1.0016	0.9963	0.3828	0.604	0	0.4286	0	0	0.0627
		2	1101.78	1e+06	1.0729	1.1047	1	1	1	1	1	1	2.1162
		1.86	22.43	0.005	0.8891	1.0217	0.9247	0.3602	0.7575	0.2321	0.12	0	400.9811
		1.21	23.2	0.0043	0.8953	0.9891	0.8866	0.2113	0.8942	0.0971	0.435	0	93.1606
		1.64	51.57	0.0039	0.837	0.9755	0.8004	0.3609	0.7604	0.1706	0.2	0	140.9557
		1.74	35.4	0.004	0.8809	0.9819	0.8615	0.3811	0.7529	0.1675	0.15	0	349.3748
	100	1.92	18.61	0.0043	0.933	0.9975	0.9205	0.2552	0.6858	0.1871	0.04	0	0.7756
		2	155.36	0.0035	0.7812	0.9612	0.6082	0.6011	0.045	0.4124	0	0	0.7843
		1.98	95.54	0.0037	0.8218	0.974	0.7258	0.5289	0.1604	0.3753	0.01	0	3.5411
		2	460.95	0.0041	0.9958	1.0031	0.3964	0.6089	0	0.4286	0	0	0.0933
		2	1101.65	1e+06	1.0059	1.0336	1	1	1	1	1	1	3.3021
		1.71	35.83	0.004	0.8864	0.9731	0.8382	0.2182	0.7388	0.1435	0.145	0	175.8977
		1.83	69.23	0.0034	0.8278	0.9399	0.6428	0.1869	0.7829	0.0567	0.09	0	131.1967
		1.94	112.62	0.003	0.797	0.9283	0.5429	0.345	0.4542	0.2409	0.03	0	165.3703
		1.88	87.69	0.0032	0.8163	0.9422	0.6144	0.2956	0.5283	0.211	0.06	0	421.0735
	200	2	109.69	0.0038	0.8001	0.9459	0.5671	0.3666	0.1546	0.3512	0	0	1.3763
		2	298.66	0.0025	0.7523	0.9078	0.2763	0.6235	0	0.4282	0	0	0.8633
		2	222.49	0.0026	0.7608	0.9117	0.3477	0.5448	0.0087	0.4246	0	0	3.8957
		2	398.19	0.0041	0.9977	0.9996	0.474	0.5699	0	0.4286	0	0	0.1615
		2	1101.63	1e+06	1.0025	1.0132	1	1	1	1	1	1	4.2807
		1.81	94.47	0.0034	0.8296	0.9339	0.6225	0.3049	0.4342	0.2632	0.095	0	151.9601
		1.99	129.01	0.002	0.7984	0.8813	0.3362	0.2009	0.5746	0.0818	0.005	0	248.7067
		2	189.83	0.0018	0.7788	0.8754	0.2491	0.3711	0.1979	0.3151	0	0	231.4195
		2	161.3	0.0019	0.7825	0.8789	0.2869	0.3071	0.2313	0.2985	0	0	594.6845
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.93	27.37	0.0072	0.6886	0.9461	0.8973	0.3409	0.6742	0.2701	0.035	0	1.3045
		2	117.4	0.0056	0.5601	0.8916	0.7279	0.6299	0.1633	0.411	0	0	1.3945
		1.98	78	0.0066	0.6284	0.9379	0.8247	0.6294	0.2442	0.3791	0.01	0	6.7965
		2	394.31	0.0062	0.9816	1.002	0.4732	0.5538	0	0.4286	0	0	0.0633
		2	1101.7	1e+06	1.2637	1.2602	1	1	1	1	1	1	2.124
		1.81	32.71	0.0062	0.6566	0.8081	0.8379	0.167	0.825	0.1668	0.105	0	691.0075
		1.62	49.06	0.0057	0.6239	0.7865	0.7792	0.3121	0.8721	0.1557	0.23	0	124.4629
		1.81	73.38	0.0048	0.5956	0.7757	0.7053	0.3672	0.7338	0.2633	0.1	0	177.9632
		1.77	70.21	0.0051	0.5998	0.7918	0.7227	0.3807	0.6767	0.2695	0.12	0	523.4425
	100	2	58.88	0.0051	0.5783	0.7493	0.7331	0.2647	0.4729	0.2824	0	0	1.1411
		2	188.22	0.0039	0.5253	0.7412	0.5166	0.5993	0.0354	0.4242	0	0	1.0367
		2	146.14	0.0047	0.5345	0.7708	0.5916	0.5635	0.0596	0.4138	0	0	4.7965
		2	484.12	0.0061	0.9863	1.0139	0.3686	0.614	0	0.4286	0	0	0.0969
		2	1101.77	1e+06	1.0564	1.1016	1	1	1	1	1	1	3.3815
		1.87	36.56	0.0051	0.6331	0.7142	0.7957	0.1025	0.7854	0.1538	0.065	0	351.0795
		1.95	72.64	0.0037	0.5799	0.666	0.6194	0.1866	0.7858	0.0584	0.03	0	171.9559
		1.99	98.98	0.0032	0.5671	0.6609	0.5521	0.2849	0.5779	0.2069	0.005	0	208.1382
		2	94.43	0.0034	0.5669	0.6699	0.5645	0.2797	0.4975	0.2381	0	0	570.562
	200	2	101.65	0.0034	0.544	0.6401	0.5477	0.2823	0.2254	0.3159	0	0	1.3976
		2	266.89	0.0026	0.5188	0.6368	0.3232	0.6045	0.0046	0.4273	0	0	1.1743
		2	189.71	0.0028	0.5225	0.632	0.3644	0.4755	0.0233	0.4126	0	0	5.2592
		2	404.61	0.0061	0.991	1.001	0.4614	0.5624	0	0.4286	0	0	0.1659
		2	1101.58	1e+06	1.0312	1.0323	1	1	1	1	1	1	5.0973
		2	80.7	0.0036	0.5613	0.6367	0.5902	0.1833	0.385	0.2393	0	0	284.7698
		2	107.27	0.0025	0.5531	0.6061	0.4316	0.1682	0.6187	0.0503	0	0	278.5078
		2	168.87	0.0021	0.538	0.6006	0.312	0.3558	0.1879	0.312	0	0	316.8764
		2	149.63	0.0022	0.5366	0.6008	0.3181	0.2856	0.2262	0.2835	0	0	825.8616

Table 26: Simulation N=20 with 3 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.44	5.25	0.0044	0.9866	1	0.9876	0.3248	0.9011	0.1495	0.3167	0	1.2099
		2.71	48.05	0.0043	0.9014	0.993	0.9205	0.5112	0.5633	0.3016	0.13	0	1.0786
		2.44	21.82	0.0043	0.9492	0.9969	0.9631	0.4945	0.7369	0.2827	0.2633	0	4.4471
		3	883.95	0.0044	1.0054	0.9973	0.2545	0.6915	0	0.4286	0	0	0.0755
		3	1462.75	1e+06	1.3248	1.3575	1	1	1	1	1	1	6.4302
		2.9	28.87	0.0047	0.8968	1.0209	0.9284	0.3406	0.8044	0.2068	0.1833	0	366.8067
		2.19	26.1	0.0043	0.9171	0.9964	0.9132	0.1905	0.9183	0.094	0.5633	0	233.2428
		2.91	63.68	0.004	0.8441	0.9799	0.8302	0.335	0.7694	0.1618	0.25	0	351.4022
		2.88	43.77	0.0041	0.8892	0.9876	0.8882	0.3661	0.7686	0.1966	0.2467	0	913.3711
	100	2.87	13.81	0.0043	0.9693	0.9993	0.9583	0.2247	0.7903	0.1329	0.1567	0	1.0827
		3	195.08	0.0037	0.775	0.9708	0.6598	0.5879	0.0706	0.4072	0	0	1.0908
		2.95	107.55	0.004	0.8395	0.9818	0.7862	0.5103	0.2242	0.3632	0.0167	0	5.2276
		3	675.8	0.0043	1.0011	0.998	0.4194	0.6145	0	0.4286	0	0	0.1078
		3	1462.68	1e+06	1.0239	1.0229	1	1	1	1	1	1	10.8571
		2.94	50.19	0.0038	0.901	0.9735	0.832	0.1992	0.7986	0.1068	0.15	0	250.3501
		2.95	78.67	0.0033	0.8431	0.9544	0.7171	0.1529	0.8461	0.0354	0.2433	0	234.3751
		3	135.9	0.0032	0.8001	0.9434	0.6265	0.3243	0.5672	0.2148	0.1367	0	337.8201
		3	126.57	0.0031	0.8052	0.9452	0.6228	0.2834	0.5631	0.2048	0.1167	0	927.5469
	200	3	112.26	0.0038	0.8282	0.9768	0.684	0.3071	0.2839	0.3065	0.0067	0	1.8883
		3	415.93	0.0026	0.7231	0.9184	0.3004	0.6089	0.0022	0.4281	0	0	1.2097
		3	300.7	0.0027	0.7393	0.9239	0.3884	0.5264	0.0111	0.4211	0	0	5.5867
		3	640.43	0.0043	1.0004	1.0018	0.4484	0.6046	0	0.4286	0	0	0.1856
		3	1462.34	1e+06	0.9994	1.0064	1	1	1	1	1	1	8.3797
		2.98	96.32	0.0031	0.8581	0.9415	0.6954	0.1903	0.7194	0.1062	0.2167	0	267.77
		3	179.07	0.0022	0.7896	0.9027	0.4317	0.2531	0.5617	0.1483	0.0567	0	521.847
		3	310.94	0.0019	0.7468	0.8885	0.2727	0.4482	0.0928	0.3818	0.0167	0	498.8115
		3	253.78	0.0015	0.7542	0.87	0.2358	0.2975	0.2372	0.2688	0	0	1397.9889
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.38	4.89	0.0044	0.9798	0.9973	0.9861	0.2268	0.9075	0.1173	0.35	0	1.2647
		2.93	80.99	0.0042	0.8052	0.9802	0.8662	0.5641	0.3844	0.3722	0.0367	0	1.2408
		2.7	32.62	0.0043	0.9044	0.9914	0.9452	0.5691	0.6372	0.2887	0.15	0	5.0577
		3	753.6	0.0044	1.0053	0.9956	0.3571	0.6349	0	0.4286	0	0	0.0762
		3	1462.58	1e+06	1.2839	1.3236	1	1	1	1	1	1	6.8833
		2.94	40.4	0.005	0.8195	1.0129	0.8952	0.3571	0.7644	0.2351	0.09	0	510.1508
		2.48	32.02	0.0044	0.8559	0.9703	0.8901	0.1906	0.9186	0.0671	0.4467	0	236.433
		2.94	75.95	0.0039	0.7751	0.9479	0.7925	0.331	0.7678	0.1822	0.17	0	381.2694
		2.93	57.49	0.0041	0.8184	0.9618	0.8459	0.3563	0.7408	0.1894	0.17	0	1016.6351
	100	2.97	26.12	0.0045	0.8878	0.989	0.9198	0.239	0.7083	0.177	0.0567	0	1.2556
		3	225.92	0.0036	0.6999	0.9302	0.6033	0.5881	0.0447	0.4168	0	0	1.1724
		3	143.11	0.0039	0.7534	0.9552	0.7271	0.5477	0.1275	0.3842	0.0033	0	5.6139
		3	720.65	0.0043	0.9981	1.0028	0.3808	0.6238	0	0.4286	0	0	0.1212
		3	1462.62	1e+06	1.0225	1.0473	1	1	1	1	1	1	10.2435
		2.94	46.76	0.0039	0.8441	0.9319	0.8396	0.1422	0.82	0.1018	0.26	0	343.8552
		2.97	85.4	0.0034	0.7789	0.9012	0.7025	0.1783	0.8183	0.0661	0.1667	0	318.0334
		2.99	140.57	0.003	0.7447	0.8869	0.5998	0.3128	0.5494	0.2197	0.1	0	364.4963
		3	146.62	0.003	0.7352	0.8903	0.5647	0.2882	0.5142	0.1973	0.0667	0	1075.9932
	200	3	122.34	0.0035	0.742	0.9035	0.6322	0.2904	0.2439	0.3105	0	0	1.9515
		3	405	0.0025	0.6746	0.861	0.296	0.5963	0.0022	0.4275	0	0	1.2721
		3	307.15	0.0026	0.6827	0.8686	0.3736	0.5268	0.0106	0.4221	0	0	5.7526
		3	667.05	0.0043	0.9989	0.9993	0.4247	0.6091	0	0.4286	0	0	0.1816
		3	1462.39	1e+06	1.0045	1.0138	1	1	1	1	1	1	8.9912
		3	99.41	0.0032	0.7848	0.8825	0.6819	0.2202	0.5783	0.1965	0.1133	0	302.2339
		3	173.97	0.0022	0.7322	0.8434	0.4396	0.2454	0.5447	0.1375	0.04	0	556.1713
		3	303.38	0.002	0.7001	0.8306	0.2846	0.4448	0.0758	0.3883	0.0067	0	515.9627
		3	257.49	0.0015	0.7024	0.8139	0.2353	0.3059	0.2194	0.2839	0	0	1485.286
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.85	31.34	0.0063	0.6796	0.9472	0.9202	0.328	0.7181	0.2387	0.0833	0	1.5342
		3	144.02	0.0052	0.5155	0.8823	0.7658	0.6138	0.1928	0.4015	0	0	1.4925
		3	99.61	0.006	0.5858	0.9375	0.8516	0.6344	0.2761	0.3763	0.0033	0	6.743
		3	631.75	0.0057	0.9893	1.001	0.4523	0.573	0	0.4286	0	0	0.0778
		3	1462.74	1e+06	1.6151	1.6017	1	1	1	1	1	1	7.5468
		2.5	33.25	0.0057	0.649	0.7953	0.8846	0.1502	0.8683	0.1743	0.1933	0	817.0135
		2.39	56.9	0.0053	0.6033	0.7692	0.8245	0.29	0.8958	0.1349	0.33	0	268.6435
		2.85	88.24	0.0046	0.567	0.756	0.7478	0.3193	0.7867	0.1996	0.1333	0	370.5004
		2.71	81.96	0.0049	0.5794	0.7703	0.774	0.3466	0.7553	0.2457	0.1533	0	1148.4145
	100	3	78.37	0.0046	0.5381	0.7286	0.7613	0.2599	0.4992	0.2768	0	0	1.6738
		3	229.85	0.0039	0.4869	0.7177	0.5642	0.5572	0.0528	0.4168	0	0	1.483
		3	182.46	0.0047	0.5019	0.7691	0.6606	0.5653	0.0678	0.4062	0	0	7.1531
		3	728.35	0.0057	0.9905	1.0127	0.3744	0.6194	0	0.4286	0	0	0.1144
		3	1462.62	1e+06	1.0822	1.1253	1	1	1	1	1	1	11.1935
		2.96	52.96	0.0046	0.5803	0.6904	0.8036	0.1217	0.7461	0.1719	0.0267	0	566.1929
		2.77	79.44	0.0039	0.5582	0.6558	0.7213	0.1771	0.8308	0.0712	0.1233	0	325.896
		2.95	121.48	0.0032	0.5398	0.6385	0.6217	0.2516	0.6611	0.1673	0.0333	0	412.3838
		2.93	112.87	0.0035	0.5464	0.6532	0.6427	0.2504	0.6664	0.1537	0.0467	0	1302.1045
	200	3	137.27	0.0031	0.5026	0.6129	0.5697	0.2565	0.2275	0.2968	0	0	1.9962
		3	344.33	0.0027	0.4741	0.605	0.3433	0.5556	0.0069	0.4248	0	0	1.6791
		3	282.96	0.0028	0.4713	0.6085	0.3779	0.4892	0.0161	0.4175	0	0	7.5219
		3	632.07	0.0057	0.993	1.0015	0.4516	0.5869	0	0.4286	0	0	0.1987
		3	1462.46	1e+06	1.0331	1.0342	1	1	1	1	1	1	10.3859
		3	93.57	0.0035	0.5308	0.6104	0.6602	0.1313	0.5061	0.1718	0.0033	0	426.7211
		2.93	123.13	0.0028	0.522	0.5904	0.5628	0.1605	0.655	0.1079	0.0233	0	620.3648
		3	211.78	0.0024	0.5086	0.5801	0.4281	0.3523	0.3389	0.2687	0	0	682.4754
		3	222.56	0.0021	0.4931	0.572	0.3449	0.2994	0.3042	0.2446	0	0	2253.4952

Table 27: Simulation N=20 with 4 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.76	4.07	0.0033	0.9914	1.0006	0.9919	0.3708	0.9344	0.2572	0.45	0.1708	1.1141
		3.43	43.65	0.0032	0.9091	0.995	0.9394	0.5665	0.6411	0.408	0.18	0.2183	0.971
		2.8	15.18	0.0032	0.963	0.9969	0.9776	0.4683	0.8306	0.3338	0.3467	0.1558	3.3389
		4	1135.21	0.0033	1.006	0.9967	0.2806	0.888	0	0.5714	0	0.25	0.0966
		4	1823.75	1e+06	21.7016	21.917	1	1	1	1	1	1	22.8292
		3.52	37.72	0.0037	0.8587	1.0368	0.9177	0.4267	0.7972	0.3435	0.1533	0.1767	387.0282
		2.15	21.69	0.0032	0.9269	0.997	0.9284	0.2087	0.935	0.1109	0.6033	0.0392	368.1546
		3.18	65.16	0.003	0.84	0.9816	0.8367	0.3618	0.7728	0.1967	0.2467	0.0683	600.4047
		3.25	35.52	0.0031	0.9067	0.9906	0.9168	0.4354	0.7808	0.2774	0.2567	0.0942	1588.8125
	100	3.42	9.9	0.0033	0.9756	1.0013	0.9719	0.2703	0.8517	0.2235	0.2267	0.1725	1.7274
		4	173.89	0.0029	0.7971	0.9769	0.7348	0.6364	0.1525	0.5319	0	0.25	1.7084
		3.89	95.8	0.0031	0.8691	0.9887	0.8491	0.5954	0.3381	0.4744	0.03	0.2375	8.4393
		4	880.92	0.0033	1.0013	0.9978	0.4344	0.9066	0	0.5714	0	0.25	0.1315
		4	1823.55	1e+06	1.0485	1.0462	1	1	1	1	1	1	31.6338
		3.4646	75.8889	0.0027	0.8562	0.9674	0.7564	0.2469	0.8148	0.1511	0.1145	0.1263	533.3589
		2.98	75.36	0.0025	0.845	0.957	0.7328	0.1602	0.855	0.0376	0.2667	0.0083	403.089
		3.18	134.11	0.0024	0.8016	0.9451	0.638	0.3406	0.5911	0.2293	0.15	0.045	552.7059
		3.12	122.39	0.0024	0.8135	0.9484	0.6449	0.3065	0.5672	0.2367	0.15	0.0317	1389.0176
	200	3.85	69.43	0.0031	0.8798	0.9895	0.8064	0.285	0.4883	0.333	0.0433	0.2217	2.1983
		4	410.01	0.0022	0.7319	0.9296	0.3798	0.6478	0.0092	0.568	0	0.25	1.6446
		4	284.93	0.0023	0.7549	0.9371	0.4784	0.572	0.0319	0.5508	0	0.25	7.7625
		4	784.42	0.0032	1.0006	1.0018	0.491	0.9094	0	0.5714	0	0.25	0.2439
		4	1823.31	1e+06	1.0014	1.0088	1	1	1	1	1	1	31.2588
		3.18	110.94	0.002	0.846	0.9172	0.6331	0.1861	0.8042	0.0521	0.1633	0.0475	451.1717
		3	171.22	0.0017	0.7921	0.9039	0.4438	0.2367	0.5567	0.1427	0.06	0	809.1034
		3	312.92	0.0015	0.7463	0.8895	0.2778	0.4582	0.0831	0.3949	0.0233	0	779.4907
		3	253.87	0.0011	0.7558	0.8716	0.2422	0.3024	0.2514	0.2609	0	0	2206.6293
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.59	4.07	0.0033	0.9827	0.9981	0.9895	0.2305	0.93	0.1566	0.4167	0.0917	1.1053
		3.71	72.83	0.0032	0.8227	0.9847	0.8964	0.5851	0.475	0.4405	0.0767	0.225	1.1191
		3.18	29	0.0033	0.9159	0.9929	0.9592	0.5455	0.7214	0.3858	0.25	0.1983	3.9155
		4	1006.4	0.0033	1.0078	0.9962	0.3614	0.8992	0	0.5714	0	0.25	0.104
		4	1823.74	1e+06	437.4023	438.0591	1	1	1	1	1	1	23.5075
		3.64	49.13	0.0036	0.8037	1.001	0.8739	0.4006	0.7983	0.3076	0.0967	0.1717	549.8083
		2.44	29.35	0.0033	0.8629	0.9724	0.8997	0.1931	0.9225	0.0833	0.4733	0.0208	371.6607
		3.25	72.4	0.003	0.7802	0.9524	0.8098	0.3541	0.7814	0.2182	0.18	0.0742	628.3257
		3.18	49.49	0.0031	0.8343	0.9724	0.8732	0.4106	0.7608	0.2979	0.18	0.0683	1692.4422
	100	3.59	18.87	0.0034	0.9073	0.9929	0.9431	0.2424	0.7931	0.2461	0.0833	0.1667	1.9278
		4	214.39	0.0028	0.7132	0.9405	0.6654	0.6334	0.0953	0.547	0	0.25	1.8286
		4	145.8	0.0031	0.7725	0.9651	0.7719	0.6257	0.1864	0.5188	0	0.25	9.3599
		4	936.56	0.0033	0.9987	1.003	0.3987	0.9021	0	0.5714	0	0.25	0.1328
		4	1823.57	1e+06	1.0564	1.0784	1	1	1	1	1	1	30.7821
		3.34	67.8	0.0026	0.8148	0.9073	0.7661	0.1644	0.8394	0.0999	0.1533	0.0933	676.5205
		3.02	80.94	0.0025	0.7844	0.9017	0.7125	0.1644	0.8339	0.0563	0.17	0.01	447.341
		3.02	144.49	0.0023	0.7418	0.8891	0.5992	0.334	0.4992	0.2558	0.1133	0.0075	513.4444
		3.05	133.36	0.0023	0.7495	0.8906	0.602	0.2911	0.5556	0.2226	0.1	0.0125	1513.911
	200	4	96.61	0.0028	0.7638	0.9125	0.7059	0.2797	0.38	0.3776	0	0.25	2.499
		4	409.66	0.0021	0.6787	0.8723	0.3555	0.6342	0.0075	0.568	0	0.25	1.6457
		4	300.73	0.0022	0.6929	0.8832	0.4481	0.5739	0.0308	0.5579	0	0.25	7.8673
		4	861.81	0.0033	0.9991	0.9994	0.4339	0.9027	0	0.5714	0	0.25	0.2452
		4	1823.36	1e+06	1.0074	1.0167	1	1	1	1	1	1	32.8848
		3.24	114.68	0.002	0.7904	0.8594	0.6229	0.1754	0.7708	0.0704	0.0867	0.0608	414.7811
		3	173.88	0.0017	0.733	0.843	0.439	0.2409	0.5586	0.1226	0.0367	0	784.6806
		3	303.21	0.0015	0.6997	0.8319	0.2886	0.4463	0.0842	0.3869	0.0133	0	725.6267
		3	255.68	0.0012	0.7043	0.8161	0.2474	0.3117	0.2256	0.285	0	0	2144.7606
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.57	28.06	0.0047	0.7061	0.9571	0.9346	0.355	0.7675	0.3248	0.1067	0.1983	1.435
		4	139.55	0.0041	0.5276	0.8976	0.8042	0.6626	0.2731	0.5294	0	0.25	1.4399
		3.91	86.5	0.0046	0.6132	0.955	0.8924	0.6757	0.4019	0.4994	0.0267	0.2442	5.6457
		4	807.83	0.0043	0.9946	1.0015	0.4879	0.9197	0	0.5714	0	0.25	0.1019
		4	1823.86	1e+06	3909.3925	3911.3809	1	1	1	1	1	1	21.8195
		3.08	35.62	0.004	0.653	0.77	0.8681	0.1252	0.8914	0.2404	0.1667	0.1133	722.0007
		2.47	54.67	0.0041	0.6057	0.7736	0.8346	0.2917	0.9039	0.1761	0.34	0.0267	411.9115
		3.13	88.33	0.0034	0.567	0.7548	0.7545	0.3498	0.8064	0.2727	0.1067	0.0775	608.4341
		2.84	78.82	0.0037	0.5851	0.7806	0.7892	0.3734	0.7797	0.3022	0.1833	0.0467	1870.408
	100	3.98	81.45	0.0036	0.5378	0.7446	0.7736	0.3218	0.5358	0.4144	0	0.245	2.4109
		4	233.08	0.0031	0.4893	0.7326	0.6061	0.6052	0.0969	0.551	0	0.25	2.1814
		4	202.16	0.0038	0.5057	0.793	0.6967	0.6482	0.1025	0.5462	0	0.25	11.2949
		4	956.66	0.0043	0.9937	1.0133	0.3896	0.9045	0	0.5714	0	0.25	0.1427
		4	1823.6	1e+06	1.149	1.2087	1	1	1	1	1	1	31.5853
		3.29	54.4	0.0031	0.5966	0.6599	0.7908	0.0844	0.8558	0.1647	0.14	0.0992	1064.7054
		2.95	78.87	0.003	0.5576	0.6549	0.7248	0.1835	0.8344	0.0919	0.1	0.03	496.8818
		3.18	119.44	0.0025	0.542	0.6393	0.6294	0.2645	0.6783	0.2004	0.02	0.0525	626.2084
		3.12	114.64	0.0027	0.5485	0.6537	0.6485	0.2724	0.6594	0.1898	0.0367	0.0425	1900.1544
	200	4	135.66	0.0025	0.507	0.6187	0.6006	0.301	0.2961	0.4201	0	0.25	2.5469
		4	346.12	0.0022	0.4779	0.6131	0.3959	0.5931	0.0189	0.5634	0	0.25	2.1917
		4	284.99	0.0023	0.4753	0.6222	0.4428	0.5451	0.0339	0.5509	0	0.25	9.9903
		4	823.18	0.0043	0.9947	1.0009	0.4699	0.9138	0	0.5714	0	0.25	0.245
		4	1823.33	1e+06	1.0374	1.0392	1	1	1	1	1	1	35.1638
		3.51	122.83	0.0022	0.5334	0.5934	0.5871	0.1821	0.6522	0.1536	0.0033	0.1275	865.9637
		3.18	111.42	0.0022	0.5289	0.5929	0.5989	0.1532	0.6772	0.131	0.0333	0.0625	866.579
		3.18	192.97	0.0019	0.5156	0.5823	0.4597	0.3295	0.3917	0.2659	0	0.045	1067.6126
		3.12	192.67	0.0017	0.5071	0.5778	0.4102	0.2711	0.4164	0.2096	0	0.03	3003.39

Table 28: Simulation N=20 with 2 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.67	5.33	0.0041	0.992	0.9807	0.9844	0.4134	0.8687	0.2292	0.22	0	0.9344
		1.78	23.78	0.004	0.9554	0.9782	0.9445	0.5166	0.6475	0.2872	0.135	0	0.9205
		1.71	12.38	0.0041	0.9774	0.9793	0.9706	0.5688	0.7713	0.2931	0.18	0	4.607
		2	593.9	0.0041	1.0076	0.9797	0.2432	0.686	0	0.4286	0	0	0.0735
		2	1101.78	1e+06	1.0357	1.0407	1	1	1	1	1	1	2.1724
		1.89	28.19	0.0049	0.9089	1.0116	0.927	0.5085	0.6946	0.287	0.075	0	303.8349
		0.93	12.47	0.0041	0.9642	0.9821	0.9392	0.2079	0.9192	0.0865	0.575	0	85.3481
		1.52	38.38	0.0039	0.9096	0.9756	0.8584	0.3757	0.7779	0.1667	0.265	0	107.7931
		1.66	23.28	0.004	0.9423	0.9761	0.9101	0.3836	0.8025	0.1869	0.19	0	289.6595
	100	1.84	12.78	0.0041	0.9784	0.9892	0.9494	0.3177	0.7246	0.1849	0.085	0	0.6817
		1.98	96.38	0.0037	0.8895	0.9784	0.7562	0.5828	0.1854	0.3923	0.01	0	0.7082
		1.9	48.96	0.0038	0.9253	0.9823	0.8549	0.4686	0.3958	0.3114	0.05	0	3.0304
		2	429.44	0.0041	1.0019	0.9887	0.4342	0.5838	0	0.4286	0	0	0.098
		2	1101.61	1e+06	0.9981	1.0007	1	1	1	1	1	1	2.7461
		1.83	33.73	0.0038	0.9443	0.9813	0.8612	0.3043	0.7154	0.1559	0.09	0	140.5221
		1.4	39.2	0.0035	0.9207	0.9753	0.7895	0.1623	0.8521	0.043	0.31	0	109.7734
		1.67	83.16	0.0032	0.883	0.9665	0.6806	0.3421	0.5608	0.1933	0.17	0	145.2026
		1.76	55.01	0.0034	0.9068	0.9719	0.7577	0.273	0.6312	0.1657	0.12	0	370.3922
	200	1.97	49.37	0.0038	0.9328	0.9917	0.7931	0.2828	0.4221	0.2557	0.015	0	1.0669
		2	233.42	0.0028	0.8425	0.9601	0.4149	0.6093	0.0067	0.4249	0	0	0.8663
		2	163.72	0.0029	0.8551	0.9631	0.5005	0.5216	0.0308	0.4119	0	0	3.7397
		2	372.32	0.0041	1.0009	0.9974	0.504	0.5551	0	0.4286	0	0	0.1472
		2	1101.55	1e+06	0.9925	1.001	1	1	1	1	1	1	4.009
		1.79	62.28	0.0032	0.9254	0.9704	0.72	0.2244	0.6712	0.1263	0.105	0	126.3335
		1.94	103.63	0.0023	0.88	0.95	0.4688	0.1989	0.6471	0.0712	0.03	0	201.5824
		1.98	159.32	0.0021	0.8597	0.9419	0.3563	0.354	0.3192	0.2541	0.01	0	219.8234
		1.97	125.29	0.0022	0.8673	0.945	0.4209	0.2688	0.3854	0.2121	0.015	0	572.715
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.64	5.57	0.0042	0.9798	0.9808	0.9789	0.2726	0.8612	0.1471	0.21	0	1.0558
		1.9	50.65	0.004	0.875	0.9709	0.8734	0.5417	0.4187	0.3348	0.055	0	1.0822
		1.76	22.42	0.0041	0.9421	0.9771	0.9469	0.5578	0.6525	0.2905	0.145	0	4.9109
		2	471.41	0.0041	1.0085	0.979	0.3855	0.6054	0	0.4286	0	0	0.069
		2	1101.72	1e+06	1.0551	1.0877	1	1	1	1	1	1	2.2042
		1.93	30.12	0.0051	0.8678	1.0046	0.9094	0.4561	0.7017	0.243	0.045	0	399.5136
		1.3	26.33	0.0044	0.8949	0.9733	0.8762	0.2473	0.8783	0.1047	0.405	0	95.5012
		1.7	54.17	0.0038	0.8388	0.956	0.7931	0.365	0.7246	0.1827	0.165	0	140.1402
		1.77	38.53	0.004	0.8804	0.9657	0.8547	0.3967	0.7296	0.1987	0.13	0	359.2201
	100	1.92	17.49	0.0043	0.9394	0.9882	0.9248	0.256	0.69	0.1757	0.04	0	0.759
		2	158.09	0.0035	0.7807	0.9524	0.6048	0.6037	0.0467	0.4143	0	0	0.7795
		2	97.01	0.0037	0.8221	0.9653	0.7236	0.5367	0.1529	0.3801	0	0	3.5726
		2	464.32	0.0041	0.9993	0.9943	0.3929	0.61	0	0.4286	0	0	0.0917
		2	1101.77	1e+06	0.9978	1.0254	1	1	1	1	1	1	3.2234
		1.68	34.3	0.004	0.891	0.9656	0.8421	0.2096	0.7425	0.1355	0.16	0	175.7081
		1.79	65.2	0.0034	0.8371	0.9311	0.6553	0.1751	0.7842	0.0483	0.105	0	128.7879
		1.96	112.96	0.003	0.797	0.9187	0.5369	0.3358	0.4413	0.2423	0.02	0	169.147
		1.88	91.33	0.0032	0.8149	0.9298	0.6036	0.2974	0.4963	0.2115	0.06	0	423.5076
	200	1.99	105.83	0.0038	0.8053	0.941	0.5755	0.3599	0.1637	0.3436	0.005	0	1.3696
		2	299.06	0.0025	0.7536	0.9038	0.2773	0.6248	0	0.428	0	0	0.8649
		2	222.4	0.0026	0.7619	0.9076	0.3473	0.5446	0.0075	0.4238	0	0	3.8765
		2	394.24	0.0041	0.9995	0.9951	0.4766	0.5683	0	0.4286	0	0	0.1548
		2	1101.69	1e+06	0.9978	1.0086	1	1	1	1	1	1	4.0618
		1.79	91.22	0.0034	0.8346	0.9298	0.6336	0.2932	0.4592	0.2465	0.105	0	153.4768
		2	133.43	0.002	0.7969	0.8766	0.3253	0.2118	0.5463	0.0899	0	0	248.7684
		2	192.41	0.0018	0.7794	0.8713	0.2472	0.3762	0.1954	0.3104	0	0	229.3994
		2	163.38	0.0019	0.7832	0.8744	0.284	0.3158	0.1996	0.3123	0	0	597.933
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.94	28.13	0.0073	0.6924	0.9309	0.897	0.3478	0.6658	0.2585	0.03	0	1.3394
		2	118.58	0.0056	0.562	0.8776	0.7262	0.6322	0.1567	0.4094	0	0	1.387
		1.98	80.65	0.0065	0.629	0.9231	0.8199	0.635	0.2204	0.3774	0.01	0	6.7994
		2	403.77	0.0062	0.992	0.9873	0.461	0.5586	0	0.4286	0	0	0.0821
		2	1101.8	1e+06	1.2375	1.2427	1	1	1	1	1	1	1.9834
		1.79	32.17	0.0062	0.6658	0.7979	0.8412	0.1659	0.8296	0.1742	0.115	0	687.8677
		1.66	49.95	0.0056	0.6298	0.7729	0.7738	0.305	0.8704	0.1432	0.215	0	125.5601
		1.82	74.15	0.0048	0.6023	0.7639	0.7066	0.3753	0.7388	0.2437	0.095	0	177.8182
		1.8	68.19	0.0052	0.6147	0.7848	0.7355	0.3952	0.6825	0.2647	0.105	0	520.3603
	100	2	60.26	0.005	0.5789	0.7412	0.7292	0.272	0.4729	0.2988	0	0	1.1142
		2	188.24	0.0039	0.5284	0.7351	0.5146	0.5969	0.0362	0.4236	0	0	1.0346
		2	147.59	0.0047	0.536	0.7646	0.5888	0.5644	0.0533	0.4137	0	0	4.7936
		2	481.47	0.0061	0.9916	1.006	0.3718	0.6142	0	0.4286	0	0	0.1011
		2	1101.71	1e+06	1.049	1.0937	1	1	1	1	1	1	3.9601
		1.89	35.95	0.005	0.64	0.7091	0.7961	0.0954	0.7921	0.1356	0.055	0	351.1727
		1.97	72.63	0.0036	0.5828	0.657	0.6157	0.1764	0.7975	0.0572	0.015	0	172.1196
		1.99	99.73	0.0032	0.5696	0.6554	0.5445	0.2781	0.5704	0.2058	0.005	0	208.1258
		2	91.27	0.0034	0.5717	0.6632	0.5692	0.2561	0.5475	0.2141	0	0	560.1193
	200	2	104.56	0.0034	0.5435	0.6378	0.5387	0.2909	0.205	0.3217	0	0	1.4133
		2	266.19	0.0026	0.5205	0.6345	0.3257	0.6049	0.005	0.4283	0	0	1.1663
		2	189.62	0.0028	0.5238	0.6294	0.3627	0.4739	0.0233	0.4143	0	0	5.1985
		2	405.12	0.0061	0.9937	0.9973	0.4605	0.5621	0	0.4286	0	0	0.1515
		2	1101.57	1e+06	1.0265	1.0282	1	1	1	1	1	1	4.5246
		2	80.34	0.0036	0.5631	0.6348	0.5934	0.1853	0.3958	0.2459	0	0	282.4903
		1.99	109.47	0.0025	0.5537	0.6037	0.426	0.1747	0.6087	0.0554	0.005	0	275.2886
		2	173.17	0.0021	0.5381	0.5982	0.305	0.3679	0.1721	0.3303	0	0	317.5964
		2	152.75	0.0021	0.5371	0.5984	0.3097	0.2915	0.2183	0.2904	0	0	836.8827

Table 29: Simulation N=20 with 3 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.57	5.24	0.0044	0.9777	0.9809	0.987	0.3282	0.9	0.172	0.2967	0	1.2357
		2.81	52.36	0.0042	0.8845	0.9742	0.9133	0.527	0.5297	0.3113	0.0933	0	1.1009
		2.57	22.58	0.0043	0.9383	0.9789	0.9618	0.5086	0.7353	0.294	0.2333	0	4.5562
		3	881.99	0.0044	0.996	0.9796	0.2565	0.6921	0	0.4286	0	0	0.0939
		3	1462.77	1e+06	1.6734	1.7128	1	1	1	1	1	1	7.0376
		2.91	34.9	0.0048	0.8652	1.0093	0.9153	0.3782	0.7883	0.1974	0.1633	0	378.2076
		2.32	27.22	0.0043	0.9018	0.9768	0.909	0.196	0.9217	0.0747	0.5367	0	230.1339
		3	69.89	0.0039	0.8184	0.9602	0.8159	0.3499	0.7536	0.1808	0.2167	0	351.5512
		2.95	44.69	0.0041	0.8765	0.9701	0.885	0.3653	0.7669	0.1895	0.2433	0	930.8963
	100	2.84	14.07	0.0044	0.9626	0.9896	0.957	0.2162	0.7906	0.1344	0.1733	0	1.0924
		3	197.81	0.0037	0.7675	0.9611	0.6538	0.5866	0.0703	0.4073	0	0	1.1013
		2.95	108.65	0.0039	0.8325	0.9718	0.7829	0.5103	0.2169	0.3601	0.0167	0	5.2305
		3	677.35	0.0043	0.9962	0.9889	0.4175	0.6189	0	0.4286	0	0	0.1132
		3	1462.54	1e+06	1.0144	1.014	1	1	1	1	1	1	10.4071
		2.97	51.61	0.0037	0.889	0.9628	0.8225	0.1932	0.7986	0.0973	0.1367	0	252.3021
		2.97	77.71	0.0033	0.8368	0.946	0.724	0.1618	0.8464	0.0459	0.2333	0	241.3055
		3	146.03	0.0031	0.7859	0.9343	0.6083	0.3465	0.5144	0.241	0.1267	0	339.8552
		3	130.29	0.0031	0.7977	0.9368	0.6105	0.2835	0.5261	0.2056	0.0933	0	946.2012
	200	3	120.72	0.0038	0.8146	0.9708	0.6643	0.3223	0.2556	0.3225	0.0067	0	1.9132
		3	416.16	0.0026	0.7198	0.9133	0.2983	0.6081	0.0017	0.428	0	0	1.2174
		3	302.9	0.0027	0.7346	0.9186	0.384	0.527	0.0089	0.4204	0	0	5.5809
		3	634.28	0.0043	0.9979	0.9973	0.4536	0.6039	0	0.4286	0	0	0.1999
		3	1462.36	1e+06	0.9948	1.0018	1	1	1	1	1	1	7.8052
		2.98	101.94	0.0031	0.8514	0.9375	0.6854	0.2037	0.6889	0.1198	0.21	0	267.9483
		3	172.18	0.0022	0.7891	0.8985	0.4434	0.2388	0.5606	0.1405	0.0567	0	521.1074
		3	316.26	0.002	0.742	0.884	0.2723	0.4611	0.0856	0.3953	0.0167	0	491.3917
		3	253.99	0.0015	0.751	0.8653	0.2342	0.2959	0.2461	0.2716	0	0	1395.2586
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.44	5.43	0.0044	0.9688	0.9812	0.9848	0.2462	0.9022	0.1225	0.33	0	1.2374
		2.91	82.91	0.0042	0.7925	0.9618	0.8613	0.5561	0.3778	0.3585	0.04	0	1.2014
		2.73	36.42	0.0043	0.8853	0.9741	0.9383	0.5593	0.6106	0.3235	0.13	0	5.1505
		3	756.27	0.0044	0.9976	0.9785	0.3556	0.6351	0	0.4286	0	0	0.0918
		3	1462.72	1e+06	1.3133	1.3558	1	1	1	1	1	1	7.1636
		2.89	40.77	0.0049	0.8157	0.9921	0.8935	0.33	0.7839	0.1956	0.1367	0	507.2533
		2.74	38.12	0.0044	0.8251	0.9496	0.8706	0.2093	0.9067	0.0828	0.4233	0	239.3547
		2.96	74.16	0.0039	0.7667	0.9289	0.7909	0.31	0.7764	0.1681	0.2267	0	372.9976
		2.97	63.59	0.004	0.7996	0.9395	0.8284	0.3518	0.7239	0.1965	0.15	0	1034.8132
	100	2.97	27.59	0.0045	0.8789	0.9788	0.9151	0.2488	0.6956	0.1859	0.06	0	1.2677
		3	229.68	0.0036	0.6916	0.9203	0.5981	0.5908	0.0417	0.418	0	0	1.1749
		3	146.67	0.0039	0.7452	0.9449	0.719	0.5452	0.1192	0.3903	0	0	5.6649
		3	715.19	0.0043	0.9942	0.9939	0.3866	0.6244	0	0.4286	0	0	0.1144
		3	1462.55	1e+06	1.013	1.0373	1	1	1	1	1	1	10.2582
		2.96	50.65	0.0039	0.8345	0.9239	0.8317	0.155	0.8097	0.1121	0.2433	0	338.0423
		2.98	88.71	0.0034	0.7717	0.892	0.6931	0.183	0.8106	0.0553	0.19	0	318.5305
		3	148.7	0.003	0.7344	0.8777	0.5842	0.32	0.5281	0.216	0.11	0	369.8523
		3	147.24	0.0029	0.7302	0.8804	0.561	0.2935	0.5064	0.2289	0.0867	0	1081.0102
	200	3	121.79	0.0035	0.7407	0.8974	0.6316	0.282	0.2489	0.3036	0	0	1.9767
		3	408.46	0.0025	0.671	0.8564	0.2917	0.5973	0.0019	0.4276	0	0	1.2549
		3	310.04	0.0026	0.6788	0.8637	0.3674	0.5264	0.0114	0.4218	0	0	5.7234
		3	670.3	0.0043	0.997	0.9948	0.423	0.6132	0	0.4286	0	0	0.2062
		3	1462.43	1e+06	1	1.0092	1	1	1	1	1	1	8.6311
		3	104.76	0.0032	0.7771	0.8773	0.6702	0.2363	0.5589	0.2074	0.1033	0	300.0644
		3	176.44	0.0022	0.7281	0.8394	0.4342	0.2482	0.5422	0.1444	0.0367	0	549.6762
		3	308.33	0.0019	0.6951	0.8259	0.2801	0.4507	0.0722	0.3928	0.01	0	516.4798
		3	256.2	0.0015	0.7003	0.81	0.2399	0.3049	0.2133	0.2861	0	0	1484.9817
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.85	31.17	0.0063	0.676	0.9261	0.921	0.3277	0.7222	0.2523	0.0667	0	1.5698
		3	147.6	0.0052	0.504	0.865	0.7581	0.6115	0.18	0.4009	0	0	1.5021
		3	104.04	0.006	0.5719	0.9207	0.8434	0.6347	0.2644	0.385	0.0033	0	6.7686
		3	623.3	0.0057	0.9889	0.9863	0.4595	0.5739	0	0.4286	0	0	0.0938
		3	1462.67	1e+06	1.6477	1.6491	1	1	1	1	1	1	7.0553
		2.5	33.23	0.0057	0.6449	0.7741	0.8815	0.133	0.8764	0.1711	0.2333	0	806.4482
		2.46	56.14	0.0054	0.5982	0.7601	0.8288	0.2933	0.8953	0.1409	0.35	0	269.4919
		2.91	90.98	0.0045	0.5535	0.7414	0.7426	0.331	0.7964	0.1938	0.1133	0	388.2086
		2.74	84.91	0.0049	0.5688	0.7596	0.7725	0.3639	0.7458	0.2552	0.1633	0	1171.5948
	100	3	81.01	0.0046	0.5311	0.7234	0.7543	0.2645	0.4806	0.273	0	0	1.7107
		3	232.67	0.0038	0.482	0.7096	0.5581	0.557	0.0494	0.4173	0	0	1.4737
		3	185.24	0.0047	0.4973	0.7599	0.6534	0.5632	0.0686	0.4071	0	0	7.187
		3	727.63	0.0057	0.9908	1.0052	0.3741	0.6189	0	0.4286	0	0	0.1221
		3	1462.72	1e+06	1.0768	1.1191	1	1	1	1	1	1	10.124
		2.96	53.4	0.0045	0.5749	0.68	0.801	0.1201	0.7417	0.1782	0.03	0	556.8714
		2.79	76.31	0.0039	0.5583	0.6494	0.7285	0.1662	0.8375	0.0692	0.1367	0	331.7035
		2.97	123.65	0.0032	0.535	0.6319	0.6141	0.2587	0.6494	0.1671	0.0267	0	411.5129
		2.93	116.57	0.0035	0.5407	0.6472	0.6334	0.2504	0.6381	0.1613	0.0367	0	1289.9859
	200	3	137.24	0.0031	0.5012	0.6106	0.5698	0.2552	0.2356	0.298	0	0	2.0063
		3	346.43	0.0026	0.4721	0.6019	0.3404	0.5561	0.0072	0.4252	0	0	1.6477
		3	285.56	0.0028	0.4689	0.6053	0.375	0.4917	0.015	0.4182	0	0	7.5173
		3	629.19	0.0057	0.9934	0.9977	0.4535	0.5887	0	0.4286	0	0	0.2181
		3	1462.44	1e+06	1.0287	1.0303	1	1	1	1	1	1	10.107
		3	96.14	0.0034	0.5263	0.6074	0.6534	0.1388	0.4867	0.1824	0	0	425.3452
		2.97	129.4	0.0028	0.5175	0.5891	0.554	0.1817	0.6344	0.1232	0.0233	0	610.6434
		3	221.16	0.0024	0.5049	0.5774	0.409	0.3557	0.3386	0.2592	0	0	685.8607
		3	231.79	0.002	0.4892	0.5692	0.3376	0.3152	0.2758	0.2611	0	0	2217.9142

Table 30: Simulation N=20 with 4 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.
Low	50	3	4.35	0.0033	0.9775	0.982	0.9916	0.3914	0.9283	0.289	0.3833	0.1658	1.1
		3.62	45.88	0.0032	0.8924	0.9766	0.9365	0.5666	0.62	0.44	0.1333	0.23	0.9
		2.77	15.07	0.0032	0.9516	0.9784	0.9788	0.5091	0.8386	0.3555	0.3733	0.1542	3.3
		4	1145.13	0.0033	0.9926	0.979	0.2755	0.8883	0	0.5714	0	0.25	0.0
		4	1823.79	1e+06	79.1007	79.4472	1	1	1	1	1	1	23
		3.66	39.75	0.0037	0.8409	1.0186	0.9154	0.4533	0.7939	0.3269	0.1467	0.2067	391.3
		2.25	22.84	0.0032	0.9104	0.9805	0.9235	0.1909	0.9331	0.0967	0.6133	0.0367	364.2
		3.34	67.51	0.003	0.8207	0.964	0.8322	0.3808	0.7886	0.2386	0.2467	0.105	586.4
		3.32	38.15	0.0031	0.8859	0.9737	0.9079	0.4284	0.78	0.2755	0.2667	0.1117	1620.9
	100	3.45	9.42	0.0033	0.9704	0.9908	0.9736	0.2797	0.8597	0.2418	0.2267	0.1792	1.7
		4	178.14	0.0029	0.7868	0.9679	0.7299	0.638	0.1461	0.5363	0	0.25	1.6
		3.91	101.08	0.0031	0.8567	0.9796	0.8423	0.5997	0.3169	0.4761	0.0267	0.2375	8.5
		4	883.35	0.0033	0.9944	0.9888	0.4339	0.9068	0	0.5714	0	0.25	0.1
		4	1823.63	1e+06	1.0383	1.0371	1	1	1	1	1	1	31.8
		3.41	73.05	0.0027	0.8556	0.9577	0.7633	0.2274	0.8264	0.1711	0.1567	0.1342	532.1
		3.01	75.96	0.0025	0.8369	0.9479	0.7311	0.1635	0.8497	0.0407	0.2433	0.01	398.6
		3.21	133.83	0.0024	0.7957	0.9368	0.6404	0.3479	0.5844	0.2601	0.1433	0.055	551
		3.16	120.29	0.0024	0.81	0.9393	0.6518	0.3092	0.5758	0.2295	0.1267	0.0408	1433.9
	200	3.89	70.32	0.0031	0.8749	0.9831	0.8029	0.286	0.4786	0.3329	0.03	0.2283	2.1
		4	413.91	0.0022	0.7274	0.9249	0.3761	0.6491	0.0092	0.5679	0	0.25	1.6
		4	285.73	0.0023	0.7513	0.9321	0.4765	0.5717	0.0322	0.5508	0	0.25	7.7
		4	780.79	0.0032	0.9971	0.9972	0.4936	0.9097	0	0.5714	0	0.25	0.2
		4	1823.19	1e+06	0.9968	1.0042	1	1	1	1	1	1	30.2
		3.15	106.16	0.002	0.8463	0.9134	0.6413	0.1787	0.81	0.0486	0.17	0.0392	447.7
		3	176.04	0.0016	0.7843	0.898	0.4306	0.2399	0.5336	0.1475	0.0367	0	822.4
		3	311.57	0.0015	0.7435	0.8849	0.2782	0.4558	0.0931	0.3903	0.0267	0	787.2
		3	254.74	0.0011	0.7512	0.8676	0.2394	0.303	0.2556	0.2623	0	0	2223.0
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.
Mid	50	2.56	4.01	0.0033	0.9725	0.9799	0.9896	0.2409	0.9322	0.1554	0.4333	0.0858	1
		3.7	73.64	0.0032	0.8111	0.9668	0.8961	0.5856	0.4828	0.4508	0.0767	0.2225	1.1
		3.16	32.31	0.0033	0.8955	0.9754	0.9554	0.5292	0.6931	0.3669	0.2367	0.1867	3.9
		4	1010.21	0.0033	0.9963	0.9792	0.3593	0.8994	0	0.5714	0	0.25	0.0
		4	1823.77	1e+06	1527218245.1435	1527218515.5909	1	1	1	1	1	1	22.8
		3.64	46.65	0.0037	0.7901	0.9847	0.8796	0.3813	0.8081	0.2967	0.1233	0.1825	535.6
		2.76	32.35	0.0033	0.8366	0.9523	0.8921	0.2206	0.9178	0.1071	0.47	0.0275	373
		3.22	73.65	0.003	0.7656	0.9328	0.8056	0.3582	0.765	0.2263	0.2033	0.07	616.6
		3.26	55.75	0.0031	0.8135	0.9506	0.8577	0.3959	0.7253	0.2886	0.1633	0.0742	1680.7
	100	3.59	20.12	0.0034	0.8965	0.9823	0.9391	0.2449	0.7819	0.2374	0.0733	0.1692	1.9
		4	217.63	0.0028	0.7055	0.9311	0.661	0.6342	0.0911	0.5476	0	0.25	1.8
		4	148.79	0.0031	0.7636	0.9551	0.7672	0.6266	0.1772	0.5189	0	0.25	9.2
		4	937.57	0.0033	0.993	0.9942	0.3979	0.9021	0	0.5714	0	0.25	0.1
		4	1823.5	1e+06	1.0483	1.0703	1	1	1	1	1	1	31
		3.38	68.31	0.0026	0.8071	0.898	0.7639	0.1664	0.8428	0.1132	0.14	0.1042	671.6
		3.01	79.73	0.0026	0.7822	0.8951	0.7206	0.1766	0.8331	0.0679	0.2	0.01	428.7
		3.08	146.02	0.0023	0.7352	0.8801	0.5946	0.3325	0.5092	0.2533	0.0967	0.02	5
		3.02	140.08	0.0023	0.7382	0.8825	0.5861	0.2919	0.5364	0.2143	0.0867	0.005	1476.9
	200	3.98	99.14	0.0028	0.7574	0.908	0.7001	0.2838	0.3719	0.3808	0	0.245	2.5
		4	410.87	0.0021	0.6754	0.8679	0.3542	0.6347	0.0075	0.5682	0	0.25	1.6
		4	303.42	0.0022	0.6886	0.8787	0.4454	0.5756	0.0303	0.5586	0	0.25	7.8
		4	857.59	0.0033	0.9962	0.9949	0.436	0.9025	0	0.5714	0	0.25	0.2
		4	1823.29	1e+06	1.0029	1.0123	1	1	1	1	1	1	32.5
		3.202	107.8081	0.002	0.7915	0.8551	0.6369	0.1705	0.7915	0.0616	0.0943	0.0522	413.1
		3	178.86	0.0017	0.7289	0.8391	0.4322	0.2534	0.5439	0.1256	0.04	0	783.6
		3.01	302.87	0.0015	0.6968	0.8265	0.2838	0.441	0.0872	0.3831	0.0067	0.0025	724.5
		3	255.48	0.0012	0.7011	0.8126	0.2479	0.3105	0.2217	0.2798	0	0	2129.3
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.
High	50	3.52	27.64	0.0047	0.703	0.9405	0.935	0.3437	0.7744	0.3306	0.11	0.1833	1.4
		4	141.56	0.004	0.5176	0.8802	0.799	0.6619	0.2708	0.5339	0	0.25	1.4
		3.9	91.83	0.0046	0.5961	0.9389	0.8865	0.6774	0.3883	0.5037	0.0267	0.2425	5.5
		4	806.51	0.0043	0.9912	0.9874	0.491	0.9201	0	0.5714	0	0.25	0.0
		4	1823.71	1e+06	61.2528	61.4508	1	1	1	1	1	1	23.2
		3.12	35.53	0.004	0.646	0.7554	0.8684	0.1261	0.8925	0.2202	0.1767	0.1242	717.1
		2.76	57.59	0.0041	0.5888	0.7587	0.8268	0.2959	0.8953	0.1807	0.3	0.0375	406
		3.2	87.63	0.0034	0.5597	0.7417	0.7493	0.3254	0.8303	0.2403	0.0867	0.0725	604.5
		3.05	79.06	0.0037	0.5726	0.7632	0.7869	0.3671	0.7778	0.2954	0.1467	0.0708	1840.7
	100	3.97	78.43	0.0036	0.5392	0.737	0.7784	0.3115	0.5586	0.4203	0	0.2425	2.3
		4	234.5	0.003	0.4848	0.7253	0.6039	0.6057	0.0928	0.5514	0	0.25	2.1
		4	204.18	0.0038	0.5011	0.7861	0.6924	0.6466	0.0956	0.5457	0	0.25	11.2
		4	951.09	0.0043	0.9924	1.0057	0.3923	0.9041	0	0.5714	0	0.25	0.1
		4	1823.56	1e+06	1.1354	1.1962	1	1	1	1	1	1	30.8
		3.36	57.72	0.0031	0.5878	0.653	0.7827	0.0966	0.8422	0.1787	0.1	0.105	1051
		2.96	78.14	0.0029	0.5581	0.649	0.7283	0.1779	0.8431	0.0953	0.13	0.0308	490.1
		3.22	116.37	0.0025	0.5408	0.6343	0.6387	0.2642	0.7	0.2133	0.0167	0.0575	610.3
		3.2	113.42	0.0027	0.5472	0.6479	0.6499	0.2693	0.6739	0.1832	0.0267	0.0525	1873
	200	4	141.68	0.0025	0.5013	0.6181	0.5928	0.3177	0.2714	0.4304	0	0.25	2.5
		4	348.75	0.0021	0.4754	0.6103	0.3929	0.5946	0.0181	0.5636	0	0.25	2.1
		4	287.08	0.0023	0.473	0.6191	0.4395	0.5456	0.0322	0.5512	0	0.25	9.9
		4	823.11	0.0043	0.9941	0.9972	0.4699	0.913	0	0.5714	0	0.25	0.2
		4	1823.31	1e+06	1.034	1.0357	1	1	1	1	1	1	35.3
		3.57	122.47	0.0022	0.5309	0.5913	0.589	0.1836	0.6503	0.1615	0.0033	0.1425	918.1
		3.17	117.01	0.0022	0.5234	0.5914	0.5903	0.1693	0.67	0.1355	0.0333	0.06	928.5
		3.21	195.73	0.0018	0.5131	0.5786	0.4517	0.3298	0.3869	0.2733	0	0.0525	1111.5
		3.11	200.92	0.0017	0.5018	0.575	0.397	0.2823	0.3903	0.215	0	0.0275	3026.3

Table 31: Simulation N=50 with 2 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.32	3	0.0017	0.9892	0.9955	0.9969	0.4054	0.9507	0.3326	0.395	0	2.8145
		1.57	28.85	0.0016	0.9685	0.9948	0.9827	0.5319	0.7887	0.4741	0.23	0	2.0094
		1.08	9.95	0.0016	0.9821	0.995	0.9936	0.4168	0.909	0.3183	0.495	0	7.3412
		2	4034.57	0.0017	0.9922	0.994	0.1957	0.932	0	0.7059	0	0	0.2498
		2	51.98	1e+06	0.9967	1.0125	1	1	1	1	1	1	0.2702
		1.79	49.8	0.0022	0.8969	1.0454	0.962	0.4627	0.8197	0.5136	0.185	0	3242.8472
		0.48	14.32	0.0016	0.9716	0.997	0.9708	0.096	0.973	0.08	0.765	0	985.58
		1.39	64.74	0.0016	0.9215	0.9901	0.8898	0.3245	0.91	0.2119	0.315	0	1465.5837
		1.53	23.28	0.0016	0.9633	0.9939	0.9692	0.5042	0.8833	0.3604	0.275	0	3615.1083
	100	1.56	5.46	0.0016	0.991	1.0027	0.9922	0.3382	0.9163	0.283	0.26	0	8.2792
		1.96	143.17	0.0016	0.9288	0.9989	0.8982	0.6759	0.352	0.6259	0.025	0	7.7371
		1.84	50.63	0.0016	0.9717	1.0017	0.9662	0.7116	0.6587	0.59	0.105	0	39.7128
		2	4390.83	0.0016	0.9948	1.0011	0.1247	0.9278	0	0.7059	0	0	0.2778
		2	52	1e+06	0.9953	1.0105	1	1	1	1	1	1	0.534
		1.73	65.32	0.0016	0.9388	1.0045	0.8907	0.3033	0.815	0.2905	0.14	0	4696.2534
		1.35	99.35	0.0014	0.9142	0.9902	0.7766	0.1261	0.904	0.0487	0.325	0	625.4016
		1.71	158.55	0.0013	0.8951	0.9782	0.6883	0.2308	0.807	0.1549	0.145	0	858.6344
		1.68	113.82	0.0014	0.9216	0.9845	0.7762	0.2174	0.8077	0.2288	0.16	0	2190.2203
	200	1.77	23.69	0.0016	0.9789	1.0007	0.9559	0.1909	0.7907	0.2745	0.12	0	4.4423
		2	524.65	0.0014	0.8644	0.9799	0.6189	0.7211	0.014	0.7015	0	0	4.7405
		2	320.18	0.0014	0.8901	0.9847	0.7124	0.6544	0.0603	0.6878	0	0	23.2142
		2	4314.78	0.0016	0.997	1.0003	0.1357	0.9277	0	0.7059	0	0	0.4279
		2	51.99	1e+06	0.9976	1.0056	1	1	1	1	1	1	0.9741
		1.69	89.26	0.0014	0.9518	0.9785	0.8142	0.1578	0.7943	0.1371	0.155	0	1390.5299
		1.94	263.01	8e-04	0.8745	0.9501	0.4277	0.163	0.7623	0.0339	0.03	0	1124.6427
		2	351.71	8e-04	0.8654	0.944	0.3453	0.2747	0.5137	0.3239	0	0	1499.7292
		2	289.59	9e-04	0.8746	0.951	0.4349	0.2408	0.5123	0.4043	0	0	3471.0559
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.45	3.32	0.0017	0.9817	0.997	0.9947	0.2354	0.9443	0.2101	0.335	0	2.6988
		1.92	76.17	0.0016	0.9106	0.9932	0.9501	0.6614	0.5737	0.5804	0.04	0	2.402
		1.4	20.41	0.0017	0.9624	0.9964	0.9866	0.513	0.837	0.4185	0.315	0	8.064
		2	3837.38	0.0017	0.9888	0.995	0.2355	0.9349	0	0.7059	0	0	0.2504
		2	52.54	1e+06	0.9912	1.0517	1	1	1	1	1	1	0.2967
		1.77	40.61	0.0021	0.887	1.0292	0.9558	0.4235	0.8277	0.4156	0.145	0	5049.484
		1.12	52.55	0.0017	0.8976	0.9919	0.8982	0.2148	0.9437	0.1581	0.48	0	953.9651
		1.67	105.39	0.0015	0.8513	0.9753	0.8218	0.3429	0.8653	0.2594	0.165	0	1566.4186
		1.68	47.69	0.0016	0.9179	0.9899	0.9287	0.421	0.8483	0.3621	0.17	0	3821.6466
	100	1.76	9.77	0.0017	0.9795	1.0005	0.9821	0.1894	0.8893	0.2263	0.13	0	7.7481
		2	283.06	0.0015	0.837	0.9819	0.7933	0.7136	0.1453	0.6877	0	0	7.676
		1.96	141.5	0.0016	0.9118	0.9938	0.9037	0.6955	0.3567	0.6242	0.02	0	43.6038
		2	4283.08	0.0017	0.9967	0.9994	0.1452	0.9281	0	0.7059	0	0	0.2713
		2	51.98	1e+06	0.9921	1.0288	1	1	1	1	1	1	0.5483
		1.61	51.23	0.0017	0.9126	0.9875	0.8981	0.1989	0.844	0.2831	0.205	0	5715.9569
		1.88	156.96	0.0013	0.8356	0.9394	0.6521	0.1447	0.8563	0.0531	0.06	0	773.6521
		1.99	219.86	0.0012	0.8225	0.9295	0.5734	0.2373	0.68	0.3031	0.005	0	1136.474
		1.97	189.87	0.0013	0.8454	0.9439	0.6489	0.2565	0.6587	0.3792	0.015	0	2770.5578
	200	2	103.5	0.0017	0.8755	0.9759	0.8147	0.2857	0.479	0.5079	0	0	6.2139
		2	721.72	0.0013	0.7747	0.9397	0.4803	0.7241	0.003	0.7045	0	0	4.7811
		2	460.8	0.0014	0.807	0.9539	0.6049	0.6711	0.022	0.7005	0	0	22.5855
		2	4253.71	0.0016	0.9957	0.9992	0.1502	0.9285	0	0.7059	0	0	0.4239
		2	51.98	1e+06	0.9978	1.016	1	1	1	1	1	1	0.9582
		1.52	77.21	0.0015	0.9038	0.9561	0.8402	0.1057	0.8227	0.2226	0.24	0	1708.5891
		2	335.19	8e-04	0.7995	0.8815	0.2912	0.1904	0.7127	0.0651	0	0	1273.2012
		2	427.94	7e-04	0.7891	0.8771	0.2288	0.3057	0.4093	0.4641	0	0	1594.27
		2	396.55	7e-04	0.7915	0.8845	0.2795	0.3044	0.3223	0.5702	0	0	3772.3541
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.9	34.94	0.0028	0.7917	0.9944	0.9584	0.3847	0.816	0.435	0.05	0	3.5227
		2	280.06	0.0024	0.5862	0.9462	0.8431	0.7803	0.2577	0.6965	0	0	3.6137
		1.96	144.7	0.0027	0.6956	0.992	0.9285	0.772	0.3923	0.6562	0.02	0	12.9832
		2	3614.24	0.0025	0.9543	1.004	0.2773	0.9383	0	0.7059	0	0	0.2265
		2	236.83	1e+06	1.2664	1.3148	1	1	1	1	1	1	0.2797
		1.91	105.53	0.0028	0.6426	0.8842	0.86	0.3828	0.783	0.5078	0.05	0	21035.5889
		1.53	120.16	0.0023	0.6434	0.8162	0.8099	0.3947	0.9133	0.3364	0.3	0	991.4934
		1.87	185.65	0.002	0.6068	0.797	0.7228	0.4239	0.8027	0.4932	0.07	0	1752.9475
		1.86	176.51	0.0021	0.6112	0.8188	0.7486	0.4509	0.7187	0.5707	0.07	0	4503.8001
	100	2	159.76	0.0024	0.5952	0.834	0.7948	0.4566	0.4867	0.6221	0	0	8.1785
		2	471.92	0.0019	0.5549	0.8185	0.6634	0.7268	0.062	0.6998	0	0	7.1857
		2	415.69	0.0024	0.5838	0.8839	0.7579	0.7763	0.0463	0.6977	0	0	42.1074
		2	4361.54	0.0025	0.9744	0.996	0.1271	0.93	0	0.7059	0	0	0.2796
		2	89.66	1e+06	1.022	1.086	1	1	1	1	1	1	0.5458
		1.79	87.08	0.0021	0.6629	0.7481	0.8199	0.1435	0.8473	0.2993	0.12	0	9441.3629
		1.9	160.19	0.0016	0.613	0.7043	0.6747	0.2281	0.8607	0.2081	0.07	0	849.5663
		1.99	222.15	0.0013	0.5949	0.6884	0.5912	0.283	0.7033	0.3845	0.005	0	1280.0404
		2	231	0.0014	0.5963	0.7033	0.6099	0.3401	0.574	0.5692	0	0	3670.6189
	200	2	256.86	0.0016	0.5685	0.6932	0.6491	0.4463	0.2477	0.6296	0	0	6.9285
		2	664.56	0.0013	0.5493	0.6942	0.4932	0.7083	0.01	0.7036	0	0	6.0884
		2	576.48	0.0016	0.5484	0.7287	0.532	0.6898	0.0067	0.7026	0	0	30.1952
		2	4812.7	0.0025	0.9734	0.9921	0.0357	0.925	0	0.7059	0	0	0.4501
		2	64.31	1e+06	1.0033	1.0483	1	1	1	1	1	1	0.8855
		2	125.13	0.0016	0.6151	0.6729	0.7203	0.1116	0.7047	0.3644	0	0	4357.7912
		1.98	222.25	0.0011	0.5839	0.631	0.5023	0.1434	0.7737	0.112	0.015	0	1353.549
		2	351.47	9e-04	0.5662	0.6222	0.355	0.2898	0.4207	0.44	0	0	2319.565
		2	325.04	9e-04	0.5684	0.629	0.3923	0.2813	0.3713	0.5114	0	0	5392.3835

Table 32: Simulation N=50 with 3 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.17	2.77	0.0018	0.9927	0.9956	0.9977	0.3076	0.9656	0.2889	0.4967	0	2.9349
		2.63	51.69	0.0017	0.9506	0.9943	0.9782	0.5749	0.7453	0.5569	0.1767	0	2.4819
		1.76	15.5	0.0017	0.9785	0.9951	0.9926	0.4236	0.8962	0.3285	0.4567	0	7.9615
		3	5884.46	0.0018	0.9958	0.9939	0.2157	0.9314	0	0.7059	0	0	0.3209
		3	52.99	1e+06	0.9971	1.0123	1	1	1	1	1	1	0.2276
		2.73	70.15	0.0021	0.8652	1.0477	0.9495	0.4253	0.8376	0.4477	0.2167	0	3732.384
		1.75	52.77	0.0017	0.9213	0.9928	0.923	0.1359	0.9578	0.0744	0.62	0	1408.2147
		2.94	126.2	0.0016	0.8569	0.9741	0.839	0.2647	0.9011	0.1599	0.1933	0	2694.4245
		2.85	46.31	0.0017	0.9389	0.9902	0.9499	0.3735	0.8718	0.3161	0.23	0	7106.8151
	100	2.58	6.05	0.0018	0.9902	1.003	0.9933	0.2773	0.9318	0.2291	0.3767	0	5.1204
		3	310.2	0.0017	0.8521	0.9906	0.8466	0.7027	0.1956	0.6686	0.0067	0	4.9222
		2.84	109.62	0.0017	0.9317	0.9985	0.9402	0.6222	0.4991	0.575	0.06	0	19.6617
		3	6568.11	0.0017	0.9964	1.0006	0.1249	0.9263	0	0.7059	0	0	0.3984
		3	52.98	1e+06	0.9959	1.0101	1	1	1	1	1	1	0.4563
		2.89	123.96	0.0015	0.8898	0.9794	0.8312	0.2176	0.8549	0.1779	0.2133	0	2755.4354
		2.94	189.29	0.0013	0.8384	0.951	0.7154	0.1312	0.8836	0.0316	0.22	0	1647.5295
		2.99	256.69	0.0012	0.8271	0.9403	0.6538	0.2147	0.7709	0.2173	0.1233	0	2644.119
		3	268.89	0.0013	0.8297	0.9504	0.6611	0.2646	0.6651	0.3682	0.0867	0	7301.205
	200	2.93	61.26	0.0017	0.9392	0.9971	0.9218	0.2036	0.6938	0.3358	0.0667	0	10.9639
		3	964.1	0.0014	0.7571	0.9503	0.5191	0.7142	0.0049	0.7045	0	0	9.1802
		3	582.16	0.0015	0.8174	0.9684	0.6736	0.6775	0.034	0.6977	0	0	45.0075
		3	6551.52	0.0017	0.9979	1	0.1253	0.925	0	0.7059	0	0	0.6376
		3	53	1e+06	0.9979	1.0055	1	1	1	1	1	1	0.9973
		3	153.07	0.0013	0.8993	0.9401	0.7687	0.1306	0.8576	0.0708	0.24	0	2903.3602
		3	477.27	8e-04	0.7751	0.8915	0.3627	0.2314	0.6511	0.179	0.0067	0	3633.6638
		3	715.85	8e-04	0.7613	0.8917	0.3289	0.4441	0.2169	0.5999	0.06	0	3677.5441
		3	622.99	6e-04	0.7568	0.8694	0.2243	0.286	0.37	0.5403	0	0	10879.4654
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.12	3.29	0.0018	0.9857	0.9981	0.9962	0.1713	0.9582	0.1675	0.4633	0	2.614
		2.97	136.01	0.0017	0.8554	0.9901	0.9438	0.705	0.5207	0.6219	0.0267	0	3.1146
		2.26	39.12	0.0018	0.9404	0.9956	0.9834	0.5538	0.7878	0.4622	0.26	0	8.9499
		3	5891.82	0.0018	0.9929	0.9947	0.2153	0.933	0	0.7059	0	0	0.3159
		3	53.58	1e+06	0.9949	1.0523	1	1	1	1	1	1	0.2265
		2.7	69.47	0.002	0.846	1.0163	0.9333	0.364	0.8611	0.4449	0.1867	0	6698.9194
		2.59	81.23	0.0018	0.8459	0.9641	0.8919	0.2291	0.9476	0.1647	0.5	0	1367.3521
		2.98	157.89	0.0016	0.7944	0.9478	0.8208	0.3309	0.8576	0.2798	0.24	0	2857.3542
		2.86	100.99	0.0017	0.8576	0.9709	0.8906	0.3835	0.8287	0.398	0.2233	0	7501.8422
	100	2.8	17.38	0.0018	0.9595	1	0.9782	0.1953	0.8851	0.2397	0.1767	0	5.1282
		3	446.4	0.0016	0.7565	0.9622	0.7766	0.7103	0.1173	0.6921	0	0	5.2512
		2.94	219.54	0.0017	0.8472	0.9867	0.8893	0.6873	0.2789	0.6411	0.02	0	21.1803
		3	6654.73	0.0018	0.9979	0.9983	0.1127	0.9268	0	0.7059	0	0	0.398
		3	53	1e+06	0.9941	1.0287	1	1	1	1	1	1	0.4529
		2.92	94.73	0.0016	0.8604	0.9392	0.8641	0.1258	0.8804	0.2229	0.32	0	4116.2123
		3	197.02	0.0013	0.7881	0.8992	0.7073	0.1422	0.8778	0.055	0.2067	0	1888.0684
		3	291.28	0.0012	0.7664	0.8865	0.6229	0.2404	0.7136	0.2849	0.11	0	2673.454
		3	336.49	0.0012	0.7491	0.8902	0.5761	0.2688	0.5982	0.457	0.0433	0	7753.0064
	200	3	160.87	0.0016	0.8012	0.934	0.7984	0.267	0.4782	0.5101	0	0	12.2344
		3	979.14	0.0013	0.7012	0.8991	0.4893	0.7014	0.0033	0.7043	0	0	8.8201
		3	718.67	0.0014	0.7364	0.9295	0.6133	0.6915	0.0136	0.7015	0	0	42.251
		3	6724.69	0.0017	0.9957	0.9979	0.1018	0.9261	0	0.7059	0	0	0.6278
		3	53	1e+06	0.9983	1.0158	1	1	1	1	1	1	0.9548
		3	161.85	0.0014	0.8413	0.9013	0.7959	0.1398	0.8131	0.1993	0.2867	0	3931.9
		3	476.31	8e-04	0.7259	0.8405	0.3859	0.2539	0.6589	0.1608	0.0233	0	3423.8931
		3	664.9	8e-04	0.7215	0.8371	0.3637	0.4354	0.1931	0.6249	0.0333	0	3500.038
		3	604.1	6e-04	0.7114	0.8171	0.2508	0.2887	0.3636	0.5281	0	0	11067.1689
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.7	40.23	0.0025	0.7863	0.9956	0.9682	0.3604	0.8418	0.4066	0.12	0	3.6588
		3	341.36	0.0023	0.5426	0.9421	0.8708	0.7776	0.2967	0.6931	0	0	4.3167
		2.96	177.43	0.0025	0.6606	0.9878	0.9422	0.7756	0.4664	0.6553	0.0167	0	14.3004
		3	5472.72	0.0023	0.9607	1.0035	0.2701	0.9373	0	0.7059	0	0	0.3302
		3	260.27	1e+06	1.2033	1.2515	1	1	1	1	1	1	0.3993
		2.76	86.39	0.0024	0.6464	0.8553	0.9003	0.2898	0.8653	0.4709	0.0933	0	13097.9601
		2.39	133.76	0.0023	0.6294	0.809	0.8523	0.3687	0.9351	0.3202	0.41	0	1535.3386
		2.91	219.69	0.0019	0.581	0.7745	0.7632	0.3783	0.8456	0.4578	0.1167	0	2924.2088
		2.73	196.46	0.002	0.591	0.8065	0.7991	0.4072	0.8029	0.5414	0.1867	0	8151.0572
	100	3	194.57	0.0021	0.5692	0.8219	0.8228	0.4254	0.5258	0.5937	0	0	7.58
		3	582.09	0.0018	0.5135	0.8026	0.6987	0.7031	0.0918	0.6987	0	0	6.3349
		3	454.48	0.0023	0.543	0.8915	0.8027	0.7504	0.092	0.6947	0	0	29.2989
		3	6451.26	0.0023	0.9762	0.9942	0.1385	0.9294	0	0.7059	0	0	0.4175
		3	94.59	1e+06	1.0178	1.0837	1	1	1	1	1	1	0.4884
		2.76	113.46	0.002	0.6248	0.7422	0.8466	0.1722	0.814	0.3805	0.1067	0	6654.8256
		2.86	192.4	0.0017	0.5868	0.6917	0.7427	0.239	0.886	0.1924	0.1467	0	1777.2787
		2.97	270.48	0.0013	0.5668	0.6634	0.6506	0.2463	0.7931	0.2916	0.0167	0	2729.5854
		2.97	266.08	0.0015	0.5741	0.6818	0.6702	0.28	0.7456	0.4097	0.0133	0	8165.7186
	200	3	373.36	0.0015	0.5246	0.6696	0.6512	0.441	0.2267	0.6285	0	0	12.4759
		3	837.45	0.0013	0.5081	0.6653	0.5109	0.6652	0.0178	0.7015	0	0	10.5014
		3	789.79	0.0017	0.5072	0.722	0.5797	0.6954	0.0091	0.7023	0	0	54.4647
		3	7140.47	0.0023	0.9741	0.9907	0.0454	0.9249	0	0.7059	0	0	0.6646
		3	66.56	1e+06	1.0047	1.0488	1	1	1	1	1	1	0.9216
		3	155.32	0.0015	0.5848	0.6429	0.7537	0.0773	0.7653	0.3183	0.0033	0	7657.0599
		2.95	249.36	0.0012	0.5592	0.6166	0.6251	0.1331	0.8056	0.1405	0.0533	0	3057.3916
		3	380.64	0.001	0.5478	0.6027	0.5189	0.253	0.5813	0.3297	0.0067	0	3966.4808
		3	382.87	0.0011	0.5476	0.6096	0.5022	0.2395	0.5982	0.3256	0.0033	0	13123.6437

Table 33: Simulation N=50 with 4 lags, sigma=1 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.11	1.8	0.0013	0.9943	0.9953	0.9986	0.3035	0.9796	0.3302	0.65	0.1142	3.3502
		3.15	46.36	0.0013	0.9551	0.9945	0.983	0.5765	0.7984	0.5644	0.25	0.1958	2.8301
		2.15	12.1	0.0013	0.9831	0.9948	0.9953	0.4332	0.928	0.3577	0.52	0.1333	8.7038
		4	7619.17	0.0013	0.9962	0.9939	0.2019	0.9468	0	0.7794	0	0.25	0.4737
		4	53.99	1e+06	0.9968	1.0126	1	1	1	1	1	1	0.2293
		3.48	93.82	0.0017	0.8309	1.0642	0.9457	0.5095	0.8342	0.558	0.2	0.2058	4269.0396
		1.57	45.76	0.0013	0.9308	0.9938	0.9338	0.106	0.9649	0.0557	0.6733	0.005	1842.6251
		3.16	123.26	0.0012	0.858	0.9751	0.844	0.2663	0.9069	0.1889	0.2033	0.0533	3592.0408
		3.2	38.37	0.0013	0.9483	0.9905	0.9606	0.4447	0.8967	0.375	0.3167	0.1033	9315.2912
	100	2.85	4.26	0.0013	0.9924	1.0026	0.9954	0.2534	0.9504	0.2389	0.4367	0.0933	5.604
		3.99	280.26	0.0013	0.865	0.9935	0.8786	0.7371	0.2896	0.7325	0.0067	0.2475	5.5904
		3.81	86.53	0.0013	0.943	0.9997	0.9575	0.6461	0.6173	0.6265	0.0667	0.235	19.9302
		4	8462.03	0.0013	0.9965	1.0005	0.1127	0.9422	0	0.7794	0	0.25	0.6049
		4	54	1e+06	0.9961	1.0101	1	1	1	1	1	1	0.5417
		3.43	209.83	0.0011	0.8435	0.9643	0.7275	0.2325	0.8544	0.2298	0.1667	0.1225	3388.2697
		2.96	186.12	0.001	0.8392	0.9528	0.7201	0.1293	0.8838	0.0376	0.2133	0.005	2161.0624
		3.04	270.09	9e-04	0.8224	0.9427	0.6595	0.2467	0.7551	0.2213	0.1333	0.01	4012.2316
		3.08	222.14	0.001	0.8515	0.9574	0.7083	0.2472	0.73	0.3069	0.1333	0.0217	10762.7532
	200	3.64	40.96	0.0013	0.956	0.9989	0.948	0.203	0.7696	0.3183	0.1033	0.185	23.3279
		4	906.64	0.0011	0.7716	0.9573	0.5871	0.7391	0.0202	0.7749	0	0.25	20.2913
		4	605.76	0.0012	0.8356	0.9758	0.7376	0.7507	0.0591	0.7667	0	0.25	111.578
		4	8390.36	0.0013	0.9976	0.9997	0.1092	0.9393	0	0.7794	0	0.25	0.8422
		4	54	1e+06	0.9979	1.0054	1	1	1	1	1	1	1.0381
		3.18	238.36	8e-04	0.8612	0.917	0.6569	0.157	0.8771	0.0539	0.1867	0.0475	6716.0459
		3	470.53	6e-04	0.7748	0.8929	0.3712	0.23	0.6482	0.1865	0.0067	0	5291.9754
		3	705.14	6e-04	0.7634	0.8923	0.3378	0.4421	0.218	0.5993	0.0533	0	5298.2892
		3	650.03	5e-04	0.754	0.8722	0.2257	0.3188	0.3264	0.5967	0	0	16073.0478
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2	2.14	0.0013	0.9899	0.9967	0.9975	0.1539	0.9709	0.1815	0.57	0.04	2.9281
		3.93	125.51	0.0013	0.8663	0.9919	0.9559	0.7359	0.5978	0.6752	0.0233	0.2325	3.5771
		3.01	35.26	0.0013	0.947	0.9961	0.9871	0.5935	0.8342	0.5286	0.25	0.1775	10.0486
		4	7634.7	0.0013	0.9936	0.9944	0.2083	0.95	0	0.7794	0	0.25	0.4451
		4	55.24	1e+06	0.9945	1.0529	1	1	1	1	1	1	0.2416
		3.44	105.77	0.0015	0.8079	1.0171	0.9035	0.3999	0.8582	0.5177	0.15	0.1775	6095.8227
		2.65	78.31	0.0013	0.8452	0.967	0.8969	0.239	0.948	0.171	0.5	0.005	1714.9735
		3.14	149.1	0.0012	0.7991	0.9498	0.8275	0.3178	0.8773	0.2631	0.2033	0.035	3657.9462
		3.08	85.27	0.0013	0.8726	0.9755	0.9097	0.4229	0.8533	0.3929	0.2067	0.0433	9831.2771
	100	3.11	12.11	0.0013	0.9679	1.0011	0.9846	0.1817	0.9144	0.2446	0.2333	0.1092	5.2847
		4	431.83	0.0012	0.7659	0.9684	0.8069	0.7401	0.1756	0.7575	0	0.25	6.085
		3.92	181.21	0.0013	0.8679	0.9912	0.9176	0.7113	0.3909	0.6914	0.02	0.245	22.1819
		4	8478.27	0.0013	0.9986	0.9987	0.1122	0.9421	0	0.7794	0	0.25	0.6103
		4	53.97	1e+06	0.9937	1.0287	1	1	1	1	1	1	0.5348
		3.34	163.38	0.001	0.8199	0.9045	0.7624	0.1374	0.886	0.2027	0.18	0.095	4476.3076
		3.01	196.95	0.001	0.7855	0.9005	0.7088	0.1443	0.8773	0.047	0.2233	0.0025	2328.7875
		3.04	286.32	9e-04	0.7688	0.888	0.6313	0.2415	0.6991	0.3361	0.11	0.01	3870.6012
		3.01	328.29	9e-04	0.7535	0.8934	0.5816	0.2601	0.642	0.4368	0.0533	0.0025	11170.9598
	200	4	139.88	0.0012	0.8139	0.9394	0.825	0.2686	0.5549	0.5428	0	0.25	22.1459
		4	969.66	0.001	0.7079	0.9073	0.5374	0.7268	0.0122	0.7746	0	0.25	17.4189
		4	788.1	0.0011	0.7463	0.9388	0.6609	0.7529	0.0276	0.7734	0	0.25	93.9477
		4	8656.51	0.0013	0.9963	0.9984	0.092	0.9407	0	0.7794	0	0.25	0.8752
		4	54	1e+06	0.9983	1.0158	1	1	1	1	1	1	1.0149
		3.0909	224.2525	8e-04	0.811	0.8624	0.6724	0.1417	0.8669	0.0382	0.1077	0.0244	7593.4491
		3	467.45	6e-04	0.7252	0.8407	0.389	0.2439	0.6576	0.1645	0.02	0	4938.0105
		3	651.75	6e-04	0.723	0.8375	0.3684	0.4291	0.1982	0.6206	0.03	0	4999.3099
		3	619.41	5e-04	0.7105	0.8197	0.2566	0.3116	0.3398	0.5795	0	0	15489.961
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.26	31.93	0.0019	0.8186	0.9989	0.9756	0.3546	0.8744	0.4211	0.1367	0.1558	3.9458
		4	336.59	0.0017	0.5512	0.95	0.8903	0.8069	0.3658	0.7611	0	0.25	5.0216
		3.86	168.3	0.0018	0.6733	0.9931	0.9536	0.7928	0.5444	0.7194	0.04	0.2383	15.8969
		4	7244.49	0.0017	0.9648	1.0035	0.2557	0.953	0	0.7794	0	0.25	0.492
		4	280.86	1e+06	1.243	1.2854	1	1	1	1	1	1	0.4583
		3.48	83.97	0.0017	0.659	0.8195	0.8914	0.2273	0.8962	0.484	0.0933	0.18	8274.623
		2.56	134.76	0.0017	0.6309	0.8135	0.8562	0.3817	0.938	0.3359	0.4067	0.0283	1958.7659
		3.26	233.87	0.0014	0.5723	0.7773	0.7621	0.4064	0.8433	0.4652	0.0833	0.0742	3857.265
		3.03	192.66	0.0015	0.5942	0.8091	0.8027	0.4073	0.8329	0.5459	0.1633	0.0692	10606.4187
	100	4	209.84	0.0016	0.5655	0.8369	0.8285	0.4824	0.542	0.6766	0	0.25	8.5874
		4	603.92	0.0014	0.5133	0.8154	0.7227	0.7362	0.1269	0.7676	0	0.25	7.2728
		4	448.47	0.0018	0.5471	0.9111	0.8373	0.7905	0.1513	0.7635	0	0.25	31.7223
		4	8361.58	0.0017	0.9793	0.9935	0.1412	0.9469	0	0.7794	0	0.25	0.6217
		4	98.55	1e+06	1.0061	1.0781	1	1	1	1	1	1	0.5723
		3.45	118.11	0.0013	0.6284	0.6935	0.8157	0.0922	0.8947	0.3871	0.0733	0.1283	6312.2275
		3.06	195.45	0.0012	0.5824	0.6888	0.7395	0.232	0.8887	0.2118	0.1333	0.04	2423.9989
		3.18	256.36	0.001	0.5728	0.666	0.6636	0.2386	0.8089	0.2839	0.0233	0.0475	4114.9375
		3.16	260.91	0.0011	0.5749	0.6837	0.6736	0.2737	0.7698	0.3978	0.0133	0.0408	11599.4612
	200	4	415.14	0.0012	0.5188	0.6806	0.6557	0.5057	0.234	0.7072	0	0.25	17.3968
		4	844.73	0.001	0.5116	0.6728	0.541	0.6885	0.0342	0.7702	0	0.25	14.8029
		4	848.13	0.0014	0.5105	0.7428	0.6219	0.7449	0.0196	0.7748	0	0.25	80.5633
		4	9264.17	0.0017	0.9745	0.9895	0.0482	0.9425	0	0.7794	0	0.25	0.8804
		4	68.24	1e+06	1.002	1.0468	1	1	1	1	1	1	0.9308
		3.65	237.18	0.001	0.5693	0.6256	0.6603	0.1534	0.7407	0.3944	0.0267	0.1625	13712.3467
		3.08	244.55	9e-04	0.5597	0.6145	0.6307	0.1282	0.8202	0.1346	0.0433	0.0275	4677.1163
		3.09	363.32	8e-04	0.5507	0.6041	0.5351	0.2513	0.6307	0.3131	0.01	0.0225	6845.0342
		3.07	362.22	8e-04	0.5531	0.6116	0.5259	0.2345	0.642	0.3198	0.0067	0.0175	19753.556

Table 34: Simulation N=50 with 2 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.25	2.78	0.0017	0.9957	0.9775	0.9973	0.3882	0.9553	0.3348	0.42	0	2.4426
		1.48	26.34	0.0016	0.9763	0.9768	0.9841	0.5062	0.7993	0.458	0.27	0	1.8744
		1.05	9.34	0.0016	0.9894	0.9773	0.9939	0.3967	0.9157	0.304	0.505	0	6.8
		2	3981.67	0.0017	0.9985	0.9765	0.2058	0.9325	0	0.7059	0	0	0.1987
		2	51.99	1e+06	0.9789	0.9945	1	1	1	1	1	1	0.2699
		1.8182	50.9495	0.0022	0.896	1.0308	0.9638	0.5017	0.8202	0.5476	0.1566	0	3046.5081
		0.43	12.38	0.0016	0.9809	0.9785	0.975	0.0905	0.976	0.0583	0.805	0	966.4118
		1.47	63.34	0.0016	0.9282	0.9728	0.8964	0.3528	0.8907	0.233	0.285	0	1427.3257
		1.59	26.03	0.0016	0.9674	0.9763	0.9658	0.523	0.8767	0.3805	0.25	0	3541.6698
	100	1.53	5.49	0.0016	0.9937	0.9936	0.9918	0.3305	0.9177	0.2879	0.275	0	8.3886
		1.9	140.4	0.0016	0.9328	0.9897	0.9006	0.6758	0.3573	0.6209	0.055	0	7.8625
		1.78	52.93	0.0016	0.9731	0.9926	0.9651	0.6589	0.648	0.5419	0.13	0	40.0479
		2	4383.41	0.0016	0.9978	0.9921	0.1273	0.9276	0	0.7059	0	0	0.2824
		2	51.99	1e+06	0.9863	1.0013	1	1	1	1	1	1	0.483
		1.74	62.15	0.0016	0.9488	0.9917	0.8985	0.2934	0.8247	0.2929	0.16	0	4803.8528
		1.34	97.49	0.0014	0.9183	0.981	0.7806	0.1187	0.9077	0.0275	0.33	0	630.2285
		1.71	143.75	0.0013	0.9043	0.9688	0.7055	0.2058	0.8353	0.1252	0.145	0	871.4412
		1.67	106.89	0.0014	0.9276	0.9762	0.7866	0.2099	0.833	0.1937	0.165	0	2215.1313
	200	1.74	22.66	0.0016	0.9812	0.9959	0.9576	0.1907	0.798	0.2779	0.135	0	4.3457
		2	527.66	0.0014	0.8648	0.9755	0.6184	0.7226	0.0113	0.7009	0	0	4.7289
		2	319.88	0.0014	0.8912	0.9804	0.7128	0.654	0.0657	0.6892	0	0	23.2028
		2	4327.64	0.0016	0.9985	0.9957	0.1343	0.9272	0	0.7059	0	0	0.3942
		2	51.97	1e+06	0.9931	1.001	1	1	1	1	1	1	0.9859
		1.66	89.27	0.0013	0.9529	0.9735	0.8143	0.1602	0.797	0.1389	0.17	0	1409.6714
		1.93	262.81	8e-04	0.8754	0.9458	0.4299	0.1657	0.759	0.0437	0.035	0	1172.1125
		2	349.09	8e-04	0.8675	0.9397	0.3502	0.276	0.501	0.3542	0	0	1485.568
		2	299.8	9e-04	0.8734	0.9462	0.4182	0.2501	0.4963	0.4385	0	0	3682.5853
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.47	3.31	0.0017	0.988	0.9804	0.9947	0.2155	0.943	0.2317	0.315	0	2.3441
		1.91	72.95	0.0016	0.92	0.9761	0.9514	0.6324	0.592	0.5977	0.055	0	2.2304
		1.27	20.61	0.0017	0.9688	0.9791	0.9863	0.471	0.8357	0.3827	0.37	0	7.4401
		2	3801.83	0.0017	0.9956	0.9779	0.2414	0.9353	0	0.7059	0	0	0.2052
		2	52.55	1e+06	0.9742	1.0339	1	1	1	1	1	1	0.2629
		1.79	48.06	0.0021	0.8916	1.0093	0.9508	0.4083	0.8363	0.4626	0.155	0	5346.495
		1.15	49.65	0.0017	0.9072	0.9749	0.9036	0.1977	0.9433	0.1442	0.45	0	949.3066
		1.71	106.46	0.0015	0.856	0.957	0.816	0.3286	0.8803	0.2428	0.15	0	1516.815
		1.7	50.48	0.0016	0.9245	0.9724	0.9261	0.4189	0.837	0.3423	0.16	0	3722.7369
	100	1.79	12.29	0.0017	0.979	0.9922	0.9791	0.2176	0.8723	0.2625	0.11	0	7.8861
		2	284.81	0.0015	0.8389	0.9732	0.7932	0.7156	0.1417	0.6881	0	0	7.7798
		1.98	146.07	0.0016	0.912	0.9848	0.9008	0.7073	0.343	0.6373	0.01	0	44.3577
		2	4271.66	0.0017	1.0001	0.9906	0.1475	0.9281	0	0.7059	0	0	0.2768
		2	51.99	1e+06	0.9834	1.0198	1	1	1	1	1	1	0.4375
		1.58	45.68	0.0017	0.9248	0.9788	0.9089	0.1831	0.857	0.2744	0.23	0	5774.5243
		1.94	160.53	0.0013	0.8345	0.93	0.6427	0.1433	0.851	0.0511	0.03	0	772.8543
		1.98	217.62	0.0012	0.8266	0.9219	0.5797	0.2438	0.6787	0.291	0.01	0	1135.0215
		1.97	184.27	0.0013	0.8515	0.9372	0.6599	0.2618	0.6617	0.3802	0.015	0	2787.5258
	200	2	100.6	0.0017	0.8789	0.9717	0.8184	0.2846	0.4863	0.5066	0	0	6.1671
		2	721.86	0.0013	0.776	0.9356	0.4811	0.7247	0.0033	0.7049	0	0	4.7163
		2	461.4	0.0014	0.8081	0.9497	0.6047	0.6713	0.0227	0.7007	0	0	22.4755
		2	4229.52	0.0016	0.9975	0.9947	0.1541	0.9285	0	0.7059	0	0	0.4068
		2	52	1e+06	0.9933	1.0115	1	1	1	1	1	1	1.0086
		1.52	77.82	0.0015	0.9053	0.9522	0.8399	0.1074	0.822	0.2266	0.24	0	1720.1562
		2	333.27	8e-04	0.8021	0.8779	0.2951	0.1899	0.7163	0.0624	0	0	1278.109
		2	426.05	7e-04	0.7909	0.8737	0.2324	0.3047	0.4023	0.4704	0	0	1573.297
		2	398.03	7e-04	0.7927	0.8802	0.2808	0.3073	0.3197	0.5674	0	0	3784.5382
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.92	32.78	0.0028	0.8074	0.9751	0.9601	0.3876	0.8207	0.4423	0.04	0	3.2036
		2	289.62	0.0025	0.5857	0.9314	0.8415	0.7834	0.2507	0.6982	0	0	3.4272
		1.96	155.97	0.0027	0.6901	0.9763	0.9255	0.7759	0.3807	0.6539	0.02	0	12.4335
		2	3632.5	0.0025	0.9638	0.9892	0.2741	0.9386	0	0.7059	0	0	0.2025
		2	241.34	1e+06	1.2262	1.2993	1	1	1	1	1	1	0.2939
		1.92	99.16	0.0028	0.6499	0.8741	0.8617	0.3743	0.7833	0.5319	0.045	0	19001.6751
		1.57	118.31	0.0023	0.6516	0.8016	0.8085	0.3881	0.9157	0.3484	0.295	0	979.3413
		1.86	184.81	0.002	0.6124	0.7839	0.721	0.4197	0.7883	0.4908	0.09	0	1720.3792
		1.86	179.59	0.0021	0.6139	0.8063	0.7476	0.4572	0.707	0.5888	0.075	0	4391.8944
	100	2	156.53	0.0024	0.5975	0.8243	0.7948	0.4565	0.4863	0.6166	0	0	8.2852
		2	474.14	0.0019	0.5568	0.812	0.6631	0.728	0.0687	0.7017	0	0	7.2345
		2	421.62	0.0024	0.5837	0.8765	0.7567	0.7788	0.0417	0.6982	0	0	42.659
		2	4363.84	0.0025	0.9793	0.9884	0.1268	0.9302	0	0.7059	0	0	0.2909
		2	91.38	1e+06	1.0142	1.078	1	1	1	1	1	1	0.4577
		1.77	83.56	0.0021	0.668	0.7416	0.8228	0.1306	0.853	0.3042	0.135	0	9472.2281
		1.94	172.05	0.0015	0.6092	0.6943	0.6604	0.2421	0.8507	0.2202	0.04	0	869.3752
		2	219.69	0.0013	0.5999	0.6828	0.5927	0.2821	0.726	0.3618	0.005	0	1298.345
		2	228.21	0.0014	0.6004	0.6943	0.607	0.3285	0.5897	0.5581	0	0	3676.247
	200	2	265.26	0.0016	0.5672	0.6913	0.6453	0.4592	0.234	0.6356	0	0	7.068
		2	665.7	0.0013	0.5507	0.6915	0.4937	0.709	0.0103	0.7036	0	0	6.1305
		2	578.68	0.0016	0.5494	0.7257	0.5318	0.6908	0.0067	0.7026	0	0	30.2148
		2	4810.38	0.0025	0.9758	0.9884	0.0368	0.925	0	0.7059	0	0	0.4231
		2	64.28	1e+06	0.9993	1.0446	1	1	1	1	1	1	0.9012
		2	127.06	0.0016	0.6158	0.67	0.7179	0.1148	0.701	0.3735	0	0	4897.7475
		1.96	222.56	0.0011	0.5863	0.6289	0.504	0.1465	0.7717	0.1146	0.02	0	1334.4404
		2	347.25	8e-04	0.5681	0.6193	0.3509	0.2756	0.4493	0.4166	0	0	2344.5572
		2	316.06	9e-04	0.5714	0.6269	0.4021	0.2707	0.3993	0.5076	0	0	5318.0625

Table 35: Simulation N=50 with 3 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.12	2.78	0.0018	0.9835	0.9778	0.9978	0.3103	0.9684	0.3139	0.5	0	2.8445
		2.58	56.8	0.0017	0.937	0.9763	0.9758	0.5814	0.7224	0.5604	0.1767	0	2.5022
		1.89	16	0.0017	0.9688	0.9771	0.9924	0.4622	0.8933	0.3665	0.4367	0	7.7869
		3	5887.17	0.0018	0.9865	0.9763	0.2164	0.932	0	0.7059	0	0	0.3038
		3	53	1e+06	0.9792	0.9941	1	1	1	1	1	1	0.2403
		2.69	67.79	0.0021	0.8607	1.0229	0.9484	0.4076	0.8518	0.4819	0.24	0	4095.4309
		1.91	55.3	0.0017	0.9097	0.973	0.9181	0.1297	0.9567	0.0736	0.62	0	1370.6937
		3	135.71	0.0015	0.8381	0.9556	0.8256	0.257	0.8978	0.1483	0.1867	0	2651.5219
		2.93	48.11	0.0017	0.9287	0.9719	0.9498	0.4044	0.8616	0.3469	0.26	0	6990.246
	100	2.55	6.1	0.0018	0.985	0.9938	0.993	0.2574	0.932	0.2188	0.38	0	5.0793
		3	317.21	0.0017	0.8444	0.9811	0.8427	0.7073	0.1927	0.6761	0.0033	0	4.9837
		2.86	114.09	0.0017	0.9246	0.9892	0.9375	0.6258	0.4884	0.5782	0.0533	0	19.8129
		3	6568.18	0.0017	0.9916	0.9916	0.1253	0.9263	0	0.7059	0	0	0.3909
		3	53	1e+06	0.9868	1.0009	1	1	1	1	1	1	0.5288
		2.94	134	0.0015	0.8779	0.9673	0.8166	0.2212	0.8471	0.197	0.1967	0	2777.4487
		2.99	196.57	0.0013	0.8284	0.9407	0.7053	0.1401	0.8787	0.0367	0.2033	0	1646.8217
		3	278.87	0.0012	0.8127	0.9302	0.6413	0.24	0.7378	0.2419	0.1433	0	2669.7481
		3	282.72	0.0012	0.8176	0.9385	0.6344	0.2464	0.6789	0.3679	0.0833	0	7257.2991
	200	2.93	67.28	0.0017	0.9308	0.9916	0.9152	0.2187	0.6747	0.3577	0.0633	0	11.1319
		3	972.28	0.0014	0.7527	0.9453	0.5141	0.7136	0.0053	0.7046	0	0	9.1636
		3	590.01	0.0015	0.8128	0.9634	0.6694	0.6776	0.0318	0.698	0	0	45.2573
		3	6527.41	0.0017	0.9953	0.9955	0.1289	0.9251	0	0.7059	0	0	0.5829
		3	52.99	1e+06	0.9933	1.0009	1	1	1	1	1	1	1.0197
		3	152.48	0.0013	0.8968	0.9358	0.7682	0.1242	0.864	0.0646	0.23	0	2882.2345
		3	474.82	7e-04	0.7705	0.8871	0.3597	0.2261	0.6431	0.1893	0.01	0	3613.6781
		3	684.06	8e-04	0.7636	0.8878	0.3411	0.435	0.2171	0.6018	0.0533	0	3712.1438
		3	630.79	6e-04	0.7516	0.8644	0.2184	0.2908	0.3653	0.5475	0	0	10939.6875
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.3	3.91	0.0018	0.9762	0.9803	0.9958	0.2374	0.9547	0.1881	0.4033	0	2.6632
		2.94	144.49	0.0017	0.8399	0.9725	0.9395	0.7122	0.5056	0.6165	0.03	0	3.1244
		2.36	42.91	0.0018	0.9287	0.9784	0.982	0.5813	0.7722	0.4727	0.23	0	8.969
		3	5959.48	0.0018	0.985	0.9776	0.2058	0.9324	0	0.7059	0	0	0.3013
		3	53.59	1e+06	0.9773	1.0342	1	1	1	1	1	1	0.2725
		2.76	80.65	0.0021	0.8209	0.9979	0.9224	0.3774	0.8498	0.4704	0.1533	0	6960.7612
		2.63	80.03	0.0018	0.8417	0.9455	0.8953	0.2417	0.9496	0.1664	0.54	0	1365.2116
		3	163.34	0.0016	0.7795	0.9288	0.8115	0.3154	0.862	0.2853	0.24	0	2797.4
		2.97	116.5	0.0016	0.8322	0.9493	0.8659	0.3701	0.8293	0.3864	0.1867	0	7213.6618
	100	2.78	17.69	0.0018	0.955	0.9903	0.9779	0.1943	0.8818	0.2387	0.17	0	5.23
		3	458.98	0.0016	0.7474	0.9525	0.7715	0.7117	0.1073	0.6923	0	0	5.3022
		2.97	226.76	0.0017	0.8386	0.9771	0.8849	0.6929	0.2656	0.6491	0.01	0	21.3419
		3	6666.57	0.0018	0.9939	0.9894	0.1113	0.9263	0	0.7059	0	0	0.4095
		3	52.97	1e+06	0.9852	1.0195	1	1	1	1	1	1	0.5604
		2.96	98.95	0.0016	0.8544	0.9254	0.8584	0.112	0.8896	0.2009	0.34	0	4116.6836
		3	208.16	0.0013	0.7791	0.8893	0.6946	0.1501	0.8722	0.0482	0.2167	0	1853.761
		3	308.27	0.0012	0.7555	0.8778	0.6103	0.2501	0.6878	0.3219	0.1	0	2678.3018
		3	337.49	0.0011	0.7427	0.8778	0.5646	0.2486	0.6209	0.4468	0.04	0	7764.0751
	200	3	160.14	0.0016	0.7991	0.9276	0.797	0.2623	0.4811	0.5083	0	0	12.292
		3	987.11	0.0013	0.6972	0.8942	0.4855	0.7016	0.0042	0.7047	0	0	8.6742
		3	722.73	0.0014	0.7326	0.9244	0.6103	0.6906	0.0142	0.702	0	0	41.8658
		3	6689.34	0.0017	0.9937	0.9935	0.1061	0.9261	0	0.7059	0	0	0.5767
		3	52.99	1e+06	0.9938	1.0112	1	1	1	1	1	1	1.2579
		3	168.1	0.0014	0.8316	0.8977	0.7902	0.1599	0.7918	0.2336	0.2667	0	3877.6131
		3	462.69	8e-04	0.7257	0.837	0.4022	0.2534	0.6649	0.1634	0.0233	0	3310.4877
		3	673.6	8e-04	0.7167	0.833	0.3497	0.4296	0.2013	0.6192	0.0333	0	3471.4035
		3	605.54	6e-04	0.7078	0.813	0.2441	0.2835	0.3744	0.5232	0	0	10963.1062
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.74	40.9	0.0025	0.7804	0.9764	0.9676	0.3819	0.8422	0.4266	0.11	0	3.742
		3	353.11	0.0023	0.5325	0.9257	0.8648	0.7732	0.2927	0.694	0	0	4.2184
		2.97	192.24	0.0025	0.6398	0.9722	0.9376	0.7816	0.4356	0.665	0.0133	0	14.026
		3	5527.82	0.0023	0.9595	0.988	0.2632	0.937	0	0.7059	0	0	0.3148
		3	263.9	1e+06	1.253	1.3112	1	1	1	1	1	1	0.4019
		2.78	98.7	0.0025	0.6303	0.849	0.8949	0.3065	0.8482	0.4878	0.09	0	11925.0514
		2.47	133.47	0.0023	0.6238	0.7947	0.8525	0.3658	0.9344	0.3269	0.4133	0	1499.5524
		2.91	231.12	0.0019	0.5693	0.762	0.7633	0.3979	0.8136	0.4721	0.1067	0	2922.9649
		2.77	213.32	0.002	0.5779	0.79	0.7874	0.4198	0.7969	0.5435	0.1533	0	8010.1079
	100	3	201.97	0.0021	0.5604	0.8118	0.8166	0.4302	0.508	0.5919	0	0	7.5557
		3	588.13	0.0018	0.509	0.7938	0.6951	0.7026	0.0918	0.6993	0	0	6.3582
		3	457.8	0.0023	0.5402	0.8824	0.8008	0.7497	0.0858	0.6928	0	0	29.4197
		3	6489.41	0.0023	0.9759	0.9864	0.1331	0.9287	0	0.7059	0	0	0.4148
		3	95.22	1e+06	1.0088	1.0746	1	1	1	1	1	1	0.5707
		2.71	113.28	0.002	0.6214	0.7336	0.8451	0.1641	0.8127	0.3725	0.12	0	6634.89
		2.89	198.27	0.0016	0.5771	0.6819	0.7334	0.2265	0.8831	0.2064	0.1367	0	1792.0368
		3	275.66	0.0013	0.5632	0.6587	0.6475	0.2469	0.7833	0.2902	0.0133	0	2725.6185
		3	265.58	0.0015	0.5716	0.6769	0.6734	0.2809	0.7449	0.3869	0.0233	0	8130.5412
	200	3	380.33	0.0015	0.5211	0.6668	0.6477	0.4456	0.2162	0.6311	0	0	12.4396
		3	844.32	0.0013	0.5057	0.6617	0.5072	0.6653	0.0162	0.7014	0	0	10.5117
		3	791.74	0.0017	0.5054	0.7175	0.577	0.6942	0.0082	0.7023	0	0	54.1175
		3	7143.81	0.0023	0.974	0.9869	0.0452	0.9249	0	0.7059	0	0	0.592
		3	67.16	1e+06	1.0007	1.0448	1	1	1	1	1	1	0.9243
		3	157.84	0.0015	0.582	0.6393	0.7509	0.0776	0.7573	0.3171	0.0033	0	7843.5202
		2.97	253.55	0.0012	0.5547	0.6089	0.614	0.1229	0.8022	0.1262	0.0367	0	3054.1144
		3	375.44	0.001	0.5459	0.5991	0.5196	0.2494	0.5931	0.3155	0	0	3918.4715
		3	380.64	0.001	0.5462	0.6053	0.4969	0.2318	0.6184	0.2965	0.0067	0	13189.6998

Table 36: Simulation N=50 with 4 lags, sigma=0.5 for scenario [A1/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.39	2.07	0.0013	0.9815	0.9776	0.9985	0.3388	0.9782	0.4088	0.6267	0.1542	3.3457
		3.29	51.86	0.0013	0.9383	0.9771	0.9821	0.5867	0.7871	0.6255	0.2233	0.2033	2.846
		2.27	13.42	0.0013	0.9682	0.9771	0.9949	0.4165	0.9227	0.3619	0.5	0.1525	8.5592
		4	7661.27	0.0013	0.9831	0.9764	0.1998	0.9471	0	0.7794	0	0.25	0.4656
		4	53.99	1e+06	0.9789	0.9944	1	1	1	1	1	1	0.2277
		3.49	80.1	0.0016	0.845	1.0289	0.9499	0.428	0.8673	0.5785	0.3067	0.2583	4073.1247
		1.85	46.08	0.0013	0.9158	0.9747	0.9355	0.1468	0.9627	0.0733	0.7	0.0267	1789.2752
		3.37	132.75	0.0012	0.8401	0.9582	0.844	0.3217	0.8969	0.2458	0.21	0.1183	3548.2982
		3.5	38.33	0.0013	0.938	0.9729	0.9638	0.4826	0.8878	0.4312	0.3067	0.1692	9582.387
	100	2.93	4.39	0.0013	0.9852	0.9939	0.9954	0.2703	0.9513	0.267	0.44	0.1158	5.5356
		3.99	287.88	0.0013	0.8562	0.9843	0.8763	0.7377	0.282	0.7335	0.0067	0.2475	5.5624
		3.79	91.83	0.0013	0.9332	0.9905	0.9547	0.6443	0.6031	0.6201	0.07	0.2317	19.9963
		4	8407.7	0.0013	0.9897	0.9915	0.1174	0.9421	0	0.7794	0	0.25	0.5747
		4	54	1e+06	0.987	1.0009	1	1	1	1	1	1	0.4743
		3.47	197.72	0.0011	0.8451	0.956	0.7402	0.233	0.8576	0.245	0.1733	0.1383	3281.1692
		3.04	187.03	0.001	0.8334	0.9432	0.7196	0.1365	0.8862	0.0342	0.2367	0.0117	2145.6221
		3.08	262.49	9e-04	0.8196	0.9335	0.6599	0.2313	0.7727	0.2052	0.1533	0.02	4096.6547
		3.15	243.87	0.001	0.8356	0.9463	0.6914	0.2738	0.7142	0.3324	0.1367	0.045	11150.973
	200	3.67	44.35	0.0013	0.9495	0.9942	0.9446	0.2155	0.7573	0.3397	0.0833	0.1925	23.3741
		4	916.82	0.0011	0.7668	0.9527	0.5848	0.7404	0.0198	0.7753	0	0.25	20.2188
		4	611.72	0.0012	0.8312	0.971	0.7352	0.7509	0.0613	0.7678	0	0.25	110.1916
		4	8427.21	0.0013	0.9941	0.9952	0.1048	0.9393	0	0.7794	0	0.25	0.8112
		4	54	1e+06	0.9934	1.0008	1	1	1	1	1	1	1.0318
		3.18	243.23	8e-04	0.8572	0.9126	0.6528	0.16	0.8756	0.0551	0.1833	0.0483	6696.294
		3	468.07	6e-04	0.7727	0.8892	0.3736	0.2299	0.6604	0.1656	0.02	0	5342.0826
		3	687.48	6e-04	0.7626	0.8884	0.3402	0.4278	0.2344	0.5787	0.0567	0	5361.9907
		3	648.04	5e-04	0.7509	0.8678	0.2203	0.3124	0.3349	0.5949	0	0	16094.729
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.18	2.19	0.0013	0.9785	0.98	0.9975	0.184	0.9689	0.1954	0.5467	0.0683	2.9169
		3.88	128.61	0.0013	0.8534	0.9745	0.9545	0.7263	0.596	0.6671	0.0433	0.2383	3.5243
		3.01	37.81	0.0013	0.9326	0.979	0.9864	0.5874	0.8273	0.5265	0.2633	0.1867	9.9101
		4	7635.93	0.0013	0.9827	0.9778	0.2078	0.9499	0	0.7794	0	0.25	0.4735
		4	55.22	1e+06	0.977	1.0347	1	1	1	1	1	1	0.2353
		3.43	97.52	0.0015	0.8073	0.9948	0.9085	0.3716	0.8658	0.5002	0.17	0.1875	6048.4089
		2.82	79.67	0.0013	0.8362	0.9477	0.8989	0.2591	0.9507	0.1841	0.53	0.0208	1703.8634
		3.22	152.88	0.0012	0.7865	0.9306	0.8264	0.3294	0.8704	0.2993	0.2467	0.0667	3544.0783
		3.32	94.04	0.0013	0.8536	0.9563	0.9013	0.4319	0.8653	0.4455	0.2233	0.1058	9777.8985
	100	3.08	12.85	0.0013	0.9618	0.9923	0.984	0.1759	0.9091	0.2261	0.2233	0.1008	5.2495
		4	443.34	0.0012	0.7569	0.9593	0.8039	0.7425	0.1722	0.7592	0	0.25	6.0957
		3.88	181.68	0.0013	0.8629	0.9821	0.9176	0.7049	0.3964	0.6851	0.03	0.2425	22.1053
		4	8494.98	0.0013	0.9929	0.99	0.1112	0.9422	0	0.7794	0	0.25	0.6006
		4	53.98	1e+06	0.9849	1.0197	1	1	1	1	1	1	0.4471
		3.36	161.6	0.001	0.8131	0.8969	0.7649	0.1384	0.8807	0.2191	0.1733	0.1	4365.5854
		3.07	194.66	0.001	0.7816	0.8938	0.7141	0.1465	0.8789	0.062	0.22	0.0175	2372.8211
		3.07	292.69	9e-04	0.76	0.88	0.625	0.247	0.7176	0.2978	0.1	0.0175	3880.2951
		3.09	321.16	9e-04	0.7502	0.8849	0.5908	0.2615	0.6429	0.4365	0.05	0.0225	11258.4397
	200	3.98	140.49	0.0012	0.8107	0.9344	0.8245	0.2678	0.5533	0.5406	0	0.245	22.0001
		4	973.01	0.001	0.7046	0.9028	0.5361	0.7269	0.0124	0.7746	0	0.25	17.3786
		4	788.71	0.0011	0.7433	0.934	0.6612	0.7534	0.0289	0.7737	0	0.25	93.5089
		4	8632.05	0.0013	0.9935	0.9939	0.0953	0.9407	0	0.7794	0	0.25	0.8326
		4	54	1e+06	0.9938	1.0112	1	1	1	1	1	1	1.1384
		3.1	221.27	8e-04	0.8086	0.8592	0.6752	0.1365	0.8678	0.0387	0.1067	0.0267	7498.2391
		3	478.47	6e-04	0.7203	0.8363	0.3801	0.251	0.6582	0.1755	0.01	0	4864.2324
		3	670.59	6e-04	0.7164	0.8335	0.3582	0.4406	0.18	0.6412	0.0367	0	5033.088
		3	616.3	5e-04	0.7079	0.8153	0.2533	0.3057	0.3542	0.5752	0	0	15443.9974
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.32	35.92	0.0019	0.8009	0.9834	0.9732	0.3634	0.8649	0.4246	0.1333	0.1675	4.029
		4	346.26	0.0017	0.5385	0.9337	0.8871	0.8071	0.3591	0.7615	0	0.25	4.9139
		3.88	182.28	0.0019	0.6527	0.9772	0.9506	0.7975	0.5156	0.7174	0.03	0.2425	15.6983
		4	7189.96	0.0017	0.9605	0.9887	0.2646	0.9546	0	0.7794	0	0.25	0.4744
		4	286.2	1e+06	1.2432	1.28	1	1	1	1	1	1	0.4499
		3.53	87.08	0.0017	0.6449	0.8065	0.887	0.2326	0.8907	0.4889	0.0967	0.195	8085.2585
		2.66	134.88	0.0017	0.6195	0.798	0.8521	0.3698	0.9349	0.3419	0.3867	0.0308	1928.9845
		3.39	228.56	0.0014	0.5693	0.7623	0.7654	0.398	0.8347	0.4623	0.0767	0.1017	3725.4613
		3.09	197.38	0.0015	0.5857	0.7953	0.8034	0.4206	0.8276	0.5326	0.1467	0.065	10240.2121
	100	4	214.6	0.0016	0.5589	0.8261	0.8254	0.4809	0.5484	0.6813	0	0.25	8.7137
		4	606.01	0.0014	0.5096	0.8074	0.7209	0.7351	0.1278	0.7677	0	0.25	7.292
		4	458.42	0.0018	0.5395	0.902	0.8342	0.7916	0.1436	0.7642	0	0.25	31.8572
		4	8383.19	0.0017	0.9774	0.9859	0.1373	0.9459	0	0.7794	0	0.25	0.6108
		4	100.49	1e+06	0.9986	1.0698	1	1	1	1	1	1	0.5396
		3.34	117.1	0.0013	0.6261	0.6867	0.817	0.0923	0.8982	0.3753	0.08	0.1092	6230.9124
		3.14	199.41	0.0012	0.5752	0.6833	0.7401	0.2459	0.8831	0.2406	0.1233	0.0558	2408.7597
		3.22	263.93	0.001	0.5669	0.66	0.6574	0.2415	0.804	0.2957	0.0167	0.0575	4109.0196
		3.16	257.82	0.0011	0.572	0.676	0.6715	0.2617	0.792	0.3613	0.0167	0.0408	11588.4016
	200	4	413.28	0.0012	0.5176	0.6762	0.6556	0.5055	0.2349	0.7056	0	0.25	17.5301
		4	847.25	0.001	0.5097	0.6693	0.5398	0.6883	0.0353	0.7706	0	0.25	14.7268
		4	851.82	0.0014	0.5084	0.7391	0.6203	0.7449	0.0189	0.7748	0	0.25	79.7469
		4	9265.62	0.0017	0.9736	0.9857	0.0481	0.9425	0	0.7794	0	0.25	0.8543
		4	68.88	1e+06	0.9981	1.0428	1	1	1	1	1	1	0.9375
		3.64	237.79	0.001	0.5677	0.6219	0.66	0.1541	0.742	0.3866	0.0333	0.1608	13856.1287
		3.04	242.75	9e-04	0.5582	0.6115	0.6279	0.1172	0.8156	0.132	0.05	0.0208	4771.8638
		3.13	363.08	8e-04	0.5489	0.6013	0.5294	0.2426	0.6156	0.3072	0.0067	0.0325	6763.8781
		3.05	363.92	8e-04	0.5506	0.6084	0.5179	0.2257	0.6422	0.3064	0.01	0.0125	19633.6915

Table 37: Simulation N=50 with 2 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.27	3.79	0.0012	0.9862	1	0.9939	0.3546	0.9289	0.3547	0.17	0.22	2.4183
		1.93	150.1	0.0013	0.8541	0.9909	0.9044	0.751	0.405	0.7412	0.05	0.49	2.6587
		1.5	62.99	0.0013	0.9167	0.9975	0.9604	0.6037	0.6456	0.5702	0.24	0.37	9.5505
		2	4660.36	0.0012	0.9846	0.9885	0.0512	0.95	0	0.8235	0	0.5	0.2207
		2	51.99	1e+06	0.987	1.0426	1	1	1	1	1	1	0.234
		1.72	75.93	0.0016	0.8623	1.0069	0.868	0.4249	0.7556	0.5095	0.06	0.39	11259.0838
		0.86	70.92	0.0013	0.8728	0.9741	0.8103	0.2652	0.8994	0.1601	0.15	0.005	909.7886
		1.12	125.82	0.0011	0.8308	0.9611	0.727	0.3955	0.7333	0.3074	0	0.06	1522.2941
		1.24	84.25	0.0012	0.8724	0.9815	0.8448	0.5002	0.6772	0.4509	0	0.12	3913.6985
	100	1.58	15.61	0.0013	0.9633	1.0004	0.9687	0.328	0.8417	0.4103	0.01	0.295	7.7955
		2	399.41	0.0012	0.7873	0.9647	0.6944	0.7987	0.0567	0.8127	0	0.5	7.976
		1.97	270.86	0.0013	0.8448	0.9811	0.8232	0.8157	0.1433	0.7933	0.01	0.49	46.5499
		2	4861.74	0.0012	0.9841	0.9869	0.0173	0.9489	0	0.8235	0	0.5	0.2766
		2	52	1e+06	0.998	1.0209	1	1	1	1	1	1	0.513
		1.47	125.26	0.001	0.8593	0.9417	0.6584	0.2549	0.8022	0.2724	0	0.235	6550.5088
		1	140.4	8e-04	0.8399	0.9242	0.5684	0.1973	0.8039	0.0959	0	0	806.1147
		1.11	206.45	7e-04	0.8235	0.918	0.4945	0.3417	0.5544	0.3611	0	0.055	1103.8575
		1.09	194.85	8e-04	0.8307	0.9248	0.5304	0.3641	0.4717	0.5119	0	0.045	2988.2869
	200	1.99	132.93	0.0013	0.847	0.9635	0.7422	0.4707	0.4122	0.7146	0	0.495	7.5062
		2	720.79	9e-04	0.7747	0.9243	0.409	0.7888	0.0044	0.8225	0	0.5	5.9325
		2	489.72	0.001	0.7965	0.9371	0.525	0.7501	0.0194	0.8206	0	0.5	27.5849
		2	4913.83	0.0012	0.9829	0.9865	0.006	0.9484	0	0.8235	0	0.5	0.401
		2	51.97	1e+06	0.9968	1.0126	1	1	1	1	1	1	0.9748
		1.17	241.22	6e-04	0.8358	0.9007	0.3926	0.3168	0.7206	0.171	0	0.085	2293.4126
		1.2	226.85	5e-04	0.8302	0.8892	0.3381	0.2398	0.7022	0.1135	0	0.1	1130.54
		1.41	303.35	4e-04	0.8213	0.8862	0.2907	0.3811	0.4561	0.4224	0	0.205	1606.6945
		1.3	285.46	5e-04	0.8211	0.8901	0.3104	0.3692	0.3378	0.579	0	0.15	3950.3583
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.62	45.65	0.0022	0.8207	0.9953	0.9587	0.5026	0.7828	0.5494	0.04	0.33	3.1216
		2	337.29	0.0019	0.5946	0.9287	0.8106	0.8451	0.1828	0.8086	0	0.5	3.555
		1.92	204.03	0.0022	0.6809	0.972	0.8985	0.8223	0.3094	0.7571	0.04	0.48	13.6276
		2	3557.47	0.0017	0.9749	0.9987	0.2832	0.962	0	0.8235	0	0.5	0.2086
		2	120.29	1e+06	1.0579	1.1231	1	1	1	1	1	1	0.2393
		1.72	92.66	0.0018	0.6966	0.8567	0.7852	0.3168	0.8267	0.5175	0	0.36	19318.3049
		1.02	103.97	0.0016	0.6901	0.8357	0.7738	0.4419	0.8656	0.4073	0	0.01	923.0924
		1.15	168.87	0.0014	0.6578	0.8357	0.7137	0.5362	0.565	0.5532	0	0.075	1517.7401
		1.04	154.38	0.0015	0.6609	0.8506	0.7289	0.5392	0.4328	0.5771	0	0.02	3933.6594
	100	1.97	183.51	0.0021	0.6392	0.8768	0.8084	0.6853	0.4083	0.7611	0.01	0.49	7.901
		2	591.14	0.0015	0.5674	0.8336	0.6034	0.8267	0.0272	0.8209	0	0.5	7.1384
		2	495.11	0.002	0.597	0.8767	0.7208	0.8544	0.0217	0.8205	0	0.5	41.5785
		2	3765.85	0.0017	0.9851	0.9949	0.2365	0.9598	0	0.8235	0	0.5	0.2815
		2	99.57	1e+06	1.0164	1.059	1	1	1	1	1	1	0.5363
		1.51	136.31	0.0013	0.6962	0.7854	0.6839	0.2701	0.8511	0.3715	0	0.255	10926.7292
		1.12	152.39	0.0012	0.6754	0.7767	0.6451	0.3878	0.8006	0.3448	0	0.06	732.9961
		1.56	271.62	0.0011	0.6429	0.7663	0.5416	0.5419	0.4972	0.5602	0	0.28	1262.939
		1.36	253.73	0.0011	0.6494	0.7744	0.5685	0.5429	0.3506	0.6435	0	0.18	3169.8735
	200	2	334.33	0.0014	0.6146	0.772	0.6373	0.7065	0.1989	0.798	0	0.5	7.467
		2	852.45	0.001	0.5832	0.7533	0.3922	0.8171	0.0022	0.8228	0	0.5	6.4099
		2	642.36	0.0012	0.5925	0.7714	0.4672	0.7873	0.0039	0.8222	0	0.5	31.2668
		2	4315.38	0.0017	0.9856	0.9978	0.1258	0.9545	0	0.8235	0	0.5	0.4236
		2	107.43	1e+06	1.0054	1.029	1	1	1	1	1	1	0.9275
		1.22	242.09	8e-04	0.667	0.7344	0.4438	0.3725	0.7106	0.258	0	0.11	4990.6655
		1.8	273.22	8e-04	0.6454	0.7194	0.4088	0.4395	0.6961	0.3735	0	0.4	1235.1789
		1.99	385.74	7e-04	0.6345	0.7078	0.3316	0.5429	0.4494	0.5874	0	0.495	2222.9896
		1.99	364.97	7e-04	0.6336	0.7122	0.3451	0.5358	0.3644	0.7256	0	0.495	5503.3362
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.98	270.2	0.0035	0.3203	0.7643	0.8462	0.8221	0.3489	0.7917	0	0.49	4.0879
		2	560.93	0.0027	0.2635	0.7041	0.7207	0.8708	0.075	0.8186	0	0.5	4.1586
		2	413.74	0.0035	0.2779	0.768	0.8125	0.8829	0.0789	0.8183	0	0.5	18.384
		2	978.18	0.0023	0.9296	1.033	0.8111	0.9902	0	0.8235	0	0.5	0.2062
		2	388.47	1e+06	1.8259	1.608	1	1	1	1	1	1	0.4422
		1.62	81.58	0.0022	0.4301	0.55	0.7958	0.2714	0.9011	0.5104	0	0.31	27716.6652
		1.02	112.92	0.002	0.406	0.5533	0.783	0.4817	0.8217	0.4459	0	0.01	821.2073
		1.05	175.42	0.0017	0.3864	0.5513	0.7191	0.5687	0.495	0.5714	0	0.025	1299.7696
		1.07	174.35	0.0018	0.3794	0.5716	0.7275	0.5888	0.3517	0.6088	0	0.035	3767.9174
	100	2	454.24	0.0024	0.2888	0.5512	0.7045	0.8215	0.1594	0.8153	0	0.5	6.085
		2	734.83	0.0018	0.2763	0.5234	0.5614	0.8463	0.0189	0.8216	0	0.5	6.2619
		2	594.49	0.0027	0.2811	0.5822	0.6687	0.8567	0.0172	0.8225	0	0.5	34.1035
		2	585.04	0.0022	0.9803	1.0228	0.8907	0.9943	0	0.8235	0	0.5	0.2902
		2	228.25	1e+06	1.2161	1.2467	1	1	1	1	1	1	0.7249
		1.52	106.64	0.002	0.3988	0.4609	0.7575	0.2776	0.9022	0.4359	0	0.26	19873.3829
		1.02	161.72	0.0018	0.3696	0.4673	0.7327	0.5211	0.6667	0.4782	0	0.01	657.3455
		1.44	300.14	0.0015	0.3456	0.4454	0.5935	0.6385	0.3561	0.6099	0	0.22	1403.6358
		1.23	248.51	0.0016	0.3526	0.4583	0.6266	0.6015	0.2767	0.6297	0	0.115	3542.0357
	200	2	626.11	0.0017	0.2944	0.435	0.6035	0.8231	0.0828	0.8194	0	0.5	6.7845
		2	883.21	0.0011	0.2898	0.4094	0.4223	0.8322	0.0011	0.8223	0	0.5	6.9732
		2	648.57	0.0014	0.2935	0.4217	0.4745	0.7922	0.0039	0.8217	0	0.5	35.2817
		2	96.98	0.0022	0.9715	1.0297	0.9901	0.9995	0	0.8235	0	0.5	0.4269
		2	111.57	1e+06	1.0656	1.1012	1	1	1	1	1	1	0.9202
		1.24	255.44	0.0014	0.3467	0.3994	0.5045	0.4657	0.6728	0.3332	0	0.12	11558.4911
		1.1	272.51	0.0014	0.3363	0.4064	0.5681	0.5487	0.4567	0.5535	0	0.05	993.6983
		1.6	399.73	0.0011	0.3305	0.3832	0.4219	0.6075	0.3622	0.597	0	0.3	2469.5182
		1.6	320.49	0.0012	0.3337	0.385	0.432	0.5369	0.3706	0.6019	0	0.3	5505.6443

Table 38: Simulation N=50 with 3 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.7	2.76	0.0016	0.9931	0.9995	0.9975	0.2382	0.9614	0.2765	0.49	0.1367	2.6544
		2.94	220.8	0.0016	0.7946	0.9854	0.91	0.7434	0.3851	0.7021	0.025	0.3333	3.4628
		2.53	97.32	0.0017	0.879	0.9947	0.9578	0.6384	0.6109	0.5858	0.165	0.285	10.9119
		3	6872.66	0.0016	0.9873	0.9865	0.0835	0.9338	0	0.7712	0	0.3333	0.2976
		3	52.99	1e+06	0.9888	1.0422	1	1	1	1	1	1	0.3141
		2.73	103.94	0.0018	0.8242	0.9976	0.8829	0.3629	0.828	0.421	0.105	0.235	7735.2465
		2.19	112.02	0.0015	0.8182	0.9556	0.8334	0.2202	0.9151	0.125	0.26	0.0133	1370.089
		2.9	209.51	0.0013	0.7468	0.9296	0.7271	0.3187	0.7406	0.2856	0.025	0.02	2865.1958
		2.81	157.49	0.0015	0.7934	0.9589	0.8138	0.4039	0.71	0.4188	0.055	0.0483	7745.3876
	100	2.51	18.13	0.0017	0.9569	0.9989	0.9788	0.2506	0.8751	0.3121	0.195	0.165	5.6741
		3	628.48	0.0015	0.687	0.9422	0.686	0.7432	0.0383	0.7622	0	0.3333	6.1774
		3	366.51	0.0016	0.7639	0.968	0.8162	0.7356	0.1203	0.7454	0	0.3333	26.7249
		3	7230	0.0016	0.9843	0.9843	0.0364	0.9326	0	0.7712	0	0.3333	0.4036
		3	53	1e+06	0.9997	1.0212	1	1	1	1	1	1	0.4799
		2.96	175.26	0.0012	0.8089	0.9028	0.7249	0.1797	0.8377	0.21	0.02	0.09	4708.5
		2.96	289.18	9e-04	0.7345	0.8688	0.5434	0.1914	0.7909	0.0893	0.01	0	2079.4514
		3	390.7	8e-04	0.7066	0.8491	0.4335	0.2542	0.5926	0.2652	0	0	3032.937
		3	374.5	8e-04	0.7128	0.8589	0.4676	0.273	0.4863	0.4484	0	0	8269.1642
	200	3	262.18	0.0014	0.7444	0.9234	0.7086	0.4227	0.3154	0.6711	0	0.3333	16.3427
		3	1144.62	0.001	0.6649	0.8744	0.3799	0.7233	0.0014	0.7706	0	0.3333	11.4688
		3	834.1	0.0013	0.7009	0.9045	0.5358	0.7156	0.0071	0.7695	0	0.3333	54.9454
		3	7307.39	0.0016	0.9832	0.9856	0.0238	0.932	0	0.7712	0	0.3333	0.5737
		3	52.98	1e+06	0.9974	1.0127	1	1	1	1	1	1	0.9866
		2.98	341.76	8e-04	0.7646	0.848	0.5093	0.2112	0.7051	0.2674	0.005	0.1533	4819.0357
		3	443.72	5e-04	0.7156	0.8035	0.2991	0.1929	0.6849	0.0461	0	0	2981.3605
		3	542.49	4e-04	0.7069	0.7973	0.2216	0.2661	0.4706	0.2779	0	0	4116.9297
		3	544.38	5e-04	0.7074	0.8029	0.2505	0.2968	0.29	0.5305	0	0	10920.8143
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.41	60.74	0.0026	0.7979	0.9901	0.9663	0.4495	0.804	0.4767	0.185	0.205	3.6759
		3	473.67	0.0023	0.4949	0.9018	0.8165	0.7976	0.148	0.7548	0	0.3333	4.5676
		2.97	281.06	0.0026	0.599	0.9569	0.8991	0.7961	0.2954	0.7288	0.015	0.3383	16.3705
		3	5258.27	0.0023	0.9805	0.9969	0.3005	0.9455	0	0.7712	0	0.3333	0.3045
		3	130.6	1e+06	1.0637	1.1193	1	1	1	1	1	1	0.3191
		2.83	106.6	0.0022	0.6616	0.8342	0.8612	0.2996	0.8609	0.5032	0.05	0.235	11215.7428
		2.52	164.9	0.0019	0.6125	0.7846	0.8007	0.3838	0.9017	0.3092	0.125	0.02	1494.4478
		2.98	232.81	0.0015	0.5779	0.7579	0.7174	0.3696	0.7397	0.4162	0.005	0.0267	2803.4387
		2.86	242.97	0.0017	0.5697	0.7892	0.7376	0.4384	0.5711	0.5501	0.035	0.0267	8003.0823
	100	3	280.1	0.0021	0.5532	0.8244	0.8024	0.6046	0.3711	0.7079	0	0.33	8.0868
		3	803.09	0.0018	0.4784	0.7782	0.598	0.7439	0.0197	0.7663	0	0.3333	6.6405
		3	625.01	0.0023	0.5045	0.8483	0.7174	0.7683	0.028	0.7648	0	0.3333	31.0231
		3	5603.21	0.0023	0.9876	0.9933	0.2525	0.943	0	0.7712	0	0.3333	0.4182
		3	103.11	1e+06	1.0167	1.0548	1	1	1	1	1	1	0.5191
		2.97	148.28	0.0015	0.6281	0.722	0.7861	0.2058	0.8094	0.4713	0.01	0.205	7472.6722
		3	235.15	0.0011	0.5789	0.6793	0.6503	0.2325	0.8326	0.1739	0	0.0067	1907.2125
		3	345.73	9e-04	0.5527	0.661	0.526	0.2885	0.5769	0.3103	0	0.0033	3143.1537
		3	327.92	0.001	0.5606	0.676	0.5621	0.3077	0.476	0.4558	0	0.0033	8414.2968
	200	3	539.65	0.0014	0.5124	0.6989	0.5847	0.5998	0.1166	0.7451	0	0.3333	12.8761
		3	1123.32	0.0011	0.4912	0.6656	0.3589	0.7085	0.0023	0.7702	0	0.3333	10.2705
		3	997.12	0.0015	0.4934	0.7118	0.4579	0.7225	0.0023	0.7704	0	0.3333	55.2281
		3	6385.49	0.0023	0.9857	0.9964	0.1445	0.9368	0	0.7712	0	0.3333	0.5855
		3	111.38	1e+06	1.0045	1.0288	1	1	1	1	1	1	1.0127
		3	341.1	0.001	0.5562	0.6451	0.5443	0.3091	0.5443	0.5521	0	0.3033	9917.6004
		3	330.14	7e-04	0.5523	0.6161	0.463	0.1671	0.7289	0.1392	0	0	3303.1953
		3	477.5	5e-04	0.5388	0.6044	0.3258	0.2636	0.5011	0.2602	0	0	5229.0705
		3	463.01	6e-04	0.5421	0.6122	0.3553	0.275	0.408	0.3942	0	0	13077.0533
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.97	378.06	0.0036	0.274	0.7426	0.8501	0.769	0.3451	0.7334	0.01	0.33	4.9061
		3	720.87	0.0029	0.2149	0.6661	0.7313	0.808	0.0854	0.7646	0	0.3333	4.8297
		3	530.89	0.0036	0.2231	0.7359	0.817	0.8223	0.1011	0.7612	0	0.3333	20.6159
		3	1433.89	0.003	0.9402	1.0334	0.8132	0.9711	0	0.7712	0	0.3333	0.3021
		3	450.77	1e+06	1.6911	1.6656	1	1	1	1	1	1	0.8457
		2.58	92.52	0.0028	0.4136	0.5459	0.8834	0.3018	0.8974	0.5324	0.12	0.2467	20097.7485
		1.82	138.69	0.0026	0.3724	0.5305	0.8536	0.4541	0.8803	0.4398	0.31	0.0067	1383.6281
		2.52	210.84	0.002	0.3465	0.4897	0.7738	0.4419	0.7774	0.433	0.125	0.04	2629.4489
		2.28	211.54	0.0023	0.3488	0.5305	0.7931	0.4937	0.6337	0.5502	0.19	0.03	7894.5646
	100	3	719.46	0.0027	0.2291	0.5256	0.6716	0.7458	0.118	0.7609	0	0.3333	8.1016
		3	1013.89	0.0019	0.2218	0.4619	0.5261	0.7584	0.0154	0.768	0	0.3333	7.5359
		3	776.55	0.0027	0.2244	0.5375	0.6387	0.7624	0.0197	0.7685	0	0.3333	35.1566
		3	776.01	0.003	0.9879	1.023	0.9004	0.9752	0	0.7712	0	0.3333	0.4249
		3	245.77	1e+06	1.1542	1.1762	1	1	1	1	1	1	0.9426
		2.97	230.56	0.002	0.3068	0.4246	0.764	0.4417	0.6343	0.6638	0.01	0.3283	13896.3126
		2.7	156.82	0.002	0.3332	0.4062	0.8021	0.3509	0.8471	0.3878	0.075	0.02	2033.9019
		3	307.92	0.0013	0.3051	0.3771	0.6697	0.3886	0.6469	0.4268	0	0.0533	3904.091
		2.7	271.83	0.0018	0.3217	0.4132	0.7214	0.4319	0.6034	0.4905	0.075	0.0267	9891.1517
	200	3	1441.23	0.0022	0.2088	0.4337	0.4492	0.7727	0.0297	0.7661	0	0.3333	11.5038
		3	1322.72	0.0012	0.2242	0.3395	0.3273	0.7348	0.0029	0.7702	0	0.3333	11.1138
		3	996.52	0.0014	0.2266	0.3551	0.3987	0.6907	0.0023	0.7697	0	0.3333	53.4172
		3	121.66	0.003	0.975	1.0297	0.9884	0.9798	0	0.7712	0	0.3333	0.6023
		3	115.87	1e+06	1.0438	1.0727	1	1	1	1	1	1	1.0284
		3	378.3	0.001	0.2638	0.321	0.5454	0.3788	0.4354	0.6681	0	0.32	21411.804
		3	182.78	0.0014	0.2997	0.3344	0.736	0.2626	0.7491	0.3512	0	0.0167	3837.9033
		2.98	629.39	0.001	0.2628	0.3208	0.4425	0.5206	0.2943	0.5975	0.005	0	7528.2798
		3	460.87	0.0011	0.2709	0.3274	0.5155	0.4276	0.3103	0.5835	0	0.0167	19431.7438

Table 39: Simulation N=50 with 4 lags, sigma=1 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISAR-wLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.55	1.91	0.0012	0.9968	0.9986	0.9983	0.1911	0.9729	0.2391	0.585	0.14	3.0328
		3.89	199.97	0.0012	0.8126	0.9886	0.9305	0.7613	0.4771	0.7538	0.03	0.4933	4.0003
		3.34	85.02	0.0012	0.8948	0.9961	0.9688	0.6825	0.69	0.6326	0.185	0.4217	11.8692
		4	8975.14	0.0012	0.989	0.987	0.0808	0.9493	0	0.8284	0	0.5	0.4709
		4	53.96	1e+06	0.9885	1.0429	1	1	1	1	1	1	0.2345
		3.15	105	0.0013	0.829	0.9916	0.8805	0.3647	0.8614	0.4695	0.13	0.3567	6735.6586
		2.3	110.83	0.0012	0.8193	0.9585	0.8381	0.2508	0.916	0.1551	0.245	0.0167	1726.1723
		3	211.33	0.001	0.7446	0.9338	0.7404	0.3419	0.752	0.3058	0.02	0.0483	3624.4376
		2.89	143.89	0.0011	0.8028	0.9626	0.831	0.4051	0.7229	0.4052	0.07	0.0717	10169.6338
	100	2.63	13.86	0.0012	0.9665	0.9989	0.984	0.2273	0.9	0.2934	0.26	0.1983	6.1979
		4	617.7	0.0011	0.6952	0.9502	0.729	0.7737	0.0711	0.8148	0	0.5	7.4803
		3.99	346.01	0.0012	0.7707	0.9736	0.8447	0.7594	0.1917	0.7917	0	0.4983	30.9736
		4	9448	0.0012	0.9848	0.9849	0.0369	0.9485	0	0.8284	0	0.5	0.6015
		4	53.99	1e+06	0.9993	1.021	1	1	1	1	1	1	0.5325
		3.23	173.09	9e-04	0.8126	0.8983	0.7275	0.1825	0.8611	0.2749	0.02	0.185	4696.0779
		3	293.63	7e-04	0.7312	0.8675	0.5368	0.1873	0.7863	0.0714	0	0	2795.9815
		3	389.34	6e-04	0.7062	0.8498	0.4349	0.2552	0.5803	0.2721	0	0	4315.4765
		3	385.39	6e-04	0.7074	0.8607	0.4602	0.2821	0.4666	0.4479	0	0	12206.0435
	200	3.99	242.72	0.0011	0.7571	0.933	0.7458	0.4481	0.3817	0.7047	0	0.495	25.1108
		4	1169.6	8e-04	0.6651	0.8837	0.4262	0.7492	0.0057	0.8266	0	0.5	19.239
		4	912.93	0.001	0.7061	0.9189	0.5891	0.7692	0.016	0.8255	0	0.5	102.2661
		4	9616.21	0.0012	0.9817	0.9835	0.0207	0.9481	0	0.8284	0	0.5	0.8092
		4	53.99	1e+06	0.9971	1.0124	1	1	1	1	1	1	1.0203
		3.52	359.39	6e-04	0.7612	0.8436	0.494	0.2265	0.7191	0.3202	0	0.2617	9464.3746
		3	436.56	3e-04	0.7166	0.8041	0.3075	0.1892	0.6877	0.0503	0	0	4468.4269
		3	536.63	3e-04	0.708	0.7978	0.2305	0.267	0.4717	0.2857	0	0	5648.0908
		3	550.89	3e-04	0.7072	0.8029	0.2471	0.3024	0.2943	0.5424	0	0	15092.9906
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.7	64.49	0.0019	0.8106	0.9962	0.9704	0.4444	0.818	0.4848	0.24	0.2683	3.9943
		4	471.27	0.0018	0.5014	0.9126	0.8458	0.8275	0.2169	0.8081	0	0.5	5.2714
		3.86	281.26	0.0019	0.6039	0.9643	0.9163	0.8092	0.366	0.7642	0.045	0.4933	18.1326
		4	6971.61	0.0017	0.9852	0.9964	0.2903	0.962	0	0.8284	0	0.5	0.4788
		4	137.43	1e+06	1.0473	1.1102	1	1	1	1	1	1	0.3201
		3.4	102.66	0.0015	0.6716	0.8152	0.8548	0.2646	0.8774	0.5416	0.04	0.3667	9660.2998
		2.6	166.73	0.0014	0.6127	0.7864	0.8007	0.3868	0.902	0.3141	0.125	0.0367	1897.2942
		3.05	233.48	0.0011	0.5766	0.7622	0.7246	0.3805	0.7463	0.407	0	0.0467	3549.2044
		2.89	231.87	0.0013	0.5758	0.7938	0.7438	0.4267	0.6063	0.5367	0.035	0.035	10360.6807
	100	4	291.08	0.0017	0.555	0.8399	0.8182	0.6468	0.4226	0.767	0	0.4983	9.0024
		4	826.59	0.0014	0.4778	0.7918	0.6349	0.774	0.0403	0.8207	0	0.5	7.5313
		4	629.44	0.0018	0.5011	0.8649	0.7548	0.8001	0.0571	0.8184	0	0.5	34.4697
		4	7327.21	0.0017	0.9898	0.9927	0.252	0.9597	0	0.8284	0	0.5	0.5933
		4	106.67	1e+06	1.0115	1.0495	1	1	1	1	1	1	0.5886
		3.42	141.76	0.0011	0.634	0.7116	0.7887	0.1853	0.8374	0.4786	0.005	0.3	6977.192
		3	234.03	8e-04	0.5775	0.678	0.6447	0.2261	0.8283	0.1704	0.005	0.01	2484.9846
		3.01	347.32	7e-04	0.5518	0.6617	0.5253	0.2823	0.594	0.3024	0	0.0117	4337.9976
		3.02	349.44	8e-04	0.5529	0.6775	0.5458	0.3194	0.4314	0.4835	0	0.01	11522.0651
	200	4	583.84	0.0011	0.5108	0.71	0.6061	0.643	0.1517	0.7963	0	0.5	17.7687
		4	1202.78	9e-04	0.4864	0.6751	0.3889	0.7403	0.006	0.8264	0	0.5	14.2662
		4	1097.02	0.0012	0.4895	0.7342	0.499	0.7668	0.0071	0.8271	0	0.5	77.0779
		4	8410.5	0.0017	0.9866	0.9951	0.133	0.9522	0	0.8284	0	0.5	0.8538
		4	115.32	1e+06	1.0032	1.0259	1	1	1	1	1	1	1.0208
		3.85	371.67	7e-04	0.5546	0.6448	0.5337	0.3418	0.5649	0.6209	0	0.4617	18470.1254
		3	323.43	5e-04	0.5548	0.6168	0.4728	0.1653	0.7366	0.1429	0	0	4754.28
		3.01	464.54	4e-04	0.5408	0.6057	0.3349	0.2592	0.5271	0.2568	0	0.005	7678.5204
		3	443.97	5e-04	0.5475	0.6163	0.3669	0.26	0.4409	0.3565	0	0	17554.1624
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.91	401.78	0.0027	0.285	0.7693	0.8685	0.7945	0.4049	0.7858	0.015	0.4867	5.6501
		4	795.81	0.0022	0.2097	0.6839	0.7568	0.8414	0.1189	0.8199	0	0.5	5.4184
		4	569.43	0.0027	0.2194	0.7496	0.8348	0.8494	0.1543	0.8162	0	0.5	22.0603
		4	1875.38	0.0022	0.9495	1.0342	0.8138	0.9902	0	0.8284	0	0.5	0.4903
		4	521.23	1e+06	1.9932	1.9123	1	1	1	1	1	1	1.1666
		3.09	89.75	0.0021	0.4247	0.5421	0.8897	0.3088	0.9143	0.5902	0.11	0.3617	16484.3821
		1.92	141.89	0.0019	0.3695	0.5288	0.8528	0.4558	0.8817	0.4158	0.285	0.0233	1784.0815
		2.58	219.84	0.0015	0.3416	0.4981	0.7788	0.4713	0.7623	0.4702	0.135	0.0583	3322.6996
		2.34	198.79	0.0018	0.3559	0.5393	0.8075	0.4953	0.6729	0.5525	0.195	0.0583	10897.7168
	100	4	818.33	0.0021	0.2224	0.5377	0.6777	0.7829	0.1306	0.8174	0	0.5	8.26
		4	1189.98	0.0016	0.2138	0.4796	0.5461	0.8003	0.0243	0.8246	0	0.5	8.1962
		4	853.35	0.0021	0.2156	0.55	0.6591	0.7958	0.0349	0.8241	0	0.5	36.3714
		4	1049.45	0.0022	0.993	1.023	0.8959	0.9942	0	0.8284	0	0.5	0.6259
		4	265.21	1e+06	1.1379	1.1673	1	1	1	1	1	1	0.9349
		3.8	232.65	0.0015	0.3093	0.4222	0.7714	0.4578	0.6649	0.6875	0.02	0.4633	14227.9976
		2.79	158.12	0.0015	0.3342	0.4076	0.8054	0.3573	0.8489	0.4086	0.08	0.0467	2582.8968
		3.1	347.26	0.001	0.3011	0.3793	0.6659	0.4212	0.6263	0.4646	0	0.0683	5389.8184
		2.7	253.52	0.0013	0.321	0.4117	0.7254	0.4095	0.6114	0.4595	0.085	0.0367	14267.3813
	200	4	1587.05	0.0017	0.2069	0.4419	0.4782	0.8024	0.0386	0.8228	0	0.5	14.1512
		4	1601.45	0.001	0.2156	0.3514	0.3432	0.7839	0.0046	0.8272	0	0.5	14.4872
		4	1128.02	0.0011	0.2199	0.3676	0.4169	0.7349	0.0086	0.8267	0	0.5	67.0762
		4	143.91	0.0022	0.9779	1.0297	0.9904	0.9995	0	0.8284	0	0.5	0.8832
		4	120.17	1e+06	1.0407	1.0668	1	1	1	1	1	1	1.03
		4	399.9697	8e-04	0.264	0.3202	0.5429	0.4088	0.5019	0.7273	0	0.4983	32736.8256
		3.08	176.53	0.0012	0.3052	0.3407	0.7541	0.2791	0.7643	0.3589	0.005	0.0467	5867.078
		3.04	629.6	7e-04	0.2631	0.3205	0.4494	0.5255	0.2894	0.5869	0	0.02	10670.1835
		3.09	459.3	8e-04	0.2724	0.3307	0.5211	0.4155	0.35	0.5517	0	0.045	28187.0269

Table 40: Simulation N=50 with 2 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.29	4.08	0.0012	0.9933	0.9823	0.9935	0.3437	0.9289	0.3787	0.2	0.245	2.4016
		1.88	149.16	0.0013	0.8608	0.9737	0.9086	0.7459	0.4239	0.733	0.08	0.48	2.6466
		1.5	64.39	0.0013	0.9225	0.9802	0.9607	0.6179	0.655	0.5808	0.23	0.365	9.4285
		2	4634.57	0.0012	0.9916	0.9717	0.0594	0.9508	0	0.8235	0	0.5	0.2119
		2	51.98	1e+06	0.9699	1.0244	1	1	1	1	1	1	0.2305
		1.72	72.24	0.0016	0.8721	0.9904	0.868	0.4319	0.7744	0.5391	0.06	0.39	10915.8997
		0.87	68.17	0.0013	0.882	0.9586	0.8189	0.2783	0.9078	0.2003	0.15	0.01	889.7459
		1.13	126.43	0.0011	0.8365	0.9456	0.731	0.4007	0.735	0.3185	0	0.065	1503.7336
		1.2	79.91	0.0012	0.8844	0.9649	0.8509	0.4863	0.6794	0.4512	0	0.1	3826.427
	100	1.55	16.5	0.0013	0.9667	0.991	0.9681	0.3295	0.8322	0.4038	0.03	0.29	7.965
		2	399.12	0.0012	0.7902	0.9565	0.6987	0.8006	0.0606	0.8141	0	0.5	8.0484
		1.98	268.89	0.0013	0.8477	0.9723	0.8245	0.8173	0.14	0.8011	0.01	0.495	48.1731
		2	4862.44	0.0012	0.9873	0.978	0.0165	0.9489	0	0.8235	0	0.5	0.2779
		2	51.98	1e+06	0.9891	1.0118	1	1	1	1	1	1	0.4761
		1.45	124.74	0.001	0.8635	0.9318	0.6639	0.2513	0.7983	0.2486	0.01	0.23	6565.8129
		1.01	137.63	8e-04	0.8443	0.9163	0.5772	0.1971	0.7983	0.0804	0	0.005	811.5699
		1.1	210.08	7e-04	0.8249	0.9109	0.4925	0.3459	0.5506	0.3616	0	0.05	1117.4837
		1.09	196.06	8e-04	0.8341	0.9156	0.5316	0.3631	0.4522	0.5053	0	0.045	3011.4665
	200	1.99	126.66	0.0012	0.8514	0.9587	0.7482	0.4621	0.4222	0.7091	0	0.495	8.3113
		2	725.37	9e-04	0.7753	0.9203	0.4092	0.7903	0.005	0.8226	0	0.5	6.7602
		2	492.02	0.001	0.7973	0.9329	0.5261	0.7518	0.0217	0.8206	0	0.5	30.3922
		2	4915.2	0.0012	0.9847	0.9821	0.0068	0.9484	0	0.8235	0	0.5	0.4008
		2	51.95	1e+06	0.9923	1.008	1	1	1	1	1	1	1.0639
		1.17	234.61	6e-04	0.8396	0.8968	0.4015	0.3083	0.7306	0.1631	0	0.085	2293.9938
		1.15	219.79	4e-04	0.8334	0.8851	0.3443	0.2262	0.6972	0.1069	0	0.075	1164.894
		1.43	301.41	4e-04	0.8234	0.8823	0.299	0.3853	0.4356	0.4486	0	0.215	1677.8189
		1.35	286.75	5e-04	0.8223	0.886	0.3139	0.375	0.3433	0.5851	0	0.175	4246.9459
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	1.64	49.64	0.0022	0.8291	0.9795	0.9575	0.4883	0.7756	0.5287	0.03	0.335	3.0572
		2	354.66	0.0019	0.5854	0.9129	0.8035	0.8508	0.1567	0.8109	0	0.5	3.5331
		1.9	211.24	0.0022	0.6808	0.9551	0.8967	0.8167	0.3033	0.7588	0.05	0.475	13.4627
		2	3630.74	0.0017	0.9845	0.9826	0.2656	0.9617	0	0.8235	0	0.5	0.2203
		2	123.83	1e+06	1.0363	1.1033	1	1	1	1	1	1	0.2396
		1.75	92.36	0.0018	0.702	0.8422	0.7828	0.3203	0.8183	0.5229	0	0.375	18387.1319
		1.02	102.67	0.0016	0.7012	0.8213	0.778	0.444	0.8856	0.3811	0	0.01	916.8435
		1.08	165.73	0.0014	0.6656	0.8219	0.7144	0.5321	0.5561	0.5344	0	0.04	1490.4231
		1.06	159.05	0.0015	0.6656	0.837	0.73	0.5498	0.4178	0.6045	0	0.03	3854.4172
	100	1.97	177.64	0.0021	0.6464	0.8685	0.8135	0.6843	0.4161	0.7615	0.01	0.49	7.9927
		2	593.67	0.0015	0.5697	0.8268	0.6045	0.828	0.0272	0.821	0	0.5	7.1266
		2	497.89	0.002	0.5997	0.8697	0.722	0.8556	0.025	0.821	0	0.5	41.4353
		2	3771.86	0.0017	0.9905	0.9869	0.2364	0.9599	0	0.8235	0	0.5	0.2776
		2	100.72	1e+06	1.0084	1.0504	1	1	1	1	1	1	0.4923
		1.49	143.11	0.0013	0.6978	0.7806	0.6803	0.2852	0.8494	0.3708	0	0.245	10896.8211
		1.18	149.58	0.0012	0.6816	0.7702	0.6547	0.3929	0.8089	0.3356	0	0.09	734.176
		1.58	279.4	0.001	0.6439	0.7582	0.5355	0.547	0.4578	0.5837	0	0.29	1269.2198
		1.38	256.37	0.0011	0.651	0.7685	0.5688	0.5546	0.3439	0.6578	0	0.19	3213.4639
	200	2	331.76	0.0014	0.6172	0.7686	0.6411	0.7078	0.2	0.7968	0	0.5	7.5024
		2	852.37	0.001	0.585	0.7502	0.3951	0.8178	0.0011	0.8226	0	0.5	6.3983
		2	642.26	0.0012	0.5942	0.7681	0.4688	0.7877	0.0056	0.8223	0	0.5	31.0717
		2	4316.19	0.0017	0.9884	0.9936	0.126	0.9543	0	0.8235	0	0.5	0.4122
		2	107.42	1e+06	1.0013	1.0249	1	1	1	1	1	1	0.9166
		1.28	242.94	8e-04	0.669	0.7313	0.4445	0.3723	0.7222	0.2555	0	0.14	4984.2269
		1.78	279.03	8e-04	0.6473	0.7171	0.4067	0.4454	0.6789	0.3759	0	0.39	1224.4497
		1.95	390.8	7e-04	0.6357	0.705	0.3241	0.5441	0.4178	0.601	0	0.475	2231.2885
		1.96	365.06	7e-04	0.6361	0.7099	0.3447	0.5357	0.3661	0.7127	0	0.48	5502.0428
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	1.97	260.11	0.0034	0.3381	0.7551	0.8506	0.8088	0.3722	0.7794	0	0.485	4.0153
		2	563.67	0.0027	0.2647	0.6954	0.7206	0.8716	0.0744	0.819	0	0.5	4.1324
		2	416.81	0.0035	0.2848	0.7611	0.8128	0.8833	0.0828	0.8174	0	0.5	18.1991
		2	978.31	0.0023	0.946	1.0206	0.8109	0.9902	0	0.8235	0	0.5	0.2054
		2	400.22	1e+06	1.7809	1.5993	1	1	1	1	1	1	0.4565
		1.69	82.79	0.0022	0.4381	0.5452	0.8003	0.2935	0.8944	0.5558	0	0.345	27113.1554
		1.06	110.52	0.002	0.417	0.5449	0.7913	0.4926	0.8356	0.4594	0.01	0.035	803.4735
		1.06	172.55	0.0018	0.395	0.5451	0.7298	0.5749	0.5239	0.5799	0.01	0.035	1286.7761
		1.07	179.62	0.0019	0.3837	0.5663	0.7247	0.5902	0.3461	0.6159	0	0.035	3828.9136
	100	2	479.81	0.0025	0.2869	0.5489	0.6982	0.8256	0.1433	0.816	0	0.5	6.3214
		2	738.17	0.0018	0.2777	0.5198	0.5625	0.8474	0.02	0.8217	0	0.5	6.3684
		2	596.93	0.0027	0.2831	0.5778	0.6677	0.8571	0.0189	0.8226	0	0.5	34.6921
		2	579.87	0.0022	0.9889	1.0162	0.8909	0.9943	0	0.8235	0	0.5	0.2856
		2	226.36	1e+06	1.1871	1.2164	1	1	1	1	1	1	0.5361
		1.54	104.74	0.002	0.4026	0.4577	0.7547	0.2724	0.8933	0.4362	0	0.27	19758.1865
		1.04	160.03	0.0018	0.374	0.4621	0.7293	0.5173	0.6856	0.483	0	0.02	680.3116
		1.49	287.65	0.0015	0.3519	0.4426	0.6019	0.6269	0.4278	0.6009	0	0.245	1454.7129
		1.22	246.31	0.0016	0.3568	0.4563	0.6299	0.6018	0.3028	0.6303	0	0.11	3681.6319
	200	2	600.79	0.0017	0.2978	0.4301	0.6087	0.8197	0.0906	0.82	0	0.5	6.7574
		2	883.66	0.0011	0.2911	0.4078	0.4229	0.8325	0.0011	0.8224	0	0.5	6.9113
		2	649.03	0.0014	0.2947	0.42	0.4747	0.7923	0.005	0.8218	0	0.5	34.8814
		2	97.52	0.0022	0.9756	1.0264	0.9901	0.9995	0	0.8235	0	0.5	0.4369
		2	111.56	1e+06	1.0623	1.0978	1	1	1	1	1	1	0.9243
		1.23	252.58	0.0014	0.3484	0.3984	0.5035	0.4615	0.6567	0.341	0	0.115	11823.6014
		1.08	262.46	0.0014	0.3401	0.4041	0.5848	0.5562	0.4883	0.5411	0	0.04	999.2914
		1.58	404.96	0.0011	0.3314	0.3814	0.4116	0.609	0.3261	0.5939	0	0.29	2480.8474
		1.55	330.02	0.0012	0.3345	0.3846	0.4299	0.5482	0.3183	0.6119	0	0.275	5486.7695

Table 41: Simulation N=50 with 3 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.64	2.46	0.0016	0.9878	0.9814	0.9974	0.2275	0.9663	0.2822	0.51	0.1333	2.6538
		2.93	237.05	0.0016	0.775	0.9676	0.9028	0.7394	0.3671	0.7007	0.03	0.3333	3.5042
		2.49	100.61	0.0017	0.8694	0.9773	0.9564	0.6124	0.6106	0.5656	0.18	0.2733	10.9925
		3	6859.56	0.0016	0.9793	0.9693	0.0859	0.9345	0	0.7712	0	0.3333	0.2939
		3	52.99	1e+06	0.9714	1.0238	1	1	1	1	1	1	0.2596
		2.79	96.92	0.0018	0.8258	0.9756	0.8894	0.3614	0.8449	0.4313	0.095	0.2083	7783.1629
		2.37	123.06	0.0015	0.7958	0.9376	0.8187	0.2253	0.9091	0.1413	0.23	0.01	1373.2215
		2.94	202.57	0.0013	0.7423	0.911	0.7285	0.2962	0.7651	0.2543	0.02	0.02	2823.6343
		2.76	160.38	0.0014	0.7818	0.9381	0.8043	0.3921	0.694	0.4256	0.09	0.0367	7706.9923
	100	2.59	20.21	0.0017	0.9486	0.989	0.9765	0.2599	0.864	0.3167	0.16	0.1733	6.7608
		3	635.02	0.0014	0.6799	0.9325	0.6805	0.7414	0.0377	0.763	0	0.3333	7.1219
		3	372.12	0.0016	0.7572	0.9584	0.8121	0.7335	0.1214	0.7459	0	0.3333	30.2389
		3	7230.68	0.0016	0.9805	0.9756	0.0355	0.9326	0	0.7712	0	0.3333	0.4307
		3	52.99	1e+06	0.9908	1.0121	1	1	1	1	1	1	0.535
		2.97	184.65	0.0012	0.7994	0.8933	0.7142	0.1836	0.8266	0.2214	0.01	0.0983	4765.493
		3	295.3	9e-04	0.7248	0.8572	0.5315	0.1868	0.7811	0.0823	0	0	2192.417
		3	400.87	8e-04	0.6973	0.8398	0.423	0.2625	0.57	0.2777	0	0	3167.3254
		2.98	396.33	8e-04	0.699	0.8482	0.4463	0.2852	0.4677	0.4723	0.005	0.0033	8552.5076
	200	3	261.8632	0.0014	0.743	0.9187	0.7083	0.4164	0.3278	0.6677	0	0.3333	15.5115
		3	1146.4842	0.001	0.6621	0.8696	0.3758	0.7219	0.0012	0.7706	0	0.3333	11.1705
		3	832.6526	0.0012	0.6989	0.8998	0.5344	0.7142	0.0072	0.7695	0	0.3333	52.5872
		3	7311.3	0.0016	0.9811	0.9811	0.0238	0.932	0	0.7712	0	0.3333	0.5852
		3	52.98	1e+06	0.9929	1.0082	1	1	1	1	1	1	1.1904
		3	337.81	8e-04	0.7621	0.8418	0.509	0.2063	0.7126	0.2661	0	0.1533	4842.5108
		3	439.2421	4e-04	0.7137	0.8	0.3041	0.1903	0.6902	0.0371	0	0	2945.0049
		3	541.2947	4e-04	0.7039	0.7933	0.2216	0.2658	0.4722	0.2776	0	0	4014.1268
		3	543.4	5e-04	0.7046	0.7984	0.2497	0.2947	0.2926	0.5269	0	0	10728.7318
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.41	73.9	0.0026	0.7753	0.9699	0.9597	0.4455	0.772	0.4636	0.18	0.21	3.6627
		3	492.57	0.0023	0.4799	0.8841	0.8078	0.7967	0.1357	0.755	0	0.3333	4.4777
		2.94	288.64	0.0025	0.5906	0.9393	0.8956	0.7858	0.2917	0.7225	0.025	0.335	15.9982
		3	5316.86	0.0023	0.9797	0.9816	0.292	0.9442	0	0.7712	0	0.3333	0.3047
		3	133.12	1e+06	1.0452	1.0966	1	1	1	1	1	1	0.2636
		2.85	102.54	0.0021	0.665	0.805	0.8578	0.2755	0.8774	0.5194	0.045	0.235	11248.5825
		2.72	167.46	0.0018	0.5975	0.7669	0.7921	0.3638	0.8931	0.3303	0.075	0.03	1470.3021
		2.96	234.47	0.0015	0.571	0.742	0.7173	0.3663	0.7286	0.4007	0.01	0.01	2718.5953
		2.9	235.02	0.0017	0.5695	0.7699	0.7371	0.409	0.592	0.5209	0.025	0.0367	7794.0326
	100	3	283.73	0.0021	0.5477	0.8147	0.799	0.606	0.3691	0.7113	0	0.3333	9.0384
		3	809.51	0.0017	0.4735	0.7695	0.592	0.7421	0.02	0.7659	0	0.3333	7.2853
		3	628	0.0023	0.5008	0.839	0.7135	0.7662	0.028	0.7652	0	0.3333	33.5823
		3	5607.32	0.0023	0.9876	0.9853	0.2524	0.943	0	0.7712	0	0.3333	0.394
		3	104.28	1e+06	1.0082	1.0463	1	1	1	1	1	1	0.5491
		2.98	154.74	0.0015	0.6191	0.7142	0.7789	0.2079	0.7914	0.4621	0.005	0.2033	7717.8476
		3	241.78	0.0011	0.5707	0.6714	0.6339	0.2265	0.8277	0.1753	0	0	2010.531
		3	364.17	9e-04	0.5429	0.6534	0.5017	0.2918	0.5463	0.3298	0	0.0033	3271.8376
		3	354.43	0.001	0.5476	0.6662	0.5314	0.3148	0.4431	0.4679	0	0.01	8853.9793
	200	3	535	0.0014	0.5117	0.6943	0.5845	0.5958	0.1189	0.7439	0	0.3333	12.8035
		3	1130.39	0.0011	0.4887	0.6618	0.3551	0.7085	0.0026	0.7702	0	0.3333	10.2881
		3	1003.14	0.0015	0.4908	0.7073	0.4541	0.7221	0.0026	0.7705	0	0.3333	55.0728
		3	6385.38	0.0023	0.9858	0.9923	0.1444	0.9368	0	0.7712	0	0.3333	0.5809
		3	111.36	1e+06	1.0003	1.0247	1	1	1	1	1	1	1.005
		3	338.5	0.001	0.5549	0.6434	0.5502	0.3075	0.5463	0.5485	0	0.2967	9912.8244
		2.98	325.68	7e-04	0.5522	0.6155	0.4706	0.1668	0.7257	0.142	0.005	0	3264.6406
		3	483.13	5e-04	0.5355	0.6008	0.3158	0.2648	0.5077	0.2483	0	0	5318.3546
		3	460.98	6e-04	0.5401	0.6081	0.3507	0.2735	0.4009	0.3994	0	0	13025.8085
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.97	373.92	0.0035	0.27	0.73	0.8479	0.7671	0.3457	0.7373	0.01	0.33	4.8595
		3	735.8	0.0029	0.2095	0.6518	0.7227	0.8059	0.0786	0.7644	0	0.3333	4.738
		3	544.59	0.0035	0.2188	0.7213	0.8097	0.8196	0.0991	0.7624	0	0.3333	20.3524
		3	1465.4	0.003	0.9507	1.0205	0.8087	0.9704	0	0.7712	0	0.3333	0.3025
		3	467.31	1e+06	1.7287	1.6175	1	1	1	1	1	1	0.8044
		2.62	98.2	0.0029	0.4103	0.5413	0.8803	0.3045	0.882	0.5151	0.115	0.2433	18814.4882
		2	141.59	0.0025	0.3666	0.5141	0.8464	0.4448	0.8843	0.4433	0.265	0.0033	1368.354
		2.44	209.37	0.002	0.3436	0.4809	0.7763	0.4424	0.7694	0.4438	0.145	0.0267	2564.264
		2.26	210.31	0.0023	0.3472	0.5185	0.7903	0.4828	0.6503	0.5275	0.195	0.0167	7923.4101
	100	3	758.03	0.0027	0.2232	0.522	0.6586	0.7483	0.0974	0.7604	0	0.3333	7.4397
		3	1021.19	0.0019	0.2203	0.4562	0.5212	0.7575	0.0157	0.7682	0	0.3333	6.9284
		3	783.27	0.0027	0.2221	0.5307	0.6336	0.761	0.0163	0.768	0	0.3333	32.9888
		3	776.13	0.003	0.9936	1.0165	0.9004	0.9751	0	0.7712	0	0.3333	0.4225
		3	245.83	1e+06	1.1443	1.1699	1	1	1	1	1	1	0.6479
		2.97	227.61	0.002	0.3056	0.4194	0.7633	0.4332	0.6246	0.6455	0.01	0.3217	13781.7666
		2.76	163.68	0.002	0.3294	0.3999	0.797	0.3504	0.8351	0.3856	0.06	0.0367	1985.1697
		3	309.18	0.0013	0.3041	0.3723	0.669	0.3872	0.6569	0.431	0	0.0633	3710.9457
		2.66	260.49	0.0018	0.3223	0.4051	0.7269	0.4231	0.61	0.4916	0.085	0.0167	9463.2023
	200	3	1451.87	0.0022	0.2083	0.4338	0.4482	0.7733	0.034	0.7663	0	0.3333	11.8426
		3	1330.42	0.0011	0.2231	0.3375	0.3247	0.7354	0.0017	0.77	0	0.3333	11.1306
		3	1007.94	0.0013	0.2252	0.3526	0.3938	0.6917	0.0029	0.7697	0	0.3333	53.4966
		3	122.28	0.003	0.9779	1.0264	0.9883	0.9794	0	0.7712	0	0.3333	0.6136
		3	116.53	1e+06	1.0407	1.0694	1	1	1	1	1	1	1.0409
		3	370.54	0.0011	0.2647	0.3202	0.5532	0.3719	0.4434	0.6601	0	0.3167	21305.2398
		2.98	186.02	0.0015	0.2994	0.3341	0.7351	0.2711	0.7386	0.3795	0.005	0.0233	3877.2934
		3	629.32	9e-04	0.2617	0.3176	0.4402	0.5076	0.3003	0.5637	0	0.0067	7547.0939
		3	469.74	0.0011	0.2695	0.3253	0.5124	0.4312	0.3274	0.5558	0	0.01	19190.1889

Table 42: Simulation N=50 with 4 lags, sigma=0.5 for scenario [A1/A2/A3]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	1.53	1.88	0.0012	0.9852	0.9814	0.9983	0.1827	0.9757	0.3091	0.625	0.175	2.9968
		3.87	211.48	0.0012	0.7938	0.9711	0.9274	0.7784	0.4677	0.7467	0.035	0.4867	4.1155
		3.28	90.46	0.0012	0.8796	0.9784	0.9672	0.6645	0.6817	0.6054	0.195	0.4	11.954
		4	8948.28	0.0012	0.9773	0.9698	0.0839	0.9492	0	0.8284	0	0.5	0.4772
		4	53.99	1e+06	0.971	1.0245	1	1	1	1	1	1	0.2791
		3.1429	102.5816	0.0013	0.8247	0.9739	0.8858	0.3691	0.8676	0.4775	0.1327	0.3452	6292.9136
		2.27	109.85	0.0012	0.8092	0.9411	0.8456	0.2616	0.9206	0.196	0.29	0.0217	1736.6778
		3.05	207.13	0.001	0.7374	0.9166	0.746	0.3429	0.7397	0.3188	0.01	0.0433	3602.404
		3	139.62	0.0011	0.7973	0.9447	0.8371	0.4241	0.7543	0.4209	0.075	0.1233	10209.7314
	100	2.75	15.8	0.0012	0.9558	0.9899	0.9823	0.2517	0.8929	0.337	0.255	0.2333	6.1468
		4	625.44	0.0011	0.6874	0.9412	0.7265	0.7748	0.0734	0.8164	0	0.5	7.3561
		3.99	351.56	0.0012	0.7631	0.9643	0.8418	0.7601	0.1909	0.7941	0	0.4983	29.8805
		4	9449.07	0.0012	0.9789	0.9759	0.0366	0.9485	0	0.8284	0	0.5	0.5833
		4	53.98	1e+06	0.9904	1.0118	1	1	1	1	1	1	0.4985
		3.2929	187.404	9e-04	0.7983	0.8879	0.7091	0.1865	0.8482	0.2736	0.0101	0.1886	4753.6927
		3	294	7e-04	0.7249	0.8603	0.5372	0.1897	0.7874	0.0776	0	0	2679.5234
		3	399.43	6e-04	0.6966	0.8406	0.4235	0.2581	0.5789	0.2755	0	0	4157.83
		3	389.72	6e-04	0.7002	0.8491	0.4505	0.2757	0.4751	0.4518	0	0	11791.0597
	200	4	246.32	0.0011	0.7532	0.9296	0.7445	0.4469	0.386	0.7081	0	0.5	24.5312
		4	1172.72	8e-04	0.6618	0.8793	0.4249	0.7493	0.0063	0.8268	0	0.5	19.0572
		4	919.51	0.001	0.702	0.9141	0.5858	0.7691	0.0174	0.8259	0	0.5	100.7611
		4	9622.86	0.0012	0.9787	0.9791	0.0195	0.9481	0	0.8284	0	0.5	0.8251
		4	53.97	1e+06	0.9926	1.0079	1	1	1	1	1	1	1.1384
		3.52	362.25	6e-04	0.7564	0.8403	0.4936	0.2292	0.7091	0.3287	0	0.2633	9468.6284
		3	441.86	3e-04	0.7128	0.8003	0.3022	0.1929	0.6863	0.052	0	0	4357.0291
		3	545.55	3e-04	0.703	0.7935	0.22	0.2693	0.4663	0.2894	0	0	5663.2704
		3	559.32	3e-04	0.7025	0.7989	0.2403	0.3062	0.2866	0.5415	0	0	15047.5133
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.83	67.03	0.0019	0.7983	0.9753	0.9685	0.439	0.8149	0.4766	0.235	0.2917	4.0179
		4	489.08	0.0018	0.4861	0.8956	0.8422	0.8302	0.21	0.811	0	0.5	5.217
		3.86	291	0.0019	0.5918	0.9464	0.9143	0.8142	0.3637	0.7713	0.045	0.495	18.034
		4	7031.07	0.0017	0.98	0.9806	0.283	0.9609	0	0.8284	0	0.5	0.4669
		4	140.95	1e+06	1.0279	1.0904	1	1	1	1	1	1	0.372
		3.47	109.63	0.0015	0.6551	0.8004	0.8514	0.2785	0.868	0.5254	0.04	0.3667	9518.5467
		2.7	170.3	0.0014	0.5977	0.7715	0.7909	0.3719	0.8934	0.3143	0.1	0.0333	1879.2686
		3.09	234.81	0.0011	0.5682	0.7483	0.7209	0.3788	0.7337	0.4279	0.005	0.0433	3506.7241
		3.06	240.39	0.0013	0.5612	0.7795	0.7372	0.4304	0.5897	0.5306	0.005	0.0533	10420.2894
	100	4	296.93	0.0017	0.5479	0.833	0.8167	0.6539	0.4134	0.7682	0	0.5	9.1962
		4	832.75	0.0014	0.4733	0.7839	0.6332	0.7746	0.042	0.8212	0	0.5	7.7541
		4	637.38	0.0018	0.4955	0.8564	0.7511	0.7996	0.0569	0.8192	0	0.5	35.1272
		4	7327.48	0.0017	0.9878	0.9847	0.2515	0.9597	0	0.8284	0	0.5	0.6006
		4	107.91	1e+06	1.0034	1.0411	1	1	1	1	1	1	0.5833
		3.48	150.52	0.0011	0.6276	0.7042	0.7787	0.1826	0.8291	0.4717	0	0.3083	7156.6511
		2.99	234.66	8e-04	0.5729	0.6727	0.6425	0.2207	0.83	0.1682	0.005	0.0033	2532.6802
		3	356.83	7e-04	0.5436	0.6538	0.5072	0.2822	0.5846	0.2766	0	0	4491.7455
		3.01	339.78	8e-04	0.5519	0.6712	0.5444	0.3108	0.4509	0.4591	0	0.0117	11699.598
	200	4	588.41	0.0011	0.5081	0.7064	0.6034	0.6434	0.1451	0.796	0	0.5	17.524
		4	1205.85	9e-04	0.4844	0.6717	0.3873	0.7401	0.0071	0.8266	0	0.5	14.3199
		4	1104.75	0.0012	0.4867	0.7303	0.4958	0.7669	0.0066	0.8271	0	0.5	77.1939
		4	8442.3	0.0017	0.9858	0.9909	0.1306	0.9526	0	0.8284	0	0.5	0.8449
		4	115.34	1e+06	0.9991	1.0218	1	1	1	1	1	1	1.0202
		3.88	371.89	7e-04	0.552	0.6424	0.5321	0.3438	0.5597	0.6093	0	0.4617	18293.2534
		3.01	323.68	5e-04	0.5518	0.6144	0.4726	0.1666	0.7343	0.1631	0	0.0033	4837.0329
		3	478.72	4e-04	0.5367	0.6026	0.3312	0.2736	0.4854	0.2866	0	0	7258.4191
		3.01	459.89	5e-04	0.5432	0.6135	0.3609	0.2724	0.442	0.3701	0	0.0033	17439.46
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	3.94	407.4	0.0027	0.2837	0.7585	0.8676	0.8013	0.406	0.7927	0.01	0.4917	5.5234
		4	813.68	0.0022	0.2039	0.6703	0.7516	0.8418	0.1146	0.8212	0	0.5	5.4106
		4	584.97	0.0027	0.2122	0.7347	0.8309	0.8504	0.1469	0.8173	0	0.5	22.1512
		4	1879.79	0.0022	0.958	1.0207	0.813	0.9894	0	0.8284	0	0.5	0.4682
		4	520.33	1e+06	1.9761	1.9217	1	1	1	1	1	1	1.1234
		3.12	88.65	0.0021	0.4202	0.5348	0.8868	0.2962	0.9069	0.5728	0.105	0.3517	16874.7956
		2.09	143.5	0.0018	0.3644	0.5099	0.8481	0.4515	0.8871	0.434	0.255	0.0267	1778.3391
		2.49	201.41	0.0015	0.3453	0.4803	0.7824	0.4415	0.7843	0.4605	0.155	0.05	3272.7336
		2.38	199.39	0.0017	0.3498	0.5238	0.8038	0.4851	0.678	0.5274	0.175	0.0417	10609.9127
	100	4	806.73	0.0021	0.2231	0.5322	0.6794	0.78	0.1269	0.815	0	0.5	8.3754
		4	1197.49	0.0016	0.2115	0.4748	0.5434	0.8003	0.0229	0.8246	0	0.5	8.1558
		4	859.72	0.002	0.2137	0.5437	0.6557	0.7953	0.0383	0.8247	0	0.5	35.5855
		4	990.09	0.0022	0.9977	1.0165	0.9032	0.9948	0	0.8284	0	0.5	0.6195
		4	263.71	1e+06	1.1277	1.1566	1	1	1	1	1	1	0.6819
		3.82	235.58	0.0014	0.3064	0.4166	0.7658	0.4531	0.664	0.6815	0.015	0.4617	14669.6041
		2.68	156.52	0.0015	0.3343	0.407	0.8092	0.3583	0.8471	0.3995	0.09	0.0233	2619.8464
		3.09	330.2	0.001	0.3037	0.3754	0.6762	0.4229	0.6303	0.4496	0.01	0.065	5019.3244
		2.65	266.6	0.0013	0.3178	0.4064	0.7142	0.4188	0.5629	0.4983	0.1	0.0317	14058.3392
	200	4	1658.8	0.0017	0.2045	0.4433	0.4739	0.8026	0.0443	0.822	0	0.5	13.4219
		4	1610.53	0.001	0.2146	0.3495	0.3403	0.7843	0.0051	0.8274	0	0.5	14.5569
		4	1129.96	0.0011	0.2193	0.3652	0.4152	0.7344	0.0089	0.8266	0	0.5	66.4061
		4	143.92	0.0022	0.9802	1.0264	0.9904	0.9995	0	0.8284	0	0.5	0.8669
		4	120.18	1e+06	1.0375	1.0635	1	1	1	1	1	1	1.1228
		3.99	399.02	8e-04	0.2635	0.3187	0.5471	0.4122	0.5057	0.7281	0	0.4933	34043.3223
		3.1	179.2	0.0011	0.3028	0.3379	0.7478	0.2716	0.7534	0.3722	0	0.045	5952.4622
		3.04	625.7	7e-04	0.263	0.3203	0.4514	0.5253	0.3009	0.5946	0.005	0.0267	10912.2132
		3.06	446.12	8e-04	0.2727	0.3288	0.5241	0.4185	0.322	0.5714	0	0.0283	28565.8113

Table 43: Simulation N=10 with 3 lags, sigma=1 for scenario [Dense]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.44	10.21	0.0055	0.8511	0.9692	0.9315	0.2711	0.6991	0.3932	0.01	0.5033	0.4569
		3	42.78	0.0042	0.7533	0.9323	0.7948	0.5057	0.2791	0.6243	0	0.6633	0.4479
		2.94	27.31	0.0049	0.8001	0.9544	0.8656	0.486	0.4273	0.5892	0.02	0.65	2.008
		3	9.98	0.0057	0.998	0.993	1	1	0	0.6667	0	0.6667	0.0369
		3	332.92	1e+06	1.0417	1.0871	1	1	1	1	1	1	0.8282
		1.33	14.17	0.0023	0.8083	0.8664	0.8671	0.0483	0.8309	0.0998	0	0.1283	74.0936
		1.09	19.2	0.0029	0.7849	0.881	0.8111	0.0217	0.6473	0.0357	0	0.035	71.8735
		1.16	28.96	0.0027	0.7642	0.879	0.7229	0.0408	0.4273	0.0526	0	0.0517	73.0545
		1.19	23.94	0.0031	0.7808	0.8949	0.7732	0.0497	0.4755	0.0645	0	0.0667	216.248
	100	2.76	19.6	0.003	0.7874	0.8846	0.8565	0.2425	0.5118	0.4201	0	0.5983	0.502
		3	70.71	0.0026	0.7401	0.874	0.6616	0.5144	0.06	0.6346	0	0.6667	0.4247
		3	46.81	0.0026	0.7554	0.8753	0.7463	0.4433	0.1655	0.5938	0	0.6667	1.8171
		3	9.95	0.0057	0.9976	1.0016	1	1	0	0.6667	0	0.6667	0.0524
		3	332.83	1e+06	0.9975	1.0274	1	1	1	1	1	1	0.7974
		1.21	20.96	0.0016	0.8043	0.8456	0.7935	0.0176	0.6718	0.0621	0	0.0817	62.2039
		1.07	26.41	0.0018	0.7862	0.8471	0.7385	0.0125	0.4336	0.0243	0	0.0283	84.404
		1.09	42.42	0.0016	0.7667	0.8455	0.5881	0.0197	0.1964	0.0247	0	0.0317	81.5134
		1.17	30.83	0.0017	0.7771	0.8474	0.7056	0.0321	0.2773	0.0463	0	0.0567	241.0509
	200	2.76	24.81	0.0016	0.7862	0.8348	0.8099	0.2047	0.37	0.3645	0	0.59	0.5681
		3	90.58	0.0014	0.7518	0.8296	0.5612	0.5112	0.0082	0.6431	0	0.6667	0.4777
		3	53.1	0.0013	0.7654	0.8282	0.6904	0.3948	0.0973	0.5656	0	0.6667	1.969
		3	9.9	0.0056	0.998	0.998	1	1	0	0.6667	0	0.6667	0.091
		3	332.83	1e+06	1.0011	1.0096	1	1	1	1	1	1	1.3959
		1	50.65	0.001	0.7707	0.8174	0.4935	0	0.0409	0	0	0	76.9192
		1.06	45.05	0.0011	0.7722	0.8203	0.5524	0.0073	0.0773	0.0099	0	0.02	124.0957
		1.07	61.64	9e-04	0.7651	0.8156	0.3902	0.0097	0.02	0.0145	0	0.0233	115.2155
		1.06	48.69	9e-04	0.7685	0.8165	0.5185	0.0104	0.0427	0.0151	0	0.0233	332.448
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.61	15.15	0.0066	0.7335	0.9257	0.9015	0.3016	0.6127	0.4462	0.01	0.5617	0.5331
		3	56.84	0.0048	0.6443	0.8696	0.7265	0.5103	0.1564	0.6276	0	0.665	0.5021
		2.97	40.22	0.0058	0.6804	0.898	0.8038	0.4985	0.2364	0.602	0.01	0.6567	2.3311
		3	9.98	0.0069	0.9993	0.9996	1	1	0	0.6667	0	0.6667	0.0385
		3	332.97	1e+06	1.0615	1.1346	1	1	1	1	1	1	0.6907
		1.37	17.01	0.0029	0.7346	0.8017	0.8392	0.053	0.7964	0.1326	0	0.15	98.6467
		1.07	20.66	0.0033	0.7068	0.8099	0.7962	0.0147	0.6255	0.021	0	0.025	74.6414
		1.16	34.57	0.0029	0.6771	0.8072	0.6651	0.0367	0.3	0.0453	0	0.05	74.949
		1.09	29.49	0.0032	0.6886	0.817	0.7116	0.0215	0.3236	0.0285	0	0.0283	229.964
	100	2.83	27.35	0.0034	0.677	0.7984	0.8108	0.2736	0.3682	0.4401	0	0.63	0.5214
		3	83.05	0.0028	0.6422	0.787	0.601	0.5133	0.0218	0.6398	0	0.6667	0.4587
		3	54.6	0.0029	0.6572	0.7891	0.7048	0.4451	0.0955	0.5944	0	0.6667	2.0391
		3	9.93	0.0069	0.9923	1.0039	1	1	0	0.6667	0	0.6667	0.054
		3	332.92	1e+06	1.0027	1.0403	1	1	1	1	1	1	0.778
		1.14	40.65	0.0021	0.685	0.7662	0.5962	0.0143	0.2836	0.0373	0	0.0583	84.2766
		1.1	32.59	0.0022	0.6895	0.768	0.6766	0.0091	0.2973	0.0163	0	0.0283	90.3438
		1.03	52.41	0.0017	0.6696	0.7546	0.4784	0.0059	0.06	0.0067	0	0.0117	86.124
		1.06	41.04	0.0019	0.678	0.7598	0.5944	0.0106	0.1227	0.0135	0	0.0233	249.2382
	200	2.99	39.31	0.0019	0.6695	0.7382	0.724	0.2786	0.1264	0.4537	0	0.6567	0.5873
		3	102.17	0.0015	0.6542	0.7322	0.5044	0.5104	0.0018	0.6483	0	0.6667	0.5236
		3	67.32	0.0014	0.6626	0.7312	0.616	0.4174	0.0236	0.5937	0	0.6667	2.2788
		3	9.97	0.0069	0.9941	0.9994	1	1	0	0.6667	0	0.6667	0.0892
		3	332.92	1e+06	1.0062	1.0165	1	1	1	1	1	1	1.4239
		1	58.06	0.001	0.6726	0.7213	0.4194	0	0.0045	0	0	0	97.7375
		1.02	49.69	0.0012	0.6738	0.7241	0.5035	0.0011	0.04	0.0015	0	0.005	104.1826
		1.04	66.65	9e-04	0.6703	0.7182	0.3411	0.0095	0.0045	0.0128	0	0.015	98.8641
		1.16	56.87	0.001	0.6711	0.7201	0.4481	0.0265	0.0145	0.0406	0	0.055	303.2437
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.91	30.24	0.0078	0.5166	0.7705	0.826	0.3872	0.4018	0.5419	0	0.6467	0.564
		3	71.66	0.0053	0.4766	0.7179	0.6595	0.5202	0.0791	0.6387	0	0.6667	0.5604
		3	54.32	0.007	0.495	0.7511	0.7428	0.5191	0.1255	0.6216	0	0.6667	2.6347
		3	9.96	0.0081	0.9907	1.0281	1	1	0	0.6667	0	0.6667	0.0389
		3	332.96	1e+06	1.0987	1.2732	1	1	1	1	1	1	0.7061
		1.43	22.94	0.004	0.5806	0.676	0.7841	0.0582	0.6773	0.147	0	0.1717	133.0659
		1.07	26.08	0.004	0.5449	0.6636	0.7415	0.0099	0.4809	0.016	0	0.0217	66.5453
		1.15	45.34	0.0032	0.5154	0.656	0.5616	0.0286	0.1455	0.0368	0	0.0483	78.1832
		1.1	39.45	0.0037	0.5256	0.6643	0.618	0.0283	0.1709	0.0354	0	0.0367	248.82
	100	2.98	46.56	0.0037	0.475	0.5985	0.7145	0.3598	0.1509	0.5247	0	0.6633	0.548
		3	97.54	0.003	0.4623	0.5912	0.5401	0.5217	0.0064	0.6472	0	0.6667	0.5226
		3	68.33	0.0033	0.4699	0.5944	0.6404	0.4639	0.0373	0.6118	0	0.6667	2.3712
		3	9.96	0.0081	0.9833	1.0077	1	1	0	0.6667	0	0.6667	0.0608
		3	332.92	1e+06	1.0254	1.1085	1	1	1	1	1	1	0.8396
		1.16	49.81	0.0025	0.4947	0.5764	0.5087	0.0172	0.1445	0.0325	0	0.06	115.5597
		1.04	38.91	0.0025	0.4986	0.5752	0.6119	0.0035	0.1782	0.0048	0	0.0117	78.3359
		1.04	58.73	0.0018	0.4908	0.5649	0.4157	0.0038	0.0182	0.0067	0	0.0117	79.0919
		1.07	50.49	0.0021	0.4929	0.5698	0.5011	0.0112	0.0545	0.0174	0	0.025	247.4758
	200	3	62.86	0.0019	0.4629	0.5226	0.6114	0.3675	0.0191	0.5564	0	0.6667	0.6471
		3	110.34	0.0015	0.4601	0.5199	0.4611	0.5077	9e-04	0.6517	0	0.6667	0.6215
		3	76.09	0.0016	0.4647	0.5198	0.5652	0.4166	0.0045	0.6054	0	0.6667	2.7033
		3	9.89	0.0081	0.979	1.0114	1	1	0	0.6667	0	0.6667	0.0897
		3	332.89	1e+06	1.0314	1.0599	1	1	1	1	1	1	1.5197
		1.02	61.3	0.0012	0.4741	0.5128	0.3875	0.0013	0.0109	0.0027	0	0.0067	139.4126
		1	47.64	0.0012	0.4761	0.5129	0.5236	0	0.0227	0	0	0	88.7336
		1.06	70.85	9e-04	0.4727	0.5096	0.2997	0.0094	0.0027	0.0131	0	0.0183	103.9372
		1.24	62.63	0.001	0.473	0.5111	0.3966	0.0336	0.0045	0.0585	0	0.08	312.3073

Table 44: Simulation N=10 with 3 lags, sigma=0.5 for scenario [Dense]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.49	9.85	0.0055	0.8497	0.9638	0.933	0.2705	0.71	0.3949	0	0.5017	0.4573
		3	43.58	0.0043	0.7478	0.9263	0.7952	0.5145	0.28	0.6259	0	0.6633	0.4499
		2.94	26.94	0.0049	0.7975	0.9477	0.8683	0.4929	0.4227	0.5927	0.02	0.65	1.9569
		3	9.99	0.0057	0.9924	0.9866	1	1	0	0.6667	0	0.6667	0.0369
		3	332.94	1e+06	1.0354	1.0782	1	1	1	1	1	1	0.767
		1.43	14.64	0.0024	0.8009	0.8613	0.864	0.057	0.8209	0.1199	0	0.1583	74.6893
		1.1	18.84	0.0028	0.7812	0.8746	0.8162	0.0278	0.6609	0.0408	0	0.04	73.0757
		1.22	28.54	0.0027	0.7604	0.8747	0.7317	0.0509	0.4691	0.0644	0	0.0667	73.6899
		1.18	23.58	0.0031	0.7742	0.887	0.7738	0.0462	0.4864	0.0658	0	0.06	215.9171
	100	2.75	19.6	0.0031	0.7842	0.8826	0.8578	0.2458	0.5127	0.4199	0	0.5983	0.4923
		3	71.01	0.0026	0.7373	0.8712	0.6608	0.5155	0.0609	0.6364	0	0.6667	0.4253
		3	46.28	0.0026	0.7532	0.8721	0.7489	0.4434	0.1691	0.5925	0	0.6667	1.8051
		3	9.96	0.0057	0.9948	0.9984	1	1	0	0.6667	0	0.6667	0.0533
		3	332.93	1e+06	0.9942	1.024	1	1	1	1	1	1	0.7755
		1.21	20.76	0.0017	0.8022	0.8428	0.7967	0.0201	0.6827	0.0622	0	0.0783	63.0564
		1.05	26.39	0.0017	0.7839	0.8435	0.7384	0.0104	0.42	0.0163	0	0.0217	82.2334
		1.11	41.48	0.0016	0.7653	0.842	0.6002	0.0231	0.1991	0.0284	0	0.0383	78.9885
		1.17	30.78	0.0017	0.7748	0.8434	0.7062	0.0337	0.2855	0.0464	0	0.0567	233.373
	200	2.79	24.42	0.0016	0.7853	0.8333	0.8124	0.204	0.3764	0.3693	0	0.6	0.5325
		3	90.78	0.0014	0.7505	0.8282	0.5603	0.5112	0.0082	0.6432	0	0.6667	0.4681
		3	52.75	0.0013	0.7643	0.8268	0.6919	0.3943	0.0991	0.5647	0	0.6667	1.9804
		3	9.94	0.0056	0.9965	0.9963	1	1	0	0.6667	0	0.6667	0.0837
		3	332.83	1e+06	0.9994	1.0079	1	1	1	1	1	1	1.3566
		1	50.58	0.001	0.7694	0.816	0.4942	0	0.0409	0	0	0	76.3444
		1.05	45.3	0.0011	0.7708	0.8193	0.5489	0.0049	0.0791	0.0091	0	0.0183	125.7542
		1.02	60.94	9e-04	0.7643	0.8142	0.3912	8e-04	0.0245	0.0021	0	0.0067	116.2818
		1.08	49.18	9e-04	0.7669	0.8153	0.5143	0.0127	0.0473	0.0183	0	0.03	330.2653
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.73	16	0.0066	0.724	0.9179	0.8969	0.3172	0.5982	0.4721	0	0.5867	0.5492
		3	57.7	0.0048	0.6381	0.8638	0.7277	0.5193	0.1564	0.6299	0	0.665	0.4865
		2.96	40.19	0.0058	0.6756	0.8924	0.8041	0.4937	0.2364	0.5984	0.01	0.655	2.327
		3	10	0.0069	0.9948	0.9929	1	1	0	0.6667	0	0.6667	0.0382
		3	332.97	1e+06	1.0552	1.1268	1	1	1	1	1	1	0.6676
		1.35	17.2	0.003	0.7302	0.8005	0.8368	0.0502	0.7882	0.1233	0	0.14	99.4333
		1.12	20.92	0.0033	0.7005	0.8067	0.7938	0.0159	0.6145	0.0224	0	0.0367	75.5983
		1.14	35.55	0.0029	0.6703	0.8014	0.6548	0.0318	0.2755	0.041	0	0.045	77.8056
		1.12	30.92	0.0033	0.6799	0.8144	0.6978	0.0269	0.3164	0.0377	0	0.0367	230.2457
	100	2.86	27.3	0.0034	0.6741	0.7966	0.8112	0.2755	0.3682	0.4469	0	0.64	0.5662
		3	82.9	0.0028	0.6402	0.7842	0.6025	0.5137	0.02	0.638	0	0.6667	0.4665
		3	55.05	0.0029	0.6546	0.786	0.7036	0.4476	0.0927	0.5967	0	0.6667	2.0564
		3	9.92	0.0069	0.9903	1.0007	1	1	0	0.6667	0	0.6667	0.0544
		3	332.91	1e+06	0.9993	1.0368	1	1	1	1	1	1	0.7547
		1.17	40.67	0.0021	0.6826	0.7635	0.5965	0.017	0.2773	0.0491	0	0.07	85.7162
		1.08	33.07	0.0022	0.6859	0.7654	0.6712	0.0066	0.2909	0.0122	0	0.0233	89.3956
		1.02	51.2	0.0017	0.6688	0.7522	0.4903	0.0044	0.0736	0.0066	0	0.01	85.3382
		1.08	41.64	0.0019	0.6743	0.7578	0.5893	0.0143	0.1064	0.0211	0	0.03	249.0528
	200	2.97	38.3	0.0019	0.6701	0.7372	0.7291	0.271	0.14	0.4422	0	0.6517	0.5877
		3	102.15	0.0015	0.653	0.7309	0.5049	0.5108	0.0018	0.6478	0	0.6667	0.5194
		3	67.7	0.0014	0.6611	0.73	0.6137	0.4176	0.0236	0.5941	0	0.6667	2.2593
		3	9.89	0.0069	0.993	0.9977	1	1	0	0.6667	0	0.6667	0.0869
		3	332.85	1e+06	1.0044	1.0147	1	1	1	1	1	1	1.3603
		1	57.9	0.001	0.6716	0.72	0.421	0	0.0045	0	0	0	97.0078
		1.02	50.56	0.0012	0.6723	0.7227	0.4948	0.001	0.0382	0.0021	0	0.0067	103.3464
		1.02	66.29	9e-04	0.6693	0.7169	0.3421	0.0063	0.0055	0.0093	0	0.01	94.5225
		1.16	56.81	0.001	0.6699	0.7186	0.4488	0.0265	0.0118	0.0409	0	0.055	290.4969
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.9	30.15	0.0078	0.5136	0.7604	0.8259	0.3857	0.4018	0.5374	0	0.645	0.5747
		3	72.49	0.0053	0.4722	0.7125	0.6585	0.5242	0.0755	0.6408	0	0.6667	0.5611
		3	54.36	0.007	0.4928	0.7465	0.7438	0.5218	0.1282	0.6223	0	0.6667	2.6902
		3	9.96	0.0081	0.9892	1.0216	1	1	0	0.6667	0	0.6667	0.0373
		3	332.95	1e+06	1.0924	1.2648	1	1	1	1	1	1	0.6745
		1.48	22.94	0.0041	0.5744	0.6687	0.785	0.0641	0.6891	0.1602	0	0.1967	134.3196
		1.08	26.26	0.0041	0.5411	0.6574	0.7397	0.0112	0.4818	0.0226	0	0.0267	65.3448
		1.14	45.04	0.0032	0.5137	0.65	0.5639	0.0247	0.1382	0.0311	0	0.045	78.9681
		1.1	39.29	0.0037	0.5209	0.6597	0.6188	0.0255	0.1609	0.0288	0	0.0367	246.2489
	100	2.98	48.28	0.0037	0.472	0.5961	0.7074	0.367	0.1382	0.53	0	0.6633	0.5533
		3	97.85	0.003	0.4605	0.5888	0.5394	0.5227	0.0064	0.6477	0	0.6667	0.5187
		3	68.12	0.0033	0.4683	0.5922	0.641	0.4624	0.0345	0.609	0	0.6667	2.3741
		3	9.93	0.0081	0.9836	1.0046	1	1	0	0.6667	0	0.6667	0.0537
		3	332.98	1e+06	1.0217	1.1047	1	1	1	1	1	1	0.8239
		1.14	49.76	0.0025	0.493	0.5738	0.5083	0.0159	0.1464	0.0267	0	0.0533	116.9242
		1.1	39.16	0.0025	0.4959	0.5725	0.6106	0.0073	0.1682	0.0127	0	0.03	78.538
		1.03	59.44	0.0018	0.4878	0.5624	0.4097	0.0053	0.0255	0.0073	0	0.0117	79.6257
		1.09	50.91	0.0021	0.4909	0.5676	0.5017	0.0167	0.0518	0.0238	0	0.0317	252.7224
	200	2.99	62.91	0.002	0.4625	0.5226	0.6139	0.367	0.0273	0.5526	0	0.665	0.6273
		3	110.39	0.0015	0.4592	0.5188	0.4606	0.5072	0	0.6515	0	0.6667	0.6306
		3	76.31	0.0016	0.4637	0.5187	0.5632	0.4161	0.0036	0.6055	0	0.6667	2.7509
		3	9.88	0.0081	0.9793	1.0096	1	1	0	0.6667	0	0.6667	0.0927
		3	332.93	1e+06	1.0298	1.0581	1	1	1	1	1	1	1.471
		1.02	61.24	0.0012	0.4732	0.5118	0.3881	0.0013	0.0109	0.0027	0	0.0067	140.0561
		1	49.69	0.0012	0.4745	0.5115	0.5031	0	0.0173	0	0	0	88.6461
		1.06	69.91	9e-04	0.4722	0.5086	0.309	0.0092	0.0036	0.0134	0	0.0183	102.0553
		1.18	62.21	0.001	0.4725	0.5101	0.3983	0.0281	0.0036	0.0457	0	0.0583	300.416

Table 45: Simulation N=50 with 3 lags, sigma=1 for scenario [Dense]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.37	9.87	0.0011	0.9512	0.99	0.997	0.2112	0.9473	0.3763	0.02	0.4583	2.9801
		3	152	0.001	0.8289	0.9715	0.9731	0.5496	0.4771	0.6466	0	0.6667	3.3295
		2.31	30.83	0.0011	0.9525	0.9901	0.9948	0.4625	0.8306	0.4931	0.24	0.5233	8.8248
		3	49.92	0.0011	0.9973	0.9921	1	1	0	0.6667	0	0.6667	0.3256
		3	52.97	1e+06	0.9886	1.0398	1	1	1	1	1	1	0.2275
		1.13	51.48	4e-04	0.8257	0.8666	0.9797	0.011	0.9761	0.0351	0	0.0433	8026.2616
		1	69.35	5e-04	0.8074	0.8858	0.9723	0	0.9578	0	0	0	1414.5585
		1.03	82.24	5e-04	0.8159	0.8907	0.9676	0.0109	0.8976	0.0142	0	0.0117	2522.3274
		1.2	49.81	9e-04	0.8939	0.9577	0.9808	0.0578	0.7802	0.0729	0	0.0767	7236.4254
	100	2.99	66.55	8e-04	0.8142	0.9353	0.9807	0.2539	0.7473	0.5325	0	0.6633	7.4255
		3	368.88	7e-04	0.7595	0.9194	0.9334	0.5474	0.1175	0.65	0	0.6667	5.7556
		3	230.65	0.001	0.8278	0.9727	0.9606	0.5704	0.2457	0.6436	0	0.6667	23.3374
		3	49.7	0.0011	0.9988	0.9978	1	1	0	0.6667	0	0.6667	0.4247
		3	52.99	1e+06	0.9922	1.0221	1	1	1	1	1	1	0.5049
		1.58	52.05	3e-04	0.8309	0.8532	0.98	0.0339	0.979	0.2487	0	0.2067	3301.9063
		1	66.04	4e-04	0.8221	0.8599	0.9736	0	0.9351	0	0	0	1740.8512
		1.03	128.92	3e-04	0.8079	0.8639	0.949	0.0092	0.6098	0.0083	0	0.0117	2158.5927
		1.08	115.35	4e-04	0.8229	0.8819	0.9549	0.0229	0.5929	0.0305	0	0.03	6277.4319
	200	2.98	90.39	4e-04	0.8025	0.8571	0.9708	0.1831	0.6067	0.4041	0	0.6633	12.6402
		3	545.45	4e-04	0.7588	0.8644	0.8994	0.5378	0.0171	0.6547	0	0.6667	10.1677
		3	469.71	6e-04	0.7706	0.8917	0.9154	0.5495	0.0337	0.6542	0	0.6667	51.3657
		3	49.49	0.0011	0.9987	0.9979	1	1	0	0.6667	0	0.6667	0.6006
		3	52.97	1e+06	0.9978	1.0108	1	1	1	1	1	1	0.9025
		1.42	280.78	3e-04	0.7909	0.8447	0.888	0.0092	0.5296	0.1266	0	0.1933	2867.9007
		1.02	110.38	3e-04	0.8124	0.8442	0.9559	9e-04	0.4598	0.005	0	0.0067	2052.4581
		1	314.35	2e-04	0.7812	0.8394	0.8743	0	0.0282	0	0	0	1981.3358
		1.04	195.83	3e-04	0.8025	0.8477	0.9227	0.011	0.2071	0.014	0	0.0167	5889.2565
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.48	19.82	0.0013	0.8938	0.984	0.9945	0.2349	0.908	0.4188	0.01	0.5083	3.2591
		3	244.79	0.0011	0.7143	0.9474	0.957	0.558	0.3041	0.6462	0	0.6667	3.6914
		2.85	88.63	0.0013	0.859	0.9857	0.9854	0.557	0.6073	0.5951	0.07	0.64	10.8147
		3	49.89	0.0013	0.9956	0.994	1	1	0	0.6667	0	0.6667	0.3003
		3	60.08	1e+06	0.9881	1.0609	1	1	1	1	1	1	0.234
		1.4	52.96	5e-04	0.7745	0.8221	0.9796	0.0302	0.9692	0.1295	0	0.14	11224.6766
		1	75.48	6e-04	0.7553	0.8357	0.9698	0	0.9506	0	0	0	1403.6885
		1	110.53	6e-04	0.7446	0.8382	0.9558	0	0.7045	0	0	0	2423.964
		1.06	110.53	7e-04	0.7586	0.8755	0.9561	0.0189	0.5533	0.0249	0	0.03	6884.2095
	100	3	104.97	9e-04	0.7141	0.8739	0.9718	0.3103	0.5922	0.5289	0	0.6667	7.2362
		3	462.45	7e-04	0.6705	0.8636	0.9166	0.5479	0.0616	0.6519	0	0.6667	5.8522
		3	364.11	0.0012	0.7115	0.9335	0.938	0.5727	0.0996	0.652	0	0.6667	25.5297
		3	49.67	0.0013	0.9975	0.9991	1	1	0	0.6667	0	0.6667	0.4118
		3	52.97	1e+06	0.9927	1.0338	1	1	1	1	1	1	0.4694
		1.74	52.64	4e-04	0.7773	0.8017	0.9798	0.036	0.972	0.3014	0	0.275	4267.173
		1.02	68.95	5e-04	0.7645	0.8071	0.9726	0.006	0.9137	0.0107	0	0.01	1606.0025
		1.04	247.29	4e-04	0.71	0.8017	0.9022	0.0099	0.1345	0.0119	0	0.0133	1967.1516
		1	183.5	4e-04	0.7257	0.8081	0.9266	0	0.2108	0	0	0	5806.7893
	200	3	143.92	4e-04	0.7112	0.7876	0.9579	0.2586	0.3261	0.4247	0	0.6667	11.7064
		3	652.51	4e-04	0.6752	0.7935	0.8799	0.5388	0.0029	0.6587	0	0.6667	9.2694
		3	577.21	6e-04	0.6831	0.8234	0.8968	0.552	0.009	0.6574	0	0.6667	45.3854
		3	49.47	0.0013	0.9979	0.998	1	1	0	0.6667	0	0.6667	0.6128
		3	52.99	1e+06	0.999	1.0164	1	1	1	1	1	1	0.9134
		1.18	459.32	3e-04	0.6875	0.77	0.8164	6e-04	0.0149	0.0044	0	0.09	3646.4524
		1.01	154.59	4e-04	0.7247	0.7782	0.9382	3e-04	0.1637	9e-04	0	0.005	2202.1822
		1	455.18	2e-04	0.6919	0.7675	0.8179	0	4e-04	0	0	0	2062.9252
		1	357.43	3e-04	0.7036	0.7745	0.857	0	0.0073	0	0	0	5450.4228
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.9	61.35	0.0016	0.7166	0.9513	0.9855	0.3582	0.7559	0.523	0	0.635	4.1221
		3	365.64	0.0013	0.5609	0.8987	0.9369	0.5668	0.1675	0.6491	0	0.6667	4.1821
		2.97	213.96	0.0016	0.6549	0.9616	0.9654	0.5906	0.2967	0.6321	0.02	0.6633	14.5416
		3	49.85	0.0015	0.9876	1.0019	1	1	0	0.6667	0	0.6667	0.2933
		3	116.09	1e+06	1.0224	1.132	1	1	1	1	1	1	0.2686
		1.61	55.21	7e-04	0.6949	0.7544	0.9791	0.0423	0.958	0.1561	0	0.21	12179.9684
		1	86.14	7e-04	0.6705	0.7627	0.9655	0	0.9212	0	0	0	1332.5593
		1.02	161.56	6e-04	0.6373	0.7617	0.9362	0.0054	0.4088	0.0056	0	0.0067	2350.7531
		1	152.93	7e-04	0.6324	0.7767	0.9388	0	0.3284	0	0	0	6612.7137
	100	3	187.61	9e-04	0.5757	0.763	0.9552	0.3915	0.3553	0.5559	0	0.6667	8.0034
		3	575.35	8e-04	0.5447	0.7641	0.8969	0.5512	0.0255	0.655	0	0.6667	6.2832
		3	502.47	0.0014	0.5603	0.8464	0.9159	0.5807	0.0337	0.657	0	0.6667	28.6115
		3	49.64	0.0015	0.9908	1.0047	1	1	0	0.6667	0	0.6667	0.4144
		3	96.46	1e+06	1.0028	1.069	1	1	1	1	1	1	0.4836
		1.84	96.02	6e-04	0.6708	0.7178	0.9626	0.0318	0.8308	0.2284	0	0.3217	5269.9575
		1.03	103.35	6e-04	0.6394	0.7152	0.9593	0.0127	0.6176	0.0142	0	0.0117	1452.0966
		1.01	361.57	4e-04	0.5823	0.7005	0.8563	0.0041	0.0206	0.0049	0	0.005	1771.7261
		1	260.71	5e-04	0.6029	0.711	0.8957	0	0.0673	0	0	0	5121.9725
	200	3	286.71	5e-04	0.5686	0.6664	0.929	0.3722	0.0698	0.546	0	0.6667	12.8328
		3	744.56	4e-04	0.5558	0.6739	0.8635	0.5408	4e-04	0.661	0	0.6667	10.1406
		3	661.36	6e-04	0.5596	0.7028	0.8808	0.5486	0.0024	0.6606	0	0.6667	50.553
		3	49.44	0.0015	0.9927	0.9998	1	1	0	0.6667	0	0.6667	0.6121
		3	105.43	1e+06	1.0075	1.0352	1	1	1	1	1	1	1.1028
		1.28	388.39	3e-04	0.5906	0.6564	0.8448	0.0013	0.0027	0.0086	0	0.14	5653.9196
		1	170.25	4e-04	0.6031	0.66	0.9319	0	0.1337	0	0	0	1859.7552
		1	484.48	2e-04	0.5808	0.6524	0.8062	0	0.001	0	0	0	1900.7505
		1	401.74	3e-04	0.589	0.6613	0.8393	0	0.0053	0	0	0	5589.3694

Table 46: Simulation N=20 with 3 lags, sigma=1 for scenario [Dense]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.48	11.48	0.0028	0.8973	0.9908	0.9809	0.2716	0.841	0.4187	0.01	0.515	1.4016
		3	79.92	0.0023	0.7758	0.9589	0.907	0.5265	0.3224	0.6287	0	0.6667	1.2897
		2.73	34	0.0027	0.8845	0.9876	0.9624	0.5169	0.601	0.5713	0.11	0.6167	5.2665
		3	19.96	0.0028	0.9942	0.9974	1	1	0	0.6667	0	0.6667	0.0745
		3	1462.84	1e+06	1.3019	1.3542	1	1	1	1	1	1	6.5996
		1.4	22.53	0.001	0.8205	0.8704	0.9474	0.0449	0.9343	0.1303	0	0.1467	428.5443
		1.02	29.56	0.0014	0.8012	0.8918	0.9266	0.0073	0.87	0.0133	0	0.01	235.3266
		1.07	44.74	0.0013	0.79	0.8927	0.8903	0.0184	0.6752	0.0237	0	0.0233	290.0645
		1.09	38.87	0.0018	0.8189	0.9237	0.9068	0.031	0.6171	0.0385	0	0.0383	840.6529
	100	2.96	33.97	0.0018	0.7933	0.9041	0.9392	0.2649	0.6357	0.5014	0	0.655	1.4391
		3	152	0.0015	0.741	0.8909	0.8227	0.5304	0.0762	0.6451	0	0.6667	1.2579
		3	106.16	0.0018	0.7661	0.9097	0.8699	0.5057	0.1557	0.6282	0	0.6667	6.0372
		3	19.86	0.0028	0.9969	0.9966	1	1	0	0.6667	0	0.6667	0.1121
		3	1462.64	1e+06	1.0241	1.0399	1	1	1	1	1	1	11.0969
		1.25	21.99	8e-04	0.8266	0.8476	0.9465	0.0229	0.9424	0.1063	0	0.1	261.4684
		1.06	34.05	9e-04	0.8084	0.8542	0.9159	0.0138	0.7457	0.0325	0	0.0267	219.844
		1.07	74.14	9e-04	0.7807	0.8539	0.8188	0.0248	0.3414	0.0285	0	0.0283	219.0595
		1.02	55.85	0.001	0.7926	0.8597	0.8614	0.0087	0.3943	0.0117	0	0.01	633.8083
	200	2.88	43.55	9e-04	0.7925	0.8451	0.9143	0.2005	0.4681	0.3989	0	0.64	1.6559
		3	201.45	8e-04	0.7522	0.8452	0.7617	0.5252	0.0186	0.6533	0	0.6667	1.3949
		3	122.15	8e-04	0.7665	0.8433	0.8328	0.443	0.0971	0.6112	0	0.6667	6.3473
		3	19.82	0.0028	0.9983	0.9987	1	1	0	0.6667	0	0.6667	0.2031
		3	1462.54	1e+06	1.0017	1.0127	1	1	1	1	1	1	8.4405
		1	136.34	6e-04	0.762	0.8278	0.6591	0	0.0238	0	0	0	255.86
		1.05	70.93	6e-04	0.7867	0.8317	0.823	0.0034	0.1624	0.0081	0	0.0183	342.3447
		1	143.19	5e-04	0.7644	0.8279	0.642	0	0.0157	0	0	0	313.1219
		1	100.97	6e-04	0.7724	0.8291	0.7476	0	0.0581	0	0	0	878.1063
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.74	18.61	0.0034	0.8061	0.9725	0.9693	0.3098	0.7605	0.4722	0	0.5867	1.6022
		3	113.69	0.0027	0.6651	0.9188	0.8694	0.5368	0.2	0.6388	0	0.6667	1.4432
		2.96	65.99	0.0033	0.7664	0.9658	0.9292	0.5706	0.3729	0.6274	0.02	0.6667	6.1825
		3	19.91	0.0033	0.9925	0.9974	1	1	0	0.6667	0	0.6667	0.076
		3	1462.76	1e+06	1.3078	1.3799	1	1	1	1	1	1	6.8079
		1.46	22.42	0.0013	0.768	0.8205	0.9479	0.0512	0.93	0.1428	0	0.175	558.8939
		1.04	32.2	0.0016	0.7429	0.8349	0.9199	0.0055	0.8419	0.0104	0	0.0133	241.5564
		1.04	61.57	0.0015	0.7081	0.8366	0.8484	0.0129	0.4357	0.0152	0	0.015	282.443
		1.08	54.23	0.0016	0.721	0.8486	0.869	0.0261	0.4543	0.0324	0	0.03	862.9843
	100	2.99	45.29	0.0019	0.7033	0.831	0.9206	0.2807	0.5071	0.4916	0	0.665	1.5188
		3	182.95	0.0016	0.6541	0.823	0.787	0.5309	0.0295	0.6458	0	0.6667	1.3261
		3	133.87	0.002	0.6741	0.8458	0.838	0.5133	0.0881	0.638	0	0.6667	6.4103
		3	19.86	0.0033	0.9968	0.9974	1	1	0	0.6667	0	0.6667	0.1132
		3	1462.61	1e+06	1.0307	1.0484	1	1	1	1	1	1	11.0816
		1.43	49.85	0.0011	0.7444	0.7922	0.8771	0.0289	0.7233	0.1763	0	0.185	336.4196
		1.07	43.3	0.0012	0.7331	0.7949	0.8924	0.0071	0.5686	0.0165	0	0.025	214.8214
		1.04	115.15	9e-04	0.6851	0.7835	0.7152	0.0089	0.039	0.0092	0	0.0117	222.0691
		1.02	83.01	0.001	0.7028	0.7895	0.7935	0.0028	0.1305	0.0039	0	0.005	625.555
	200	2.97	63.06	0.001	0.7	0.7695	0.8844	0.2529	0.2505	0.4264	0	0.66	1.6581
		3	232.21	9e-04	0.6705	0.7674	0.7249	0.5241	0.0029	0.656	0	0.6667	1.4774
		3	155.73	8e-04	0.6802	0.7665	0.7916	0.4598	0.0252	0.6283	0	0.6667	6.7863
		3	19.8	0.0033	0.9978	0.998	1	1	0	0.6667	0	0.6667	0.2082
		3	1462.5	1e+06	1.0051	1.0168	1	1	1	1	1	1	8.8874
		1	126.02	6e-04	0.6946	0.7504	0.6849	0	0.0057	0	0	0	292.8882
		1.08	79.81	8e-04	0.7041	0.7577	0.801	0.0035	0.0824	0.0081	0	0.0283	361.484
		1.04	159.86	5e-04	0.6858	0.749	0.6017	0.0035	0.0048	0.0061	0	0.0133	314.3598
		1.03	123.55	6e-04	0.6907	0.7515	0.6926	0.0046	0.0105	0.0076	0	0.0117	938.8345
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.93	49.81	0.0041	0.5783	0.8662	0.9299	0.3968	0.5205	0.541	0	0.6467	1.7129
		3	157.75	0.003	0.5019	0.8121	0.8222	0.5458	0.0948	0.6457	0	0.6667	1.5427
		3	116.63	0.0042	0.5602	0.8816	0.8782	0.5795	0.1724	0.6408	0	0.6667	7.2436
		3	19.94	0.0038	0.9942	1.0004	1	1	0	0.6667	0	0.6667	0.0756
		3	1462.74	1e+06	1.5261	1.6283	1	1	1	1	1	1	7.1755
		1.72	27.4	0.0019	0.6545	0.7208	0.9381	0.0816	0.9033	0.2622	0	0.295	801.8518
		1.04	39.77	0.002	0.616	0.7262	0.902	0.0116	0.7538	0.0167	0	0.015	216.7371
		1.04	87.29	0.0016	0.5664	0.7168	0.7838	0.0146	0.2043	0.0171	0	0.015	266.3555
		1.06	75.31	0.0018	0.5787	0.7266	0.8166	0.0241	0.2481	0.0266	0	0.025	847.7436
	100	3	89.98	0.0021	0.526	0.6792	0.8646	0.3814	0.2224	0.5479	0	0.6667	1.6675
		3	218.29	0.0017	0.5047	0.6741	0.7472	0.5336	0.0105	0.6524	0	0.6667	1.475
		3	169.95	0.0022	0.5144	0.6983	0.7995	0.5245	0.0362	0.6447	0	0.6667	7.2156
		3	19.86	0.0038	0.9905	1.0067	1	1	0	0.6667	0	0.6667	0.1114
		3	1462.51	1e+06	1.0537	1.0936	1	1	1	1	1	1	11.0822
		1.23	101.23	0.0014	0.5559	0.6543	0.75	0.0239	0.1857	0.0581	0	0.095	549.8246
		1.09	60.14	0.0015	0.5667	0.6545	0.85	0.003	0.3324	0.0083	0	0.0267	216.0211
		1	140.54	0.001	0.5367	0.6363	0.6486	0	0.0062	0	0	0	224.1312
		1	113.45	0.0012	0.5469	0.6447	0.7164	0	0.021	0	0	0	685.9465
	200	3	118.19	0.001	0.5238	0.6	0.8163	0.3678	0.0471	0.5571	0	0.6667	1.9191
		3	261.11	9e-04	0.5145	0.6005	0.6939	0.5284	5e-04	0.6593	0	0.6667	1.7162
		3	184.32	9e-04	0.52	0.6006	0.7569	0.467	0.0057	0.6381	0	0.6667	7.9372
		3	19.73	0.0038	0.989	1.0006	1	1	0	0.6667	0	0.6667	0.2069
		3	1462.38	1e+06	1.0208	1.0421	1	1	1	1	1	1	9.9439
		1.01	151.66	7e-04	0.532	0.5891	0.6209	1e-04	0.0029	5e-04	0	0.005	464.0168
		1	79.73	8e-04	0.5459	0.594	0.8007	0	0.09	0	0	0	281.3518
		1	171.72	5e-04	0.5319	0.5859	0.5707	0	0.0014	0	0	0	309.4267
		1.04	140.05	6e-04	0.5334	0.5884	0.6523	0.006	0.0033	0.0097	0	0.0133	897.5984

Table 47: Simulation N=20 with 3 lags, sigma=0.5 for scenario [Dense]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.5	11.05	0.0028	0.8954	0.9831	0.9813	0.2704	0.8443	0.4372	0.01	0.5267	1.3575
		3	80.59	0.0023	0.7703	0.9527	0.9069	0.5298	0.3248	0.6308	0	0.6667	1.2987
		2.73	34.08	0.0027	0.8796	0.9816	0.9626	0.5105	0.6	0.5632	0.09	0.6083	5.2931
		3	19.92	0.0028	0.9887	0.9913	1	1	0	0.6667	0	0.6667	0.0784
		3	1462.78	1e+06	1.2882	1.3437	1	1	1	1	1	1	6.4259
		1.43	23.16	0.001	0.8156	0.8641	0.9465	0.0526	0.9371	0.1431	0	0.1533	428.8566
		1.03	29.88	0.0014	0.7965	0.8859	0.9258	0.0077	0.8605	0.0133	0	0.01	232.8567
		1.09	46.7	0.0013	0.7823	0.8874	0.887	0.0263	0.6433	0.0306	0	0.0283	291.2001
		1.2	40.92	0.0017	0.8073	0.9124	0.9039	0.0574	0.6081	0.0707	0	0.0717	838.0594
	100	2.96	33.34	0.0017	0.7928	0.9011	0.9395	0.2565	0.6433	0.4964	0	0.6583	1.4558
		3	152.38	0.0015	0.7383	0.888	0.8225	0.5309	0.0743	0.6444	0	0.6667	1.2502
		3	107.37	0.0018	0.7623	0.9068	0.869	0.5077	0.1533	0.6298	0	0.6667	6.0741
		3	19.9	0.0028	0.994	0.9935	1	1	0	0.6667	0	0.6667	0.1185
		3	1462.65	1e+06	1.0208	1.0366	1	1	1	1	1	1	11.007
		1.32	22.17	8e-04	0.8238	0.8448	0.9464	0.029	0.9424	0.126	0	0.1167	262.993
		1.07	35.45	9e-04	0.8046	0.8515	0.9128	0.0171	0.7267	0.0358	0	0.0317	214.0736
		1.09	75.1	9e-04	0.7773	0.8498	0.8163	0.0245	0.3086	0.0279	0	0.03	216.1713
		1.04	57.31	0.001	0.7883	0.857	0.8592	0.0169	0.4057	0.0183	0	0.02	638.7156
	200	2.87	43.74	9e-04	0.7909	0.8437	0.9141	0.2001	0.4671	0.3939	0	0.6383	1.6655
		3	201.5	8e-04	0.751	0.8439	0.7615	0.5249	0.0186	0.6531	0	0.6667	1.4152
		3	121.85	8e-04	0.7652	0.8419	0.8329	0.4422	0.0962	0.6104	0	0.6667	6.3194
		3	19.81	0.0028	0.9968	0.9971	1	1	0	0.6667	0	0.6667	0.1986
		3	1462.23	1e+06	1.0001	1.0111	1	1	1	1	1	1	8.4612
		1	136.32	6e-04	0.7608	0.8264	0.6592	0	0.0243	0	0	0	250.1951
		1.03	70.55	6e-04	0.7856	0.8302	0.8239	0.0025	0.1795	0.0053	0	0.0117	342.9785
		1.02	145.34	5e-04	0.7621	0.8269	0.6377	0.003	0.0157	0.0035	0	0.0067	313.0502
		1.06	101.81	6e-04	0.7707	0.828	0.7465	0.0046	0.0548	0.0096	0	0.02	887.1133
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.73	18.51	0.0034	0.8015	0.9668	0.9699	0.312	0.7657	0.4757	0.01	0.5867	1.5876
		3	115.19	0.0027	0.6597	0.9129	0.8692	0.541	0.2024	0.6408	0	0.6667	1.4392
		2.98	65.31	0.0033	0.7636	0.9602	0.9303	0.5768	0.3757	0.634	0.02	0.6717	6.1977
		3	19.98	0.0033	0.988	0.9914	1	1	0	0.6667	0	0.6667	0.0761
		3	1462.73	1e+06	1.2999	1.3732	1	1	1	1	1	1	7.0632
		1.52	22.45	0.0013	0.763	0.8161	0.9478	0.0499	0.9281	0.146	0	0.1833	563.3986
		1.02	33.06	0.0016	0.7376	0.8295	0.9179	0.0055	0.8343	0.0067	0	0.005	239.2384
		1.04	61.03	0.0014	0.7041	0.8302	0.8499	0.0137	0.4457	0.0152	0	0.015	278.9517
		1.04	53.68	0.0016	0.7177	0.8434	0.8684	0.0103	0.4638	0.0115	0	0.0117	847.5179
	100	2.98	45.61	0.0019	0.7008	0.8281	0.9205	0.2817	0.5038	0.4885	0	0.6633	1.5268
		3	183.82	0.0016	0.6517	0.8202	0.787	0.5332	0.031	0.6467	0	0.6667	1.3322
		3	134.57	0.002	0.6718	0.8429	0.8374	0.5136	0.0843	0.6383	0	0.6667	6.4424
		3	19.93	0.0033	0.9944	0.9942	1	1	0	0.6667	0	0.6667	0.1205
		3	1462.65	1e+06	1.0274	1.0454	1	1	1	1	1	1	10.1448
		1.41	49.79	0.0011	0.7421	0.7895	0.8774	0.0308	0.7233	0.1784	0	0.1817	339.6749
		1.11	42.69	0.0012	0.732	0.7915	0.8944	0.0141	0.5805	0.0323	0	0.0417	220.0975
		1.02	114.43	9e-04	0.6834	0.7811	0.7164	0.0049	0.0514	0.0064	0	0.0067	225.0687
		1.02	83.54	0.001	0.7001	0.7871	0.7922	0.0029	0.1314	0.0042	0	0.005	634.3542
	200	2.97	64.61	0.001	0.6973	0.7681	0.8827	0.26	0.2419	0.4329	0	0.66	1.6963
		3	232.57	9e-04	0.6694	0.7661	0.7253	0.5255	0.0029	0.6561	0	0.6667	1.4883
		3	155.7	8e-04	0.6791	0.7653	0.7919	0.4602	0.0248	0.628	0	0.6667	6.8419
		3	19.73	0.0033	0.9966	0.9964	1	1	0	0.6667	0	0.6667	0.2027
		3	1462.36	1e+06	1.0034	1.0151	1	1	1	1	1	1	8.8946
		1	126.04	6e-04	0.6935	0.7492	0.6849	0	0.0052	0	0	0	289.9801
		1.01	80.04	8e-04	0.7027	0.7566	0.7999	2e-04	0.0829	6e-04	0	0.005	366.3861
		1.02	158.73	5e-04	0.6848	0.7476	0.6035	9e-04	0.0029	0.0014	0	0.0067	315.9365
		1.02	124.37	6e-04	0.6891	0.7503	0.6895	0.0016	0.011	0.003	0	0.0067	909.3731
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.95	49.29	0.004	0.5762	0.8573	0.9308	0.3995	0.5319	0.5517	0	0.65	1.6912
		3	158.39	0.003	0.4984	0.8062	0.8223	0.5477	0.0952	0.6456	0	0.6667	1.5272
		3	115.81	0.0042	0.5583	0.8742	0.8792	0.5809	0.1762	0.643	0	0.6667	7.1693
		3	19.97	0.0038	0.9919	0.9947	1	1	0	0.6667	0	0.6667	0.0772
		3	1462.75	1e+06	1.4004	1.4877	1	1	1	1	1	1	7.8998
		1.74	27.32	0.0019	0.6501	0.7161	0.9379	0.079	0.8962	0.2381	0	0.2883	798.1393
		1.02	39.16	0.002	0.6131	0.7215	0.9033	0.0095	0.7519	0.0117	0	0.01	217.4558
		1.03	87.8	0.0016	0.5623	0.7115	0.7826	0.008	0.2095	0.0084	0	0.01	263.691
		1.01	73.02	0.0018	0.5778	0.7212	0.818	0.0042	0.249	0.004	0	0.005	841.583
	100	3	91.95	0.0021	0.5223	0.6788	0.863	0.3849	0.2138	0.5525	0	0.6667	1.7399
		3	219.31	0.0017	0.5025	0.6716	0.7469	0.5353	0.0105	0.6533	0	0.6667	1.5187
		3	169.87	0.0022	0.5127	0.6955	0.7996	0.5251	0.0343	0.6448	0	0.6667	7.2306
		3	19.93	0.0038	0.9896	1.0036	1	1	0	0.6667	0	0.6667	0.1253
		3	1462.5	1e+06	1.0511	1.0913	1	1	1	1	1	1	11.0305
		1.25	101.27	0.0014	0.5548	0.6522	0.7501	0.026	0.1748	0.0625	0	0.0983	553.5148
		1.07	60.42	0.0015	0.565	0.652	0.8495	0.0042	0.3152	0.0119	0	0.025	212.7962
		1.03	143.92	0.001	0.533	0.6338	0.6466	0.0089	0.0057	0.0116	0	0.0117	219.3747
		1.02	114.35	0.0012	0.5442	0.6419	0.7163	0.0088	0.0286	0.008	0	0.01	691.6244
	200	3	116.18	0.001	0.5238	0.5984	0.818	0.3627	0.051	0.5527	0	0.6667	1.9141
		3	261.42	9e-04	0.5136	0.5994	0.6934	0.5283	5e-04	0.6592	0	0.6667	1.707
		3	184.39	9e-04	0.5191	0.5996	0.7568	0.4667	0.0067	0.6384	0	0.6667	7.9836
		3	19.8	0.0038	0.9887	0.9989	1	1	0	0.6667	0	0.6667	0.1959
		3	1462.48	1e+06	1.019	1.0401	1	1	1	1	1	1	8.4517
		1.01	151.26	7e-04	0.5311	0.588	0.6219	1e-04	0.0024	5e-04	0	0.005	514.9833
		1.02	81.96	8e-04	0.5432	0.5919	0.7961	0.0078	0.0719	0.0058	0	0.01	275.4274
		1	171.9	5e-04	0.5308	0.5848	0.5702	0	0.0014	0	0	0	307.8491
		1.04	139.48	6e-04	0.5329	0.5874	0.6545	0.0071	0.0033	0.0121	0	0.0133	861.2182

Table 48: Simulation N=50 with 3 lags, sigma=0.5 for scenario [Dense]. The models are reported in the order LASSO, SCAD, AdapLASSO, FVAR, BGR, TriSNAR, LISARwLASSO, LISARwSCAD, LISARwAdapLASSO

Persistence	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Low	50	2.33	9.13	0.0011	0.9498	0.9839	0.9973	0.2074	0.9514	0.3676	0.02	0.4367	2.9875
		3	153.44	0.001	0.8233	0.9655	0.9734	0.558	0.4822	0.6527	0	0.6667	3.3768
		2.32	28.7	0.0011	0.95	0.9839	0.9952	0.4736	0.8427	0.4994	0.24	0.5283	8.6438
		3	49.89	0.0011	0.9916	0.9859	1	1	0	0.6667	0	0.6667	0.3022
		3	52.97	1e+06	0.9822	1.0331	1	1	1	1	1	1	0.2323
		1.1515	51.6869	4e-04	0.8197	0.8616	0.9797	0.0122	0.9743	0.0342	0	0.0505	7777.8361
		1	70.16	5e-04	0.8018	0.8793	0.9719	0	0.9576	0	0	0	1421.4725
		1.03	85.26	5e-04	0.808	0.8832	0.9665	0.0115	0.872	0.0109	0	0.01	2497.8341
		1.34	55.23	8e-04	0.881	0.9436	0.9788	0.0675	0.7673	0.0991	0	0.1217	7235.3744
	100	3	67.17	8e-04	0.8115	0.9319	0.9806	0.2593	0.749	0.5392	0	0.665	8.0949
		3	369.81	7e-04	0.757	0.9164	0.9336	0.55	0.1169	0.6508	0	0.6667	6.1097
		3	231.47	0.001	0.8251	0.9695	0.9606	0.5717	0.2445	0.6445	0	0.6667	24.4343
		3	49.69	0.0011	0.9959	0.9946	1	1	0	0.6667	0	0.6667	0.4164
		3	53	1e+06	0.989	1.0188	1	1	1	1	1	1	0.5119
		1.57	52.09	3e-04	0.8282	0.8504	0.98	0.0344	0.979	0.2443	0	0.2017	3322.2523
		1	66.23	4e-04	0.8193	0.857	0.9735	0	0.93	0	0	0	1877.8156
		1.05	131.49	3e-04	0.805	0.8613	0.9481	0.0148	0.6049	0.0178	0	0.0167	2265.5961
		1.02	118.27	4e-04	0.8181	0.8786	0.9529	0.0047	0.5773	0.006	0	0.0067	6169.7889
	200	3	89.93	4e-04	0.8016	0.8554	0.971	0.183	0.6135	0.4114	0	0.6667	12.9479
		3	545.48	4e-04	0.7575	0.8629	0.8996	0.5385	0.0165	0.6548	0	0.6667	10.5622
		3	472.03	6e-04	0.7688	0.8902	0.9152	0.5502	0.0331	0.6543	0	0.6667	53.6785
		3	49.6	0.0011	0.9972	0.9962	1	1	0	0.6667	0	0.6667	0.5944
		3	52.96	1e+06	0.9962	1.0092	1	1	1	1	1	1	0.9085
		1.43	280.51	3e-04	0.7896	0.8433	0.8881	0.01	0.53	0.1381	0	0.2017	2793.4007
		1.01	111.05	3e-04	0.811	0.8429	0.9556	8e-04	0.4606	0.0033	0	0.005	2045.0179
		1	325.21	2e-04	0.7779	0.8377	0.8699	0	0.018	0	0	0	1995.6827
		1.04	207.34	3e-04	0.7991	0.8463	0.9181	0.0111	0.1927	0.0144	0	0.0167	5875.9281
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
Mid	50	2.47	18.15	0.0013	0.8948	0.9778	0.9949	0.2348	0.9163	0.4175	0.01	0.505	3.2629
		3	247.5	0.0011	0.7076	0.9414	0.9573	0.5663	0.3045	0.6506	0	0.6667	3.6451
		2.88	88.11	0.0013	0.8551	0.979	0.9857	0.5702	0.6106	0.6077	0.06	0.6467	10.7476
		3	49.89	0.0013	0.9907	0.9878	1	1	0	0.6667	0	0.6667	0.2888
		3	60.66	1e+06	0.9817	1.0541	1	1	1	1	1	1	0.2322
		1.38	53.2	5e-04	0.7693	0.8172	0.9796	0.0326	0.9698	0.131	0	0.1367	10720.2534
		1.01	74.8	6e-04	0.7502	0.8305	0.9704	0.006	0.9508	0.0067	0	0.005	1426.3487
		1.03	111.82	6e-04	0.7395	0.8333	0.9559	0.0111	0.7155	0.0124	0	0.0117	2443.4771
		1.11	108.3	7e-04	0.7556	0.8694	0.9573	0.0295	0.5667	0.0427	0	0.0433	7087.2726
	100	3	105.65	9e-04	0.7103	0.8708	0.9717	0.3167	0.5927	0.5386	0	0.6667	7.2677
		3	464.38	7e-04	0.6682	0.8607	0.9169	0.5513	0.061	0.6519	0	0.6667	5.7894
		3	365.93	0.0012	0.7087	0.9304	0.938	0.5748	0.0996	0.6525	0	0.6667	25.301
		3	49.78	0.0013	0.995	0.9958	1	1	0	0.6667	0	0.6667	0.4163
		3	52.98	1e+06	0.9894	1.0303	1	1	1	1	1	1	0.5129
		1.62	52.16	4e-04	0.7753	0.7991	0.9799	0.0319	0.9763	0.2648	0	0.2317	4240.3841
		1.03	67.93	5e-04	0.7619	0.8043	0.9729	0.0035	0.9033	0.0079	0	0.0117	1602.5827
		1.02	249.5	4e-04	0.7068	0.7987	0.9005	0.005	0.1276	0.006	0	0.0067	1976.9272
		1.01	185.27	4e-04	0.7221	0.8048	0.9262	0.0045	0.209	0.0029	0	0.005	5907.446
	200	3	141.5	4e-04	0.7113	0.786	0.9585	0.2566	0.3353	0.4209	0	0.6667	11.6067
		3	654.76	4e-04	0.6737	0.7922	0.8798	0.5401	0.0025	0.6585	0	0.6667	9.2353
		3	576.96	6e-04	0.6821	0.822	0.8969	0.5521	0.0094	0.6575	0	0.6667	45.5103
		3	49.51	0.0013	0.9966	0.9964	1	1	0	0.6667	0	0.6667	0.5838
		3	52.96	1e+06	0.9974	1.0148	1	1	1	1	1	1	0.8934
		1.19	458.49	3e-04	0.6865	0.7687	0.8167	6e-04	0.0151	0.0044	0	0.095	3581.0328
		1	150.19	4e-04	0.7255	0.7771	0.9399	0	0.1757	0	0	0	2181.0568
		1	454.44	2e-04	0.6908	0.7659	0.8182	0	0	0	0	0	2011.8386
		1	361	3e-04	0.7019	0.773	0.8556	0	0.0075	0	0	0	5134.4388
	Number observations	Chosen.Lags	Included.parameters	SSE.parameters	MSE	MSFE	FN.e	FP.e	FN.g	FP.g	FN.l	FP.l	estimation.time
High	50	2.89	61.6	0.0016	0.7147	0.9461	0.9856	0.3583	0.7573	0.5261	0	0.635	4.1095
		3	372.88	0.0013	0.5529	0.8926	0.9366	0.5736	0.1627	0.6512	0	0.6667	4.2039
		2.97	213.23	0.0016	0.6521	0.9554	0.9659	0.5954	0.3006	0.6339	0.02	0.6633	14.3754
		3	49.88	0.0015	0.9844	0.9958	1	1	0	0.6667	0	0.6667	0.3104
		3	115.52	1e+06	1.0155	1.1245	1	1	1	1	1	1	0.2506
		1.62	55.4	7e-04	0.6904	0.7497	0.9791	0.0449	0.9584	0.1601	0	0.215	12196.4945
		1	85.49	7e-04	0.6664	0.7573	0.9658	0	0.9188	0	0	0	1346.7305
		1	165.08	6e-04	0.631	0.7564	0.934	0	0.3947	0	0	0	2347.9091
		1	154.81	7e-04	0.6271	0.7712	0.9381	0	0.3194	0	0	0	6667.5614
	100	3	192.21	9e-04	0.5714	0.7612	0.9545	0.3975	0.3431	0.559	0	0.6667	7.9955
		3	576.39	8e-04	0.5425	0.7614	0.897	0.5526	0.0261	0.6554	0	0.6667	6.1893
		3	503.08	0.0013	0.5583	0.8432	0.916	0.5823	0.0327	0.6575	0	0.6667	28.1945
		3	49.79	0.0015	0.9893	1.0014	1	1	0	0.6667	0	0.6667	0.3978
		3	95.88	1e+06	0.9997	1.0651	1	1	1	1	1	1	0.4828
		1.85	94.26	6e-04	0.6693	0.7156	0.9634	0.0336	0.8373	0.2134	0	0.3183	5206.9368
		1.03	99.27	6e-04	0.6394	0.7132	0.9606	0.0071	0.6316	0.0095	0	0.0117	1456.8411
		1	362.34	4e-04	0.5798	0.6975	0.8551	0	0.0178	0	0	0	1762.4547
		1.01	262.15	5e-04	0.6	0.7084	0.8956	0.0039	0.0624	0.0048	0	0.005	5126.0301
	200	3	287.8	5e-04	0.5674	0.6649	0.929	0.3755	0.0724	0.5478	0	0.6667	12.7396
		3	744.73	4e-04	0.5549	0.6727	0.8637	0.5413	2e-04	0.661	0	0.6667	10.1523
		3	667.49	6e-04	0.558	0.7016	0.8801	0.5499	0.0022	0.6607	0	0.6667	50.809
		3	49.61	0.0015	0.9921	0.9982	1	1	0	0.6667	0	0.6667	0.6007
		3	106.09	1e+06	1.0058	1.0335	1	1	1	1	1	1	1.0462
		1.26	387.5	3e-04	0.5898	0.6552	0.8452	0.0011	0.0029	0.0078	0	0.13	5686.8427
		1.01	171.06	4e-04	0.6018	0.6591	0.9316	0.0011	0.1271	0.0027	0	0.005	1994.5589
		1	508.5	2e-04	0.5761	0.6505	0.7966	0	0.0012	0	0	0	2019.675
		1	417.41	3e-04	0.5852	0.6594	0.833	0	0.0035	0	0	0	5394.79