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Abstract

An attractive feature of panel unit root tests is the ability to exploit coefficient homogeneity under the null hypothesis of a unit root for all series involved in order to obtain a more powerful test of the unit root hypothesis. However, under the alternative hypothesis of heterogeneous panel unit root tests of at least one series being stationary, the researcher is left with little idea of how to proceed. In other words if we reject the unit root hypothesis we do not know which series caused the rejection. We propose a method that enables the distinction of a set of series into a group of stationary and a group of nonstationary series. We discuss its theoretical properties and investigate its small sample performance in a Monte Carlo study.

Keywords: Panel unit root tests, Sequential testing *JEL Codes:* C12, C15, C23

1 Introduction

Starting with the seminal work of Balestra and Nerlove (1966), dynamic models have played a crucial role in the empirical analysis of panel data. In recent years panel datasets with long time spans have become available enabling the investigation of the time series properties of these datasets. An important part of this investigation relates to the stationarity properties of panel datasets through the use of panel unit root tests.

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An attractive feature of panel unit root tests is the ability to exploit coefficient homogeneity under the null hypothesis of a unit root for all series involved in order to obtain a more powerful test of the unit root hypothesis. However, under the alternative hypothesis of heterogeneous panel unit root tests such as, e.g., Im, Pesaran, and Shin (2003), of at least one series being stationary, the researcher is left with little idea of how to proceed. In other words if we reject the unit root hypothesis we do not know which series caused the rejection.

It would be of some interest if a method were available that would enable the distinction of the set of series into a group of stationary and a group of nonstationary series. Such methods seem indeed possible and this paper is proposing one. Our method uses a sequence of panel unit root tests to distinguish between stationary and nonstationary series. If more than one series are actually nonstationary then the use of panel methods to investigate the unit root properties of the set of series is indeed more efficient compared to univariate methods.

The method we propose starts by testing the null of all series being unit root processes along the lines considered in many heterogeneous panel unit root tests such as, e.g., the Im, Pesaran, and Shin (2003) panel unit root test. In fact we will discuss our method using this test as a basis although of course any other test could be used. If the null is not rejected the procedure stops. If the null is rejected then we remove from the set of series the one with the minimum individual DF t-test and redo the panel unit root test on the remaining set of series. The procedure is continued until either the test does not reject the null hypothesis or all the series are removed from the set. The end result is a separation of the set of variables into a set of stationary variables and a set of nonstationary variables.

The paper is structured as follows: Section 2 discusses the proposed method. Section 3 provides a Monte Carlo study. Section 4 concludes.

2 The new method

We will carry out our analysis using the Im, Pesaran, and Shin (2003) heterogeneous panel unit root test. So we give a few details on the version of the test we use as an expository tool for discussing our method. Consider a sample of N cross sections observed over T time periods.

Let the stochastic process $y_{j,t}$ be generated by

$$y_{j,t} = (1 - \phi_j)\mu_j + \phi_j y_{j,t-1} + \epsilon_{j,t}, \quad j = 1, \dots, N, \quad t = 1, \dots, T \quad (1)$$

where initial values $y_{j,0}$ are given. We are interested in testing the null hypothesis of $\phi_j = 1$ for all j . Rewriting (1) as

$$\Delta y_{j,t} = (1 - \phi_j)\mu_j + \beta_j y_{j,t-1} + \epsilon_{j,t} \quad (2)$$

where $\beta_j = \phi_j - 1$, the null hypothesis becomes

$$H_0 : \beta_j = 0, \quad \forall j \quad (3)$$

We make an assumption needed in what follows

Assumption 1 *The $\epsilon_{j,t}$ in (1) are i.i.d. random variables for all j and t with zero means and heterogeneous variances σ_j^2 .*

The test is based on the average of individual Dickey-Fuller (DF) statistics. The standard DF statistic for the j -th unit is given by the t -ratio of β_j in the regression of $\Delta \mathbf{y}_j = (\Delta y_{j,1}, \dots, \Delta y_{j,T})'$ on a matrix of deterministic regressors $\boldsymbol{\tau}_T$ and $\mathbf{y}_j = (y_{j,0}, \dots, y_{j,T-1})'$. $\boldsymbol{\tau}_T$ could include just a constant, i.e. $\boldsymbol{\tau}_T = (1, \dots, 1)'$ or a constant and a time trend, i.e. $\boldsymbol{\tau}_T = ((1, 1)', (1, 2)', \dots, (1, T)')$.

Denoting the t -statistic by $t_{j,T}$ we have

$$t_{j,T} = \frac{\Delta \mathbf{y}_j' \mathbf{M}_\tau \mathbf{y}_j}{\hat{\sigma}_{j,T} (\mathbf{y}_j' \mathbf{M}_\tau \mathbf{y}_j)^{1/2}} \quad (4)$$

where $\mathbf{M}_\tau = \mathbf{I}_T - \boldsymbol{\tau}_T (\boldsymbol{\tau}_T' \boldsymbol{\tau}_T)^{-1} \boldsymbol{\tau}_T'$ and

$$\hat{\sigma}_{j,T} = \frac{\Delta \mathbf{y}_j' \mathbf{M}_\tau \mathbf{y}_j}{T} \quad (5)$$

Then the panel unit root test is based on the following test statistic

$$\bar{t}_T = 1/N \sum_{i=1}^N t_{i,T} \quad (6)$$

which we will refer to as the \bar{t} -statistic.

For one version of the panel unit root test this statistic is normalised to give

$$z_{\bar{t}} = \frac{\sqrt{N}(\bar{t}_T - E(t_T))}{\sqrt{\text{Var}(t_T)}} \quad (7)$$

As Im, Pesaran, and Shin (2003) discuss, this test has a standard normal distribution if $N \rightarrow \infty$. $E(t_T)$ and $Var(t_T)$ denote the first and second central moments of the null distribution of $t_{i,T}$. These are functions of T only and can be obtained via simulation. Further for fixed N the distribution of $z_{\bar{t}}$ is nuisance parameter free but has no closed form solution. Critical values can be obtained however using simulations as discussed in Im, Pesaran, and Shin (2003).

Our first asymptotic framework is one where T goes to infinity and subsequently N can either go to infinity or be fixed but $N^2/T \rightarrow 0$ in the former case. For further use define the following. Let $\mathbf{Y}_i = (\mathbf{y}_{j_1}, \dots, \mathbf{y}_{j_M})$, $\mathbf{i} = \{j_1, \dots, j_M\}$ and $\mathbf{t}_i = (t_{j_1,T}, \dots, t_{j_M,T})'$. Also define $\mathbf{i}^j = \{j\}$, $\{1, \dots, N\} \equiv \mathbf{i}^{1,N}$ and \mathbf{i}^{-j} such that

$$\mathbf{i}^{-j} \cup \mathbf{i}^j = \mathbf{i}$$

We now define the object we wish to estimate. For every series $y_{j,t}$ define the binary object \mathcal{I}_j which takes the value 0 if $\beta_j = 0$ and 1 if $\beta_j < 0$. We do not consider the case $\beta_j > 0$. Then, $\mathcal{I}_i = (\mathcal{I}_{j_1}, \dots, \mathcal{I}_{j_M})'$. We wish to estimate $\mathcal{I}_{\mathbf{i}^{1,N}}$. We denote the estimate by $\hat{\mathcal{I}}_{\mathbf{i}^{1,N}}$.

To do so we consider the following procedure.

1. Set $j = 1$ and $\mathbf{i}_j = \{1, \dots, N\}$.
2. Calculate the $z_{\bar{t}}$ -statistic for the set of series $\mathbf{Y}_{\mathbf{i}_j}$. If the test does not reject the null hypothesis $\beta_i = 0$, $i \in \mathbf{i}_j$, stop and set $\hat{\mathcal{I}}_{\mathbf{i}_j} = (0, \dots, 0)'$. If the test rejects go to step (3).
3. Set $\hat{\mathcal{I}}_{\mathbf{i}^l} = 1$ and $\mathbf{i}_{j+1} = \mathbf{i}_j^{-l}$, where l is the index of the series associated with the minimum $t_{s,T}$ over s . Set $j = j + 1$. Go to step (2).

In other words, we estimate a set of binary objects that indicate whether a series is stationary or not. We do this by carrying out a sequence of panel unit root tests on a reducing dataset where the reduction is carried out by dropping series for which there is evidence of stationarity. A low individual t -statistic is used as such evidence.

We will discuss conditions for the consistency of $\hat{\mathcal{I}}_{\mathbf{i}^{1,N}}$ as an estimator of $\mathcal{I}_{\mathbf{i}^{1,N}}$, both for finite and infinite N , where in the latter case $N^2/T \rightarrow 0$. Formally, we will show that

Theorem 1 Under assumption 1 and if (i) $\lim_{T \rightarrow \infty} \alpha_T \rightarrow 0$ and (ii) $\lim_{T \rightarrow \infty} \ln \alpha_T / T = 0$, where α_T is the significance level used for the panel unit root test and (iii) $N^2/T \rightarrow 0$ then

$$\lim_{T \rightarrow \infty} Pr\left(\sum_{j=1}^N |\hat{\mathcal{I}}_{\mathbf{i}j} - \mathcal{I}_{\mathbf{i}j}| > 0\right) = 0 \quad (8)$$

Proof of Theorem 1

The theorem follows from the following considerations. For all $\hat{\mathcal{I}}_{\mathbf{i}j}$ such that for some $l \in \mathbf{i}_j$, $\mathcal{I}_{\mathbf{i}l} = 1$ we know that the heterogeneous panel unit root test on the set of series $\mathbf{Y}_{\mathbf{i}j}$ will reject with probability 1 by the consistency of the panel unit root test and condition (ii) of Theorem 1 combined with standard arguments on sequences of tests as discussed in , e.g., Hosoya (1989). Consistency of the panel unit root test follows from the fact that for a stationary series $t_{j,T} = O_p(T^{1/2})$. This combined with $N^2/T \rightarrow 0$ implies that \bar{t}_T is at least $O_p(T^{1/2}/N)$ even for one stationary series in the panel. Further, we know that with probability 1, $t_{l,T} < t_{m,T}$ asymptotically if $\mathcal{I}_{\mathbf{i}l} = 1$ and $\mathcal{I}_{\mathbf{i}m} = 0$. As a result, all series for which $\mathcal{I}_{\mathbf{i}l} = 1$ will be identified as such, by the sequential approach with probability approaching 1. By condition (i) of Theorem 1 we know that if $\mathcal{I}_{\mathbf{i}l} = 0$ for all j in \mathbf{i}_j then the panel unit root test will reject with probability equal to $\alpha_T \rightarrow 0$.

QED.

Note the similarities between this setup and the variety of tests of rank where a sequence of tests are needed to determine the rank of a matrix (see e.g., Camba-Mendez and Kapetanios (2001) or Camba-Mendez, Kapetanios, Smith, and Weale (2003)).

A weaker result can be established if $N \rightarrow \infty$, the number of nonstationary series, N_1 , tends to infinity and the significance level, denoted now α , is kept fixed.

Theorem 2 Under assumption 1 and if $N, T \rightarrow \infty$, $N_1 \rightarrow \infty$ and $N^2/T \rightarrow 0$ then

$$\lim_{T \rightarrow \infty} Pr(|\hat{\mathcal{I}}_{\mathbf{i}j} - \mathcal{I}_{\mathbf{i}j}| > 0) = 0, \forall j \quad (9)$$

Proof of Theorem 2

We start by noting that with probability 1 all series for which $\mathcal{I}_{\mathbf{i}l} = 1$ will be detected by the sequential test before any series for which $\mathcal{I}_{\mathbf{i}l} = 0$. This is

because the individual DF t -tests for stationary series are $O_p(T^{1/2})$ whereas they are $O_p(1)$ for all nonstationary series. When all stationary series have been removed from the dataset, a panel test will be carried out on a set of nonstationary series. With probability α this test will reject. In general, with, at most, probability $\tilde{\alpha}^k$, k or more redundant panel unit root tests will be carried out. Note that $\tilde{\alpha}$ may be different from α as the sequence of tests is not made up of independent tests. However, it is guaranteed that $\tilde{\alpha} < 1$. Therefore, the probability that k nonstationary series are missclassified as stationary is $O(\tilde{\alpha}^k)$ and tends to zero exponentially with k . Thus, for any given series, out of the N_1 nonstationary series, the probability that it will be missclassified as stationary tends to zero.

QED.

Further asymptotic results can be obtained for the case where N and $N - N_1 \equiv N_2$ tend to infinity, not necessarily at the same rate, but T either tends to infinity more slowly than N or stays fixed. Here, we cannot provide a consistency result for $\hat{\mathcal{I}}_{1,N}$ but we can show the following,

Theorem 3 *Assume that N and N_2 tend to infinity, not necessarily at the same rate. No conditions are placed on the asymptotic behaviour of T . Then, for a series indexed by l , $\hat{\mathcal{I}}_{1,l} = 1$ if $\mathcal{I}_{1,l} = 1$ for all but $O_p(N^{1/2})$ of l .*

In other words, all but $O_p(N^{1/2})$ of the stationary series will be correctly identified as such. This result rests on the fact that the panel unit root test $z_{\bar{t}}$ is consistent as N and N_2 tend to infinity at appropriate rates and thereby will reject as long as N_2 stationary series are included in the dataset.

Proof of Theorem 3

To prove this theorem note that for all T , such that the second moment matrix of the regressors of (2) is nonsingular,

$$|E(\hat{\beta}_i | \beta_i < 0) - E(\hat{\beta}_i | \beta_i = 0)| > c_1 \quad (10)$$

for some $c_1 > 0$. This simply states that the expectation of $\hat{\beta}_i$ is not invariant to the true value of β_i . A proof of that is straightforward to obtain from the available literature, see, e.g., the discussion of the AR(1) model and references cited in the Introduction and Section 1 of MacKinnon and Smith (1998). This implies that

$$|E(t_{i,T} | \beta_i < 0) - E(t_{i,T} | \beta_i = 0)| > c_2 \quad (11)$$

for some $c_2 > 0$ and for each of the N_2 stationary series. Thus,

$$|\bar{t}_T - E(t_T)| = O_p(N_2/N) \quad (12)$$

and so $z_{\bar{t}} = O_p(N_2/N^{1/2})$. So, as long as $N_2 = O_p(N^{1/2+d})$, $d > 0$, the panel unit root test is consistent.

QED.

It is clear that our procedure is very general. It can be applied using any heterogeneous panel unit root test. The main ingredients are a panel unit root test and a criterion for choosing which series to classify as stationary at each step. Our choices of the Im, Pesaran, and Shin (2003) test for the panel unit root test and the minimum individual t -test seem relatively uncontroversial. Nevertheless, a number of possibilities arise. A reverse search using the panel equivalent of the KPSS test as developed by Shin and Snell (2003) could be envisaged.

2.1 Dealing with serial correlation

Extending the method to consider models with possibly serially correlated errors is straightforward following, e.g., Im, Pesaran, and Shin (2003). More specifically, assuming that the data are generated by individual ADF(p) regressions

$$\Delta y_{j,t} = a_j + \phi_j y_{j,t-1} + \sum_{s=1}^{p_j} \rho_{j,s} \Delta y_{j,t-s} + \epsilon_{j,t}, \quad j = 1, \dots, N, \quad t = 1, \dots, T \quad (13)$$

we can write these regressions as

$$\Delta \mathbf{y}_j = \beta_j \mathbf{y}_j + \mathbf{Q}_j \boldsymbol{\gamma}_j + \boldsymbol{\epsilon}_j \quad (14)$$

where $\mathbf{Q}_j = (\boldsymbol{\tau}_T, \Delta \mathbf{y}_{j,-1}, \dots, \Delta \mathbf{y}_{j,-p})$ and $\boldsymbol{\gamma}_j = (a_j, \rho_{j,1}, \dots, \rho_{j,p_j})'$. Then, the \bar{t}_T statistic is given by

$$\frac{1}{N} \sum_{j=1}^N t_{j,T}(p_j, \boldsymbol{\rho}) \quad (15)$$

where $t_{j,T}(p_j, \boldsymbol{\rho})$ is given by

$$t_{j,T}(p_j, \boldsymbol{\rho}) = \frac{\sqrt{T - p_j - 2} (\mathbf{y}'_j \mathbf{M}_{\mathbf{Q}_j} \Delta \mathbf{y}_j)}{(\mathbf{y}'_j \mathbf{M}_{\mathbf{Q}_j} \mathbf{y}_j)^{1/2} (\Delta \mathbf{y}'_j \mathbf{M}_{\mathbf{X}_j} \Delta \mathbf{y}_j)} \quad (16)$$

where $\boldsymbol{\rho}_j = (\rho_{j,1}, \dots, \rho_{j,p_j})'$, $\mathbf{M}_{\mathbf{Q}_j} = \mathbf{I}_T - \mathbf{Q}_j(\mathbf{Q}_j' \mathbf{Q}_j)^{-1} \mathbf{Q}_j'$, $\mathbf{M}_{\mathbf{X}_j} = \mathbf{I}_T - \mathbf{X}_j(\mathbf{X}_j' \mathbf{X}_j)^{-1} \mathbf{X}_j'$ and $\mathbf{X}_j = (\mathbf{y}_j, \mathbf{Q}_j)$. Obviously for fixed T the distributions of the individual t -statistics involve nuisance parameters whose influence however disappears as T tends to infinity. This occurs even if N remains fixed. Im, Pesaran, and Shin (2003) suggest the use of the following normalised statistic to carry out the panel unit root test.

$$z_{\bar{t}}(\mathbf{p}) = \frac{\sqrt{N} \bar{t}_T - E(t_{j,T}(p_j, 0) | \beta_j = 0)}{\sqrt{\text{Var}(t_{j,T}(p_j, 0) | \beta_j = 0)}} \quad (17)$$

This converges to $N(0, 1)$ if T and then N tend to infinity. However, even if only T tends to infinity the above statistic tends to a nuisance parameter free distribution which only depends on N .

Before presenting our Monte Carlo study we present simulation estimates of $E(t_T)$ and $\text{Var}(t_T)$ and the 5% critical values of the $z_{\bar{t}}$ test. For all the results simulations with 10000 replications have been used. We present estimates for $E(t_{j,T}(p_j, 0) | \beta_j = 0)$ and $\text{Var}(t_{j,T}(p_j, 0) | \beta_j = 0)$ for $p_j = 0, 1$ for $T \in \{10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100, 150, 200, 400\}$ in Table 1. Estimates for $E(t_{j,T}(p_j, 0) | \beta_j = 0)$ and $\text{Var}(t_{j,T}(p_j, 0) | \beta_j = 0)$ for $p_j = 2, \dots, 8$ and $T = 100, 1000$ are presented in Table 2. Critical values for the $z_{\bar{t}}$ for $T \in \{10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100, 150, 200, 400\}$, $N \in \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30\}$ and $p_j \in \{0, 1\}$ are presented in Tables 3 and 4. Finally, critical values for the $z_{\bar{t}}$ for $T \in \{100, 1000\}$, $N \in \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30\}$ and $p_j \in \{2, 3, 4, 5, 6, 7, 8\}$ are presented in Table 5.

3 Monte Carlo Study

In this section we carry out a Monte Carlo investigation of our new method. We consider the following setup. Let

$$y_{j,t} = \phi_j y_{j,t-1} + \epsilon_{j,t}, j = 1, \dots, N, \quad t = 1, \dots, T \quad (18)$$

where $\epsilon_{j,t} \sim N(0, 1)$. We investigate the new method along a number of different dimensions for the above model. Namely, we consider variations in N , T and ϕ_j . More specifically, we consider $T \in \{30, 50, 150, 400\}$ and $N \in \{5, 10, 15, 20, 25, 30\}$.

For ϕ_j we consider the following setup: $\phi_j = 1$ with probability δ over j and $\phi_j \in (\gamma_1, \gamma_2)$ with probability $1 - \delta$. This is a general setup designed

to address a number of issues not widely discussed in the literature. As this is a heterogeneous panel allowing variation in ϕ_j under the alternative hypothesis is of great importance. Further, the choice of δ is likely to affect the performance of the new method. We set $\delta \in \{0.05, 0.2, 0.5\}$.

Further we consider two overall experiment groups labelled experiment group A and experiment group B. For experiment group A, $\gamma_1 = 0.85$ and $\gamma_2 = 0.95$. For experiment group B, $\gamma_1 = 0.75$ and $\gamma_2 = 0.85$. Finally, we carry out the whole analysis for $p_j = 0$ and $p_j = 1$. We expect that our method will be able to identify the stationary series when δ is low since then there are many stationary series and therefore the power of the heterogeneous panel unit root test is likely to be higher. The performance measure we use is the estimated probability of classifying a series as stationary. This should tend to zero for nonstationary series and to one for stationary series. Denote the number of Monte Carlo replications by B . This probability is calculated as follows in our experiments.

$$\hat{P}(\mathcal{I}_{i^u} = 1 | \mathcal{I}_{i^u} = s) = \frac{1}{N_s B} \sum_{b=1}^B \sum_{\mathcal{I}_{i^q} = s} \hat{\mathcal{I}}_{i^q}^b \quad (19)$$

where $N_s = N(1 - \delta)s + N\delta(1 - s)$ and u denotes a generic series. As an alternative method of determining the stationarity or not of the set of series we consider the standard DF test for each series. Results are presented in Tables 6-13. We refer to the new method as Sequential Panel Selection Method (SPSM).

A number of conclusions emerge from these Tables. Firstly, we note that the performance of SPSM in terms of classifying I(1) series as I(1) is in general satisfactory. The probability of misclassification never exceeds 15%. This is to be expected given that the method is based on a test whose null hypothesis is that of a set of series being I(1). On the other hand, as the number of observations increases we see that this probability falls especially for $\delta = 0.5$. This is in line with the asymptotic result in Theorem 2. For example, we see that for $N = 30$, $T = 400$, $\delta = 0.5$, Setup A and $p = 0$ this probability is only 0.6%.

Moving on to the ability of SPSM to classify I(0) series as I(0) we see that the probability of that happening increases drastically with T and substantially with N as expected. It also decreases with respect to δ . This is expected as well. When there is a large proportion of I(1) series in the dataset, the panel unit root test is less powerful as the I(1) series cause a

deterioration in power. Therefore, the method stops when $I(0)$ series are still in the dataset causing the observed patterns for the estimated probability of finding an $I(0)$ series to be $I(0)$.

As usual, SPSM based on DF 1 finds more series being $I(0)$ compared to SPSM based on DF 2 or DF 3. Similarly SPSM does the same for Setup B where the $I(0)$ are less persistent. When compared to DF we see that for low δ SPSM does better since it misclassifies fewer series on average. This can be seen by adding the probability of finding an $I(1)$ to be $I(0)$ and one minus the probability of finding an $I(0)$ series to be $I(0)$.

So for $\delta = 0.05, 0.2$ SPSM does better than DF especially for samples of 150 observations which is a relevant sample size for econometric work. For samples of 400 observations both methods do well as expected. When we look at datasets with $\delta = 0.5$ DF does better. Again this is to be expected since the ability of SPSM to find an $I(0)$ to be $I(0)$ decreases with δ . Of course, δ does not affect the performance of DF.

We note a couple of things about this comparison here. Firstly, the DF test is not a consistent estimator of $\mathcal{I}_{1,N}$ neither as N or T go to infinity. Even for infinite T it will reject the null even if it is true as long as the significance level is not 0. Of course it can be made consistent by making the significance level of the test depend on T . This may be problematic because we do not know the power performance of the DF in this case. In any case DF does not improve in performance when N increases. Here the importance of the panel dimension is clear.

To make our analysis more concrete we have increased N to 200 and 400 and redid the $p = 0$, Setup A, $\delta = 0.5$ experiment for $T = 50$. Results are presented in Table 14. As we can see SPSM does clearly better than DF.

4 Conclusions

The use of panel datasets for the investigation of nonstationarity has been increasing recently. Both the availability of larger datasets and the development of new unit root testing methods specifically designed for panel datasets can account for this.

An important advantage of panel unit root tests is their ability to reject the unit root hypothesis when it is false more often than univariate tests.

Nevertheless when such a rejection occurs, for heterogeneous panel unit root tests, the researcher is often uncertain about the cause of the rejection, or in particular about the identity of the series that caused this rejection. In other words a method that could distinguish stationary from nonstationary series within a panel dataset would be of interest to empirical researchers.

This paper has suggested such a method. It is based on the the sequential use of a heterogeneous panel unit test combined with a criterion for removing series one at a time from the dataset when the panel unit root test rejects. In our implementation the individual t -test statistic has been used as such a criterion. Although, we have developed the formal components of our method using the heterogeneous panel unit root test developed by Im, Pesaran, and Shin (2003) it is clear that similar methods can be developed based on other panel unit root tests. Our Monte Carlo analysis has clearly shown that the new method works satisfactorily and, in any case, has distinct advantages over the use of the simple univariate DF unit root test for distinguishing stationary from nonstationary series in panel datasets. Further research can illustrate both the use of the new method in empirical contexts and the potential for alternative panel unit root tests to give rise to methods that improve upon the results reported here.

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Table 1: Estimated $E(t_{j,T}(p_j, 0)|\beta_j = 0)$ and $Var(t_{j,T}(p_j, 0)|\beta_j = 0)$ for $p_j \in \{0, 1\}$

T	p=0						p=1					
	$E(t_{j,T})$			$Var(t_{j,T})$			$E(t_{j,T})$			$Var(t_{j,T})$		
	DF 1	DF 2	DF 3	DF 1	DF 2	DF 3	DF 1	DF 2	DF 3	DF 1	DF 2	DF 3
10	-0.349	-1.501	-2.161	1.074	1.072	1.121	-0.396	-1.499	-2.150	1.032	1.030	1.052
15	-0.375	-1.508	-2.172	1.034	0.953	0.935	-0.386	-1.497	-2.169	1.017	0.976	0.934
20	-0.387	-1.508	-2.167	1.012	0.934	0.878	-0.386	-1.487	-2.179	1.009	0.948	0.906
25	-0.399	-1.516	-2.182	1.010	0.907	0.850	-0.414	-1.514	-2.172	1.003	0.918	0.868
30	-0.394	-1.517	-2.160	1.006	0.894	0.836	-0.406	-1.524	-2.180	1.013	0.906	0.841
40	-0.418	-1.540	-2.184	0.994	0.870	0.808	-0.403	-1.506	-2.171	1.005	0.900	0.828
50	-0.391	-1.517	-2.170	0.996	0.870	0.806	-0.434	-1.537	-2.179	0.996	0.886	0.816
60	-0.415	-1.524	-2.179	0.993	0.872	0.789	-0.420	-1.524	-2.177	0.997	0.880	0.793
70	-0.420	-1.514	-2.178	0.986	0.863	0.786	-0.416	-1.532	-2.186	0.991	0.878	0.794
80	-0.404	-1.527	-2.172	0.983	0.863	0.780	-0.416	-1.523	-2.183	0.995	0.872	0.787
90	-0.404	-1.530	-2.174	0.989	0.864	0.776	-0.421	-1.539	-2.188	0.999	0.864	0.780
100	-0.405	-1.517	-2.177	0.995	0.853	0.768	-0.427	-1.533	-2.176	0.975	0.859	0.784
150	-0.417	-1.531	-2.183	0.989	0.845	0.768	-0.421	-1.524	-2.173	0.980	0.847	0.767
200	-0.416	-1.523	-2.174	0.994	0.848	0.768	-0.407	-1.525	-2.184	0.988	0.854	0.754
400	-0.433	-1.537	-2.169	0.968	0.830	0.747	-0.426	-1.543	-2.182	0.983	0.839	0.749

Table 2: Estimated $E(t_{j,T}(p_j, 0)|\beta_j = 0)$ and $Var(t_{j,T}(p_j, 0)|\beta_j = 0)$ for $p_j = 2, \dots, 8$

	T=100						T=1000					
	$E(t_{j,T})$			$Var(t_{j,T})$			$E(t_{j,T})$			$Var(t_{j,T})$		
p	DF 1	DF 2	DF 3	DF 1	DF 2	DF 3	DF 1	DF 2	DF 3	DF 1	DF 2	DF 3
2	-0.387	-1.502	-2.163	0.998	0.877	0.799	-0.431	-1.532	-2.177	0.977	0.835	0.758
3	-0.412	-1.523	-2.161	0.969	0.870	0.793	-0.436	-1.539	-2.175	0.972	0.832	0.759
4	-0.399	-1.495	-2.136	0.985	0.875	0.789	-0.415	-1.534	-2.173	0.979	0.837	0.758
5	-0.395	-1.485	-2.123	0.983	0.880	0.801	-0.419	-1.535	-2.162	0.967	0.840	0.761
6	-0.373	-1.461	-2.113	0.999	0.903	0.800	-0.423	-1.522	-2.178	0.983	0.847	0.761
7	-0.381	-1.467	-2.108	0.970	0.890	0.826	-0.418	-1.520	-2.181	0.997	0.861	0.759
8	-0.365	-1.458	-2.092	0.982	0.904	0.817	-0.413	-1.519	-2.165	0.978	0.849	0.759

Table 3: Estimated 5% critical values for $p_j = 0$

		DF 1													
N/T	10	15	20	25	30	40	50	60	70	80	90	100	150	200	400
1	-1.54	-1.56	-1.55	-1.57	-1.55	-1.55	-1.56	-1.54	-1.54	-1.57	-1.56	-1.55	-1.53	-1.57	-1.56
2	-1.57	-1.56	-1.59	-1.57	-1.58	-1.57	-1.61	-1.60	-1.59	-1.61	-1.59	-1.60	-1.55	-1.56	-1.57
3	-1.61	-1.60	-1.60	-1.59	-1.64	-1.58	-1.62	-1.59	-1.60	-1.60	-1.59	-1.60	-1.59	-1.61	-1.63
4	-1.62	-1.62	-1.64	-1.60	-1.65	-1.59	-1.63	-1.62	-1.62	-1.66	-1.65	-1.58	-1.65	-1.61	-1.59
5	-1.63	-1.57	-1.66	-1.56	-1.62	-1.62	-1.66	-1.61	-1.63	-1.64	-1.66	-1.63	-1.60	-1.58	-1.63
6	-1.62	-1.64	-1.61	-1.62	-1.61	-1.58	-1.68	-1.60	-1.63	-1.67	-1.64	-1.64	-1.62	-1.62	-1.60
7	-1.65	-1.60	-1.59	-1.60	-1.61	-1.59	-1.67	-1.61	-1.58	-1.68	-1.61	-1.61	-1.60	-1.64	-1.59
8	-1.60	-1.64	-1.62	-1.57	-1.64	-1.59	-1.63	-1.59	-1.61	-1.67	-1.66	-1.65	-1.57	-1.60	-1.56
9	-1.66	-1.63	-1.64	-1.62	-1.66	-1.59	-1.66	-1.62	-1.60	-1.67	-1.66	-1.63	-1.60	-1.63	-1.59
10	-1.63	-1.64	-1.68	-1.61	-1.66	-1.63	-1.70	-1.61	-1.63	-1.66	-1.67	-1.68	-1.61	-1.61	-1.60
15	-1.68	-1.66	-1.62	-1.63	-1.64	-1.62	-1.69	-1.62	-1.63	-1.65	-1.66	-1.64	-1.58	-1.60	-1.62
20	-1.67	-1.63	-1.64	-1.66	-1.63	-1.55	-1.72	-1.62	-1.58	-1.68	-1.67	-1.66	-1.63	-1.63	-1.62
25	-1.66	-1.65	-1.67	-1.61	-1.67	-1.59	-1.70	-1.62	-1.63	-1.68	-1.66	-1.68	-1.61	-1.62	-1.59
30	-1.66	-1.65	-1.65	-1.61	-1.65	-1.59	-1.75	-1.60	-1.58	-1.68	-1.68	-1.70	-1.60	-1.63	-1.62
		DF 2													
N/T	10	15	20	25	30	40	50	60	70	80	90	100	150	200	400
1	-1.72	-1.66	-1.64	-1.67	-1.66	-1.63	-1.62	-1.61	-1.60	-1.62	-1.58	-1.64	-1.62	-1.63	-1.61
2	-1.72	-1.68	-1.64	-1.59	-1.61	-1.60	-1.66	-1.60	-1.65	-1.55	-1.57	-1.67	-1.60	-1.62	-1.67
3	-1.68	-1.68	-1.62	-1.63	-1.63	-1.59	-1.67	-1.64	-1.65	-1.58	-1.59	-1.60	-1.58	-1.65	-1.63
4	-1.69	-1.71	-1.61	-1.65	-1.65	-1.62	-1.63	-1.64	-1.64	-1.61	-1.61	-1.64	-1.64	-1.62	-1.63
5	-1.70	-1.70	-1.69	-1.64	-1.62	-1.60	-1.65	-1.63	-1.68	-1.61	-1.61	-1.68	-1.60	-1.64	-1.64
6	-1.67	-1.68	-1.68	-1.65	-1.63	-1.62	-1.66	-1.58	-1.64	-1.65	-1.59	-1.65	-1.62	-1.64	-1.67
7	-1.71	-1.73	-1.69	-1.64	-1.66	-1.59	-1.63	-1.65	-1.68	-1.58	-1.59	-1.70	-1.64	-1.67	-1.64
8	-1.70	-1.67	-1.68	-1.66	-1.67	-1.61	-1.67	-1.59	-1.70	-1.66	-1.60	-1.66	-1.63	-1.64	-1.64
9	-1.67	-1.67	-1.68	-1.65	-1.65	-1.62	-1.67	-1.62	-1.68	-1.63	-1.62	-1.67	-1.64	-1.65	-1.66
10	-1.72	-1.72	-1.69	-1.62	-1.65	-1.60	-1.65	-1.61	-1.68	-1.59	-1.65	-1.66	-1.65	-1.67	-1.60
15	-1.71	-1.71	-1.66	-1.65	-1.63	-1.60	-1.69	-1.64	-1.70	-1.66	-1.66	-1.68	-1.62	-1.66	-1.63
20	-1.70	-1.72	-1.67	-1.65	-1.72	-1.57	-1.70	-1.66	-1.73	-1.63	-1.64	-1.69	-1.65	-1.66	-1.61
25	-1.67	-1.72	-1.68	-1.66	-1.65	-1.58	-1.65	-1.65	-1.75	-1.62	-1.61	-1.71	-1.61	-1.67	-1.61
30	-1.67	-1.70	-1.67	-1.70	-1.69	-1.57	-1.71	-1.64	-1.71	-1.65	-1.63	-1.75	-1.62	-1.65	-1.62
		DF 3													
N/T	10	15	20	25	30	40	50	60	70	80	90	100	150	200	400
1	-1.76	-1.72	-1.72	-1.66	-1.73	-1.68	-1.66	-1.69	-1.63	-1.69	-1.65	-1.65	-1.66	-1.63	-1.67
2	-1.74	-1.72	-1.76	-1.67	-1.65	-1.68	-1.67	-1.69	-1.66	-1.64	-1.64	-1.64	-1.62	-1.64	-1.67
3	-1.71	-1.72	-1.69	-1.68	-1.68	-1.66	-1.66	-1.68	-1.67	-1.62	-1.67	-1.60	-1.61	-1.68	-1.69
4	-1.75	-1.66	-1.68	-1.66	-1.69	-1.66	-1.69	-1.64	-1.69	-1.60	-1.66	-1.70	-1.61	-1.64	-1.70
5	-1.78	-1.71	-1.72	-1.64	-1.65	-1.60	-1.65	-1.63	-1.61	-1.66	-1.68	-1.68	-1.63	-1.65	-1.68
6	-1.69	-1.69	-1.72	-1.67	-1.74	-1.63	-1.68	-1.63	-1.69	-1.69	-1.66	-1.64	-1.63	-1.64	-1.69
7	-1.74	-1.68	-1.66	-1.63	-1.72	-1.63	-1.65	-1.62	-1.61	-1.66	-1.65	-1.69	-1.63	-1.64	-1.73
8	-1.69	-1.72	-1.65	-1.65	-1.68	-1.63	-1.68	-1.61	-1.62	-1.68	-1.67	-1.68	-1.61	-1.62	-1.74
9	-1.71	-1.64	-1.70	-1.61	-1.73	-1.63	-1.66	-1.67	-1.64	-1.71	-1.66	-1.68	-1.61	-1.66	-1.68
10	-1.71	-1.69	-1.70	-1.61	-1.68	-1.59	-1.65	-1.63	-1.64	-1.70	-1.65	-1.67	-1.59	-1.65	-1.72
15	-1.71	-1.66	-1.66	-1.65	-1.72	-1.59	-1.66	-1.65	-1.63	-1.70	-1.66	-1.65	-1.62	-1.67	-1.69
20	-1.69	-1.67	-1.67	-1.60	-1.74	-1.56	-1.67	-1.66	-1.66	-1.67	-1.68	-1.64	-1.61	-1.68	-1.74
25	-1.68	-1.71	-1.69	-1.59	-1.76	-1.58	-1.67	-1.63	-1.68	-1.66	-1.63	-1.70	-1.64	-1.66	-1.74
30	-1.70	-1.64	-1.74	-1.58	-1.74	-1.60	-1.67	-1.65	-1.65	-1.69	-1.66	-1.65	-1.61	-1.69	-1.78

Table 4: Estimated 5% critical values for $p_j = 1$

		DF 1													
N/T	10	15	20	25	30	40	50	60	70	80	90	100	150	200	400
1	-1.53	-1.57	-1.55	-1.52	-1.53	-1.58	-1.49	-1.54	-1.51	-1.53	-1.53	-1.54	-1.57	-1.55	-1.58
2	-1.59	-1.55	-1.57	-1.55	-1.57	-1.57	-1.55	-1.56	-1.57	-1.57	-1.55	-1.64	-1.60	-1.59	-1.59
3	-1.60	-1.63	-1.63	-1.59	-1.60	-1.60	-1.57	-1.57	-1.58	-1.59	-1.54	-1.64	-1.64	-1.61	-1.62
4	-1.61	-1.67	-1.66	-1.61	-1.57	-1.61	-1.59	-1.56	-1.59	-1.60	-1.57	-1.62	-1.63	-1.63	-1.63
5	-1.65	-1.63	-1.66	-1.64	-1.58	-1.60	-1.55	-1.60	-1.62	-1.62	-1.55	-1.60	-1.63	-1.63	-1.62
6	-1.66	-1.66	-1.67	-1.59	-1.59	-1.64	-1.56	-1.59	-1.63	-1.61	-1.56	-1.65	-1.63	-1.63	-1.63
7	-1.63	-1.65	-1.63	-1.60	-1.61	-1.61	-1.60	-1.61	-1.66	-1.61	-1.61	-1.59	-1.62	-1.64	-1.58
8	-1.60	-1.71	-1.68	-1.61	-1.60	-1.63	-1.57	-1.59	-1.59	-1.62	-1.56	-1.62	-1.61	-1.65	-1.61
9	-1.63	-1.65	-1.68	-1.60	-1.59	-1.64	-1.52	-1.63	-1.64	-1.57	-1.62	-1.60	-1.64	-1.67	-1.61
10	-1.64	-1.65	-1.70	-1.61	-1.60	-1.63	-1.56	-1.61	-1.63	-1.62	-1.62	-1.64	-1.61	-1.65	-1.61
15	-1.67	-1.71	-1.66	-1.56	-1.62	-1.68	-1.51	-1.64	-1.68	-1.61	-1.64	-1.59	-1.66	-1.68	-1.60
20	-1.65	-1.69	-1.74	-1.62	-1.66	-1.61	-1.50	-1.57	-1.66	-1.63	-1.60	-1.60	-1.64	-1.70	-1.62
25	-1.62	-1.70	-1.71	-1.65	-1.62	-1.67	-1.48	-1.59	-1.60	-1.62	-1.61	-1.62	-1.63	-1.71	-1.59
30	-1.63	-1.73	-1.72	-1.61	-1.59	-1.63	-1.53	-1.61	-1.61	-1.63	-1.58	-1.62	-1.65	-1.74	-1.60
		DF 2													
N/T	10	15	20	25	30	40	50	60	70	80	90	100	150	200	400
1	-1.62	-1.58	-1.64	-1.60	-1.59	-1.61	-1.60	-1.59	-1.57	-1.59	-1.58	-1.57	-1.60	-1.59	-1.60
2	-1.63	-1.61	-1.64	-1.64	-1.64	-1.63	-1.58	-1.59	-1.57	-1.59	-1.60	-1.60	-1.60	-1.59	-1.55
3	-1.65	-1.61	-1.64	-1.62	-1.58	-1.61	-1.58	-1.55	-1.56	-1.60	-1.57	-1.63	-1.62	-1.60	-1.57
4	-1.66	-1.64	-1.66	-1.62	-1.60	-1.63	-1.61	-1.63	-1.58	-1.57	-1.55	-1.61	-1.64	-1.62	-1.59
5	-1.68	-1.66	-1.67	-1.63	-1.59	-1.64	-1.60	-1.63	-1.60	-1.62	-1.57	-1.60	-1.62	-1.59	-1.59
6	-1.68	-1.65	-1.70	-1.59	-1.61	-1.65	-1.59	-1.63	-1.58	-1.65	-1.59	-1.65	-1.62	-1.59	-1.60
7	-1.63	-1.60	-1.67	-1.66	-1.60	-1.64	-1.59	-1.63	-1.60	-1.61	-1.56	-1.58	-1.66	-1.65	-1.57
8	-1.61	-1.66	-1.68	-1.65	-1.63	-1.69	-1.55	-1.60	-1.58	-1.62	-1.59	-1.61	-1.68	-1.64	-1.63
9	-1.63	-1.65	-1.68	-1.62	-1.58	-1.68	-1.58	-1.62	-1.60	-1.60	-1.60	-1.62	-1.71	-1.66	-1.60
10	-1.67	-1.67	-1.70	-1.67	-1.59	-1.67	-1.56	-1.63	-1.63	-1.63	-1.59	-1.61	-1.66	-1.60	-1.58
15	-1.65	-1.67	-1.73	-1.63	-1.62	-1.67	-1.56	-1.67	-1.62	-1.64	-1.60	-1.60	-1.69	-1.64	-1.61
20	-1.64	-1.68	-1.74	-1.64	-1.60	-1.68	-1.59	-1.61	-1.58	-1.65	-1.55	-1.61	-1.63	-1.64	-1.60
25	-1.67	-1.65	-1.76	-1.66	-1.61	-1.69	-1.56	-1.61	-1.63	-1.67	-1.60	-1.58	-1.65	-1.64	-1.55
30	-1.67	-1.73	-1.77	-1.65	-1.64	-1.69	-1.56	-1.64	-1.58	-1.64	-1.56	-1.61	-1.69	-1.68	-1.61
		DF 3													
N/T	10	15	20	25	30	40	50	60	70	80	90	100	150	200	400
1	-1.66	-1.66	-1.63	-1.69	-1.62	-1.65	-1.63	-1.68	-1.64	-1.64	-1.64	-1.67	-1.64	-1.66	-1.63
2	-1.66	-1.70	-1.60	-1.63	-1.60	-1.66	-1.61	-1.68	-1.64	-1.61	-1.62	-1.59	-1.65	-1.60	-1.65
3	-1.73	-1.69	-1.62	-1.64	-1.65	-1.65	-1.65	-1.65	-1.64	-1.65	-1.63	-1.61	-1.68	-1.67	-1.63
4	-1.70	-1.63	-1.63	-1.61	-1.66	-1.68	-1.64	-1.66	-1.62	-1.61	-1.60	-1.62	-1.67	-1.63	-1.63
5	-1.71	-1.70	-1.59	-1.65	-1.63	-1.65	-1.64	-1.67	-1.59	-1.60	-1.64	-1.63	-1.62	-1.60	-1.67
6	-1.73	-1.68	-1.63	-1.64	-1.65	-1.71	-1.60	-1.66	-1.63	-1.63	-1.62	-1.66	-1.69	-1.63	-1.68
7	-1.78	-1.66	-1.64	-1.63	-1.64	-1.67	-1.66	-1.64	-1.63	-1.62	-1.63	-1.62	-1.70	-1.62	-1.65
8	-1.71	-1.70	-1.56	-1.69	-1.61	-1.65	-1.64	-1.65	-1.58	-1.63	-1.62	-1.63	-1.70	-1.66	-1.65
9	-1.74	-1.67	-1.60	-1.65	-1.63	-1.67	-1.61	-1.65	-1.63	-1.59	-1.62	-1.62	-1.69	-1.66	-1.63
10	-1.70	-1.65	-1.59	-1.66	-1.66	-1.65	-1.64	-1.64	-1.61	-1.65	-1.63	-1.61	-1.65	-1.61	-1.69
15	-1.71	-1.69	-1.61	-1.65	-1.60	-1.66	-1.65	-1.64	-1.55	-1.63	-1.60	-1.64	-1.66	-1.65	-1.64
20	-1.68	-1.62	-1.58	-1.64	-1.60	-1.66	-1.66	-1.68	-1.61	-1.62	-1.58	-1.64	-1.71	-1.65	-1.65
25	-1.71	-1.68	-1.57	-1.61	-1.65	-1.67	-1.61	-1.67	-1.60	-1.61	-1.62	-1.64	-1.68	-1.65	-1.67
30	-1.72	-1.67	-1.59	-1.65	-1.60	-1.69	-1.60	-1.67	-1.58	-1.58	-1.62	-1.66	-1.70	-1.63	-1.64

Table 5: Estimated 5% critical values for $p_j = 2, \dots, 8$

		DF 1													
		T=100							T=1000						
N/p		2	3	4	5	6	7	8	2	3	4	5	6	7	8
1		-1.56	-1.58	-1.49	-1.54	-1.52	-1.55	-1.58	-1.57	-1.57	-1.57	-1.58	-1.52	-1.53	-1.54
2		-1.56	-1.58	-1.61	-1.57	-1.54	-1.59	-1.62	-1.61	-1.58	-1.59	-1.61	-1.57	-1.57	-1.60
3		-1.62	-1.60	-1.58	-1.60	-1.58	-1.60	-1.59	-1.59	-1.58	-1.59	-1.66	-1.56	-1.58	-1.59
4		-1.62	-1.62	-1.62	-1.64	-1.61	-1.62	-1.61	-1.57	-1.57	-1.58	-1.58	-1.59	-1.59	-1.61
5		-1.63	-1.60	-1.60	-1.59	-1.56	-1.66	-1.62	-1.61	-1.58	-1.63	-1.65	-1.57	-1.64	-1.66
6		-1.62	-1.64	-1.59	-1.64	-1.56	-1.60	-1.61	-1.60	-1.62	-1.65	-1.63	-1.59	-1.60	-1.60
7		-1.65	-1.60	-1.59	-1.58	-1.60	-1.65	-1.61	-1.56	-1.56	-1.62	-1.66	-1.57	-1.59	-1.65
8		-1.61	-1.61	-1.57	-1.62	-1.65	-1.61	-1.61	-1.63	-1.59	-1.63	-1.65	-1.61	-1.59	-1.63
9		-1.58	-1.66	-1.59	-1.60	-1.65	-1.63	-1.59	-1.61	-1.58	-1.67	-1.64	-1.57	-1.59	-1.63
10		-1.65	-1.60	-1.57	-1.60	-1.59	-1.65	-1.65	-1.62	-1.57	-1.66	-1.65	-1.61	-1.61	-1.65
15		-1.68	-1.62	-1.61	-1.65	-1.56	-1.65	-1.65	-1.56	-1.59	-1.68	-1.66	-1.62	-1.64	-1.67
20		-1.68	-1.60	-1.56	-1.61	-1.62	-1.59	-1.61	-1.58	-1.59	-1.65	-1.66	-1.56	-1.60	-1.67
25		-1.68	-1.63	-1.59	-1.61	-1.62	-1.63	-1.62	-1.61	-1.56	-1.65	-1.68	-1.57	-1.64	-1.67
30		-1.72	-1.61	-1.59	-1.62	-1.64	-1.61	-1.64	-1.60	-1.59	-1.64	-1.66	-1.62	-1.62	-1.65
		DF 2													
		T=100							T=1000						
N/p		2	3	4	5	6	7	8	2	3	4	5	6	7	8
1		-1.58	-1.52	-1.55	-1.55	-1.57	-1.56	-1.54	-1.58	-1.58	-1.57	-1.54	-1.57	-1.54	-1.55
2		-1.60	-1.57	-1.59	-1.61	-1.54	-1.61	-1.55	-1.57	-1.62	-1.62	-1.61	-1.60	-1.58	-1.64
3		-1.59	-1.58	-1.58	-1.59	-1.60	-1.59	-1.55	-1.64	-1.62	-1.59	-1.60	-1.62	-1.60	-1.60
4		-1.61	-1.60	-1.56	-1.60	-1.53	-1.60	-1.55	-1.62	-1.60	-1.62	-1.59	-1.58	-1.60	-1.62
5		-1.64	-1.57	-1.59	-1.62	-1.61	-1.58	-1.56	-1.63	-1.62	-1.61	-1.63	-1.61	-1.63	-1.67
6		-1.59	-1.58	-1.61	-1.63	-1.59	-1.60	-1.60	-1.64	-1.61	-1.61	-1.59	-1.62	-1.62	-1.62
7		-1.64	-1.57	-1.60	-1.62	-1.62	-1.63	-1.57	-1.61	-1.60	-1.61	-1.61	-1.64	-1.58	-1.63
8		-1.59	-1.57	-1.59	-1.62	-1.62	-1.65	-1.58	-1.63	-1.60	-1.64	-1.61	-1.65	-1.62	-1.64
9		-1.60	-1.60	-1.61	-1.60	-1.61	-1.63	-1.58	-1.60	-1.62	-1.62	-1.62	-1.62	-1.60	-1.67
10		-1.65	-1.58	-1.61	-1.62	-1.60	-1.62	-1.59	-1.62	-1.63	-1.63	-1.61	-1.65	-1.64	-1.61
15		-1.64	-1.56	-1.64	-1.64	-1.64	-1.63	-1.56	-1.62	-1.61	-1.62	-1.64	-1.67	-1.65	-1.61
20		-1.67	-1.58	-1.63	-1.63	-1.65	-1.62	-1.56	-1.61	-1.63	-1.62	-1.61	-1.63	-1.67	-1.65
25		-1.66	-1.57	-1.66	-1.66	-1.67	-1.59	-1.55	-1.66	-1.58	-1.62	-1.58	-1.68	-1.63	-1.64
30		-1.68	-1.51	-1.61	-1.64	-1.68	-1.65	-1.59	-1.65	-1.57	-1.60	-1.64	-1.71	-1.64	-1.65
		DF 3													
		T=100							T=1000						
N/p		2	3	4	5	6	7	8	2	3	4	5	6	7	8
1		-1.65	-1.60	-1.63	-1.60	-1.58	-1.56	-1.55	-1.65	-1.60	-1.65	-1.64	-1.62	-1.63	-1.65
2		-1.57	-1.63	-1.60	-1.68	-1.60	-1.59	-1.54	-1.64	-1.64	-1.62	-1.63	-1.63	-1.60	-1.67
3		-1.59	-1.64	-1.65	-1.63	-1.61	-1.59	-1.55	-1.64	-1.65	-1.63	-1.67	-1.62	-1.60	-1.64
4		-1.57	-1.62	-1.65	-1.68	-1.60	-1.57	-1.57	-1.62	-1.60	-1.66	-1.66	-1.62	-1.59	-1.64
5		-1.58	-1.59	-1.62	-1.64	-1.62	-1.56	-1.57	-1.63	-1.64	-1.64	-1.67	-1.61	-1.59	-1.67
6		-1.58	-1.62	-1.63	-1.69	-1.63	-1.59	-1.57	-1.64	-1.64	-1.61	-1.69	-1.57	-1.63	-1.63
7		-1.58	-1.61	-1.65	-1.69	-1.61	-1.58	-1.57	-1.64	-1.63	-1.64	-1.67	-1.65	-1.59	-1.62
8		-1.56	-1.62	-1.63	-1.69	-1.62	-1.60	-1.58	-1.66	-1.61	-1.64	-1.65	-1.61	-1.61	-1.66
9		-1.55	-1.63	-1.64	-1.65	-1.63	-1.60	-1.53	-1.62	-1.64	-1.66	-1.70	-1.62	-1.61	-1.63
10		-1.62	-1.59	-1.64	-1.69	-1.63	-1.63	-1.57	-1.63	-1.64	-1.66	-1.66	-1.65	-1.59	-1.66
15		-1.55	-1.59	-1.65	-1.70	-1.65	-1.61	-1.58	-1.65	-1.63	-1.69	-1.69	-1.64	-1.60	-1.69
20		-1.56	-1.60	-1.62	-1.74	-1.62	-1.60	-1.56	-1.62	-1.68	-1.64	-1.73	-1.61	-1.60	-1.67
25		-1.58	-1.63	-1.62	-1.70	-1.61	-1.60	-1.57	-1.67	-1.68	-1.68	-1.70	-1.61	-1.59	-1.67
30		-1.56	-1.60	-1.64	-1.72	-1.59	-1.57	-1.58	-1.63	-1.65	-1.69	-1.76	-1.61	-1.60	-1.67

Table 6: SPSM, $p = 0$, Setup A^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	0.099 (0.208)	0.090 (0.346)	0.053 (0.842)	0.057 (0.965)	0.032 (0.044)	0.052 (0.080)	0.077 (0.636)	0.053 (0.922)	0.021 (0.025)	0.029 (0.034)	0.108 (0.440)	0.048 (0.873)
	10	0.107 (0.321)	0.119 (0.568)	0.072 (0.832)	0.052 (0.975)	0.036 (0.049)	0.067 (0.166)	0.104 (0.587)	0.061 (0.943)	0.012 (0.016)	0.039 (0.063)	0.100 (0.390)	0.070 (0.916)
	15	0.111 (0.340)	0.144 (0.599)	0.081 (0.886)	0.049 (0.985)	0.034 (0.050)	0.077 (0.171)	0.141 (0.692)	0.046 (0.964)	0.007 (0.015)	0.032 (0.055)	0.121 (0.506)	0.053 (0.944)
	20	0.154 (0.398)	0.160 (0.630)	0.096 (0.906)	0.053 (0.978)	0.039 (0.052)	0.088 (0.176)	0.111 (0.737)	0.060 (0.947)	0.009 (0.013)	0.025 (0.048)	0.120 (0.566)	0.080 (0.914)
	25	0.147 (0.415)	0.164 (0.679)	0.075 (0.901)	0.035 (0.976)	0.038 (0.060)	0.116 (0.241)	0.112 (0.753)	0.033 (0.956)	0.012 (0.015)	0.047 (0.074)	0.133 (0.598)	0.055 (0.934)
	30	0.159 (0.472)	0.171 (0.682)	0.084 (0.911)	0.029 (0.978)	0.055 (0.073)	0.123 (0.230)	0.142 (0.757)	0.039 (0.960)	0.017 (0.016)	0.051 (0.062)	0.139 (0.598)	0.055 (0.938)
0.20	5	0.077 (0.161)	0.099 (0.441)	0.075 (0.711)	0.052 (0.979)	0.027 (0.039)	0.058 (0.106)	0.081 (0.416)	0.047 (0.953)	0.020 (0.024)	0.030 (0.044)	0.072 (0.241)	0.054 (0.920)
	10	0.086 (0.175)	0.107 (0.535)	0.054 (0.784)	0.034 (0.939)	0.021 (0.027)	0.067 (0.152)	0.079 (0.576)	0.034 (0.901)	0.011 (0.010)	0.037 (0.052)	0.084 (0.385)	0.047 (0.866)
	15	0.103 (0.318)	0.105 (0.518)	0.063 (0.809)	0.017 (0.943)	0.033 (0.047)	0.073 (0.128)	0.093 (0.598)	0.028 (0.911)	0.011 (0.014)	0.032 (0.039)	0.089 (0.416)	0.037 (0.884)
	20	0.105 (0.265)	0.120 (0.520)	0.062 (0.824)	0.014 (0.949)	0.021 (0.031)	0.069 (0.124)	0.092 (0.620)	0.022 (0.923)	0.009 (0.011)	0.024 (0.039)	0.091 (0.439)	0.027 (0.905)
	25	0.119 (0.386)	0.118 (0.578)	0.057 (0.865)	0.013 (0.951)	0.039 (0.058)	0.082 (0.181)	0.095 (0.698)	0.020 (0.925)	0.010 (0.013)	0.035 (0.051)	0.112 (0.539)	0.033 (0.898)
	30	0.130 (0.357)	0.137 (0.533)	0.056 (0.857)	0.011 (0.947)	0.038 (0.048)	0.073 (0.131)	0.106 (0.689)	0.028 (0.918)	0.011 (0.012)	0.024 (0.031)	0.107 (0.529)	0.046 (0.885)
0.50	5	0.032 (0.102)	0.042 (0.192)	0.019 (0.609)	0.018 (0.856)	0.026 (0.030)	0.035 (0.059)	0.031 (0.434)	0.026 (0.811)	0.021 (0.018)	0.016 (0.029)	0.040 (0.281)	0.021 (0.777)
	10	0.045 (0.099)	0.052 (0.297)	0.020 (0.709)	0.012 (0.850)	0.019 (0.017)	0.034 (0.074)	0.042 (0.512)	0.014 (0.787)	0.011 (0.011)	0.018 (0.027)	0.043 (0.379)	0.021 (0.730)
	15	0.041 (0.131)	0.051 (0.216)	0.027 (0.599)	0.010 (0.832)	0.016 (0.023)	0.022 (0.041)	0.044 (0.335)	0.010 (0.783)	0.012 (0.009)	0.011 (0.016)	0.038 (0.185)	0.015 (0.729)
	20	0.049 (0.115)	0.059 (0.248)	0.028 (0.707)	0.007 (0.900)	0.013 (0.015)	0.024 (0.041)	0.052 (0.471)	0.006 (0.879)	0.006 (0.005)	0.010 (0.014)	0.048 (0.312)	0.009 (0.846)
	25	0.056 (0.167)	0.065 (0.343)	0.026 (0.687)	0.008 (0.878)	0.014 (0.020)	0.033 (0.071)	0.044 (0.467)	0.009 (0.839)	0.006 (0.008)	0.016 (0.025)	0.046 (0.308)	0.013 (0.806)
	30	0.060 (0.165)	0.070 (0.353)	0.020 (0.753)	0.006 (0.880)	0.016 (0.020)	0.035 (0.070)	0.045 (0.574)	0.011 (0.841)	0.005 (0.007)	0.013 (0.022)	0.052 (0.415)	0.015 (0.798)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 7: DF, $p = 0$, Setup A^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	(0.054 0.201)	(0.047 0.310)	(0.050 0.973)	(0.056 1.000)	(0.067 0.096)	(0.058 0.130)	(0.055 0.665)	(0.052 0.996)	(0.081 0.093)	(0.067 0.096)	(0.068 0.441)	(0.049 0.969)
	10	(0.043 0.185)	(0.042 0.393)	(0.045 0.822)	(0.052 1.000)	(0.053 0.100)	(0.043 0.156)	(0.049 0.479)	(0.059 0.992)	(0.061 0.087)	(0.056 0.118)	(0.056 0.335)	(0.058 0.961)
	15	(0.036 0.166)	(0.056 0.345)	(0.052 0.867)	(0.049 1.000)	(0.056 0.094)	(0.048 0.139)	(0.055 0.532)	(0.043 0.998)	(0.057 0.085)	(0.056 0.110)	(0.061 0.372)	(0.050 0.982)
	20	(0.050 0.170)	(0.044 0.310)	(0.047 0.874)	(0.052 1.000)	(0.056 0.091)	(0.049 0.128)	(0.047 0.574)	(0.047 0.972)	(0.069 0.087)	(0.059 0.100)	(0.051 0.412)	(0.057 0.912)
	25	(0.041 0.173)	(0.053 0.370)	(0.047 0.896)	(0.051 1.000)	(0.053 0.098)	(0.063 0.152)	(0.045 0.596)	(0.049 0.995)	(0.073 0.088)	(0.067 0.116)	(0.053 0.417)	(0.052 0.964)
	30	(0.049 0.180)	(0.047 0.327)	(0.051 0.878)	(0.051 1.000)	(0.070 0.094)	(0.066 0.130)	(0.052 0.569)	(0.053 0.991)	(0.081 0.088)	(0.071 0.106)	(0.051 0.392)	(0.046 0.957)
0.20	5	(0.055 0.178)	(0.047 0.394)	(0.053 0.799)	(0.052 1.000)	(0.057 0.095)	(0.054 0.147)	(0.039 0.434)	(0.047 1.000)	(0.069 0.090)	(0.047 0.104)	(0.056 0.288)	(0.055 0.998)
	10	(0.051 0.142)	(0.052 0.402)	(0.042 0.870)	(0.056 1.000)	(0.060 0.087)	(0.059 0.163)	(0.050 0.544)	(0.057 0.990)	(0.075 0.079)	(0.065 0.122)	(0.063 0.363)	(0.055 0.955)
	15	(0.048 0.193)	(0.050 0.338)	(0.047 0.852)	(0.048 1.000)	(0.062 0.096)	(0.056 0.130)	(0.053 0.524)	(0.053 0.993)	(0.067 0.089)	(0.066 0.102)	(0.057 0.361)	(0.057 0.959)
	20	(0.045 0.152)	(0.047 0.297)	(0.053 0.859)	(0.045 1.000)	(0.065 0.087)	(0.056 0.127)	(0.049 0.511)	(0.048 0.991)	(0.070 0.084)	(0.063 0.097)	(0.051 0.344)	(0.049 0.968)
	25	(0.046 0.193)	(0.047 0.349)	(0.054 0.915)	(0.046 1.000)	(0.063 0.101)	(0.058 0.143)	(0.050 0.589)	(0.048 0.994)	(0.069 0.089)	(0.061 0.107)	(0.053 0.400)	(0.058 0.968)
	30	(0.051 0.175)	(0.048 0.280)	(0.049 0.883)	(0.046 1.000)	(0.063 0.092)	(0.055 0.117)	(0.053 0.568)	(0.053 0.988)	(0.072 0.086)	(0.060 0.095)	(0.049 0.394)	(0.057 0.941)
0.50	5	(0.048 0.246)	(0.052 0.445)	(0.049 0.996)	(0.050 1.000)	(0.060 0.114)	(0.059 0.162)	(0.049 0.817)	(0.052 1.000)	(0.077 0.099)	(0.057 0.123)	(0.055 0.607)	(0.051 1.000)
	10	(0.051 0.164)	(0.050 0.390)	(0.047 0.971)	(0.047 1.000)	(0.063 0.085)	(0.056 0.155)	(0.053 0.752)	(0.046 0.992)	(0.068 0.084)	(0.064 0.116)	(0.055 0.547)	(0.051 0.955)
	15	(0.043 0.200)	(0.050 0.283)	(0.048 0.842)	(0.048 1.000)	(0.056 0.100)	(0.056 0.123)	(0.046 0.467)	(0.052 0.985)	(0.073 0.085)	(0.059 0.102)	(0.053 0.307)	(0.052 0.946)
	20	(0.053 0.149)	(0.047 0.258)	(0.049 0.907)	(0.047 1.000)	(0.063 0.088)	(0.055 0.113)	(0.054 0.564)	(0.049 1.000)	(0.070 0.082)	(0.059 0.090)	(0.053 0.379)	(0.049 0.999)
	25	(0.053 0.189)	(0.051 0.346)	(0.051 0.868)	(0.050 1.000)	(0.061 0.095)	(0.055 0.137)	(0.050 0.569)	(0.051 0.996)	(0.071 0.089)	(0.058 0.110)	(0.054 0.403)	(0.052 0.975)
	30	(0.051 0.170)	(0.049 0.311)	(0.047 0.929)	(0.051 1.000)	(0.064 0.094)	(0.057 0.125)	(0.050 0.663)	(0.048 0.995)	(0.070 0.084)	(0.063 0.100)	(0.054 0.475)	(0.049 0.964)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 8: SPSM, $p = 0$, Setup B^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	0.095 (0.451)	0.083 (0.643)	0.044 (0.955)	0.047 (0.999)	0.069 (0.127)	0.082 (0.284)	0.057 (0.899)	0.055 (0.995)	0.042 (0.057)	0.061 (0.135)	0.053 (0.842)	0.050 (0.994)
	10	0.122 (0.616)	0.080 (0.812)	0.048 (0.973)	0.054 (0.999)	0.088 (0.190)	0.115 (0.505)	0.045 (0.944)	0.041 (0.997)	0.052 (0.066)	0.080 (0.267)	0.059 (0.904)	0.048 (0.998)
	15	0.136 (0.675)	0.090 (0.855)	0.059 (0.980)	0.046 (1.000)	0.089 (0.221)	0.144 (0.564)	0.054 (0.952)	0.044 (0.998)	0.044 (0.067)	0.105 (0.310)	0.058 (0.919)	0.040 (0.997)
	20	0.144 (0.723)	0.101 (0.861)	0.048 (0.984)	0.045 (0.999)	0.125 (0.258)	0.153 (0.562)	0.049 (0.964)	0.046 (0.998)	0.051 (0.077)	0.109 (0.298)	0.070 (0.940)	0.058 (0.998)
	25	0.139 (0.724)	0.091 (0.871)	0.026 (0.971)	0.022 (0.997)	0.122 (0.268)	0.144 (0.613)	0.050 (0.945)	0.020 (0.995)	0.058 (0.080)	0.113 (0.370)	0.072 (0.912)	0.026 (0.993)
	30	0.178 (0.752)	0.121 (0.883)	0.029 (0.976)	0.024 (0.997)	0.134 (0.299)	0.167 (0.625)	0.051 (0.954)	0.023 (0.996)	0.058 (0.095)	0.134 (0.370)	0.077 (0.923)	0.025 (0.994)
0.20	5	0.088 (0.511)	0.072 (0.656)	0.046 (0.933)	0.045 (1.000)	0.073 (0.159)	0.083 (0.286)	0.049 (0.862)	0.049 (0.996)	0.035 (0.068)	0.068 (0.133)	0.053 (0.786)	0.055 (0.995)
	10	0.103 (0.548)	0.085 (0.730)	0.028 (0.935)	0.030 (0.993)	0.069 (0.152)	0.105 (0.404)	0.028 (0.888)	0.022 (0.988)	0.030 (0.056)	0.075 (0.194)	0.044 (0.836)	0.026 (0.986)
	15	0.110 (0.571)	0.071 (0.777)	0.018 (0.942)	0.018 (0.990)	0.078 (0.162)	0.105 (0.482)	0.023 (0.906)	0.019 (0.985)	0.025 (0.046)	0.096 (0.259)	0.037 (0.867)	0.021 (0.982)
	20	0.113 (0.626)	0.075 (0.777)	0.014 (0.944)	0.014 (0.981)	0.082 (0.206)	0.105 (0.481)	0.024 (0.908)	0.010 (0.977)	0.036 (0.063)	0.085 (0.259)	0.044 (0.870)	0.011 (0.972)
	25	0.110 (0.658)	0.072 (0.809)	0.015 (0.947)	0.014 (0.984)	0.093 (0.236)	0.118 (0.537)	0.028 (0.917)	0.010 (0.979)	0.038 (0.074)	0.095 (0.312)	0.043 (0.881)	0.009 (0.975)
	30	0.122 (0.667)	0.074 (0.821)	0.012 (0.950)	0.007 (0.983)	0.095 (0.244)	0.128 (0.559)	0.025 (0.917)	0.009 (0.981)	0.043 (0.077)	0.109 (0.329)	0.041 (0.888)	0.013 (0.978)
0.50	5	0.038 (0.196)	0.026 (0.364)	0.019 (0.784)	0.020 (0.964)	0.030 (0.059)	0.040 (0.150)	0.025 (0.684)	0.016 (0.946)	0.021 (0.036)	0.036 (0.094)	0.027 (0.608)	0.015 (0.938)
	10	0.053 (0.259)	0.037 (0.507)	0.013 (0.831)	0.012 (0.946)	0.033 (0.054)	0.042 (0.211)	0.016 (0.750)	0.012 (0.926)	0.017 (0.026)	0.034 (0.104)	0.023 (0.698)	0.011 (0.917)
	15	0.050 (0.317)	0.034 (0.541)	0.011 (0.841)	0.010 (0.934)	0.037 (0.069)	0.050 (0.248)	0.013 (0.765)	0.009 (0.927)	0.017 (0.027)	0.040 (0.115)	0.020 (0.707)	0.006 (0.924)
	20	0.060 (0.418)	0.046 (0.588)	0.007 (0.852)	0.007 (0.940)	0.037 (0.095)	0.062 (0.257)	0.013 (0.779)	0.008 (0.932)	0.018 (0.034)	0.041 (0.108)	0.025 (0.711)	0.009 (0.921)
	25	0.056 (0.393)	0.036 (0.601)	0.008 (0.855)	0.006 (0.935)	0.036 (0.089)	0.055 (0.295)	0.017 (0.787)	0.006 (0.927)	0.016 (0.026)	0.041 (0.142)	0.026 (0.716)	0.005 (0.923)
	30	0.065 (0.451)	0.046 (0.609)	0.008 (0.876)	0.004 (0.941)	0.043 (0.114)	0.068 (0.290)	0.011 (0.823)	0.004 (0.936)	0.020 (0.034)	0.043 (0.124)	0.021 (0.761)	0.007 (0.928)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 9: DF, $p = 0$, Setup B^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	(0.053 0.441)	(0.055 0.705)	(0.041 1.000)	(0.047 1.000)	(0.065 0.186)	(0.056 0.301)	(0.057 0.993)	(0.055 1.000)	(0.074 0.134)	(0.062 0.201)	(0.052 0.953)	(0.051 1.000)
	10	(0.049 0.427)	(0.049 0.781)	(0.045 1.000)	(0.053 1.000)	(0.079 0.172)	(0.040 0.368)	(0.050 0.996)	(0.041 1.000)	(0.074 0.136)	(0.062 0.242)	(0.052 0.962)	(0.048 1.000)
	15	(0.047 0.402)	(0.044 0.761)	(0.058 1.000)	(0.046 1.000)	(0.060 0.166)	(0.057 0.346)	(0.050 0.991)	(0.045 1.000)	(0.066 0.128)	(0.064 0.226)	(0.045 0.950)	(0.041 1.000)
	20	(0.048 0.406)	(0.042 0.710)	(0.045 1.000)	(0.045 1.000)	(0.060 0.165)	(0.058 0.308)	(0.050 0.995)	(0.047 1.000)	(0.080 0.128)	(0.069 0.205)	(0.059 0.960)	(0.058 1.000)
	25	(0.047 0.414)	(0.044 0.772)	(0.045 1.000)	(0.048 1.000)	(0.064 0.167)	(0.050 0.365)	(0.053 0.983)	(0.044 1.000)	(0.081 0.127)	(0.054 0.241)	(0.052 0.920)	(0.055 1.000)
	30	(0.051 0.405)	(0.050 0.746)	(0.049 1.000)	(0.052 1.000)	(0.061 0.164)	(0.070 0.342)	(0.053 0.987)	(0.052 1.000)	(0.070 0.129)	(0.061 0.226)	(0.057 0.926)	(0.053 1.000)
0.20	5	(0.050 0.503)	(0.041 0.706)	(0.044 1.000)	(0.044 1.000)	(0.064 0.203)	(0.063 0.312)	(0.048 0.981)	(0.049 1.000)	(0.054 0.147)	(0.077 0.200)	(0.048 0.897)	(0.055 1.000)
	10	(0.058 0.426)	(0.057 0.736)	(0.045 1.000)	(0.045 1.000)	(0.057 0.172)	(0.056 0.325)	(0.042 0.985)	(0.049 1.000)	(0.067 0.131)	(0.066 0.212)	(0.056 0.933)	(0.050 1.000)
	15	(0.048 0.390)	(0.044 0.769)	(0.048 1.000)	(0.049 1.000)	(0.064 0.160)	(0.058 0.364)	(0.045 0.994)	(0.052 1.000)	(0.066 0.123)	(0.071 0.237)	(0.056 0.954)	(0.062 1.000)
	20	(0.051 0.424)	(0.045 0.741)	(0.048 1.000)	(0.045 1.000)	(0.052 0.172)	(0.050 0.339)	(0.045 0.990)	(0.042 1.000)	(0.070 0.135)	(0.057 0.227)	(0.055 0.940)	(0.044 1.000)
	25	(0.046 0.434)	(0.050 0.768)	(0.050 1.000)	(0.054 1.000)	(0.057 0.179)	(0.054 0.360)	(0.055 0.988)	(0.043 1.000)	(0.068 0.136)	(0.060 0.240)	(0.056 0.939)	(0.053 1.000)
	30	(0.048 0.417)	(0.049 0.772)	(0.046 1.000)	(0.045 1.000)	(0.056 0.173)	(0.056 0.360)	(0.054 0.990)	(0.053 1.000)	(0.069 0.134)	(0.063 0.232)	(0.052 0.943)	(0.053 1.000)
0.50	5	(0.050 0.460)	(0.052 0.804)	(0.054 1.000)	(0.044 1.000)	(0.056 0.181)	(0.062 0.386)	(0.054 0.994)	(0.045 1.000)	(0.069 0.150)	(0.066 0.245)	(0.054 0.964)	(0.049 1.000)
	10	(0.046 0.368)	(0.046 0.747)	(0.050 1.000)	(0.052 1.000)	(0.062 0.149)	(0.054 0.355)	(0.045 0.988)	(0.048 1.000)	(0.070 0.125)	(0.061 0.227)	(0.057 0.936)	(0.046 1.000)
	15	(0.050 0.405)	(0.049 0.776)	(0.052 1.000)	(0.050 1.000)	(0.062 0.161)	(0.057 0.357)	(0.052 0.993)	(0.051 1.000)	(0.072 0.122)	(0.063 0.233)	(0.054 0.954)	(0.050 1.000)
	20	(0.051 0.441)	(0.052 0.718)	(0.049 1.000)	(0.048 1.000)	(0.063 0.177)	(0.057 0.311)	(0.051 0.989)	(0.050 1.000)	(0.070 0.132)	(0.064 0.205)	(0.052 0.922)	(0.050 1.000)
	25	(0.048 0.403)	(0.047 0.759)	(0.048 1.000)	(0.050 1.000)	(0.059 0.164)	(0.055 0.349)	(0.053 0.985)	(0.050 1.000)	(0.070 0.129)	(0.060 0.227)	(0.051 0.919)	(0.051 1.000)
	30	(0.051 0.427)	(0.052 0.703)	(0.047 1.000)	(0.050 1.000)	(0.060 0.173)	(0.057 0.301)	(0.052 0.988)	(0.054 1.000)	(0.072 0.133)	(0.063 0.199)	(0.054 0.937)	(0.048 1.000)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 10: SPSM, $p = 1$, Setup A^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	(0.056 0.116)	(0.092 0.315)	(0.049 0.812)	(0.048 0.953)	(0.020 0.029)	(0.048 0.072)	(0.085 0.612)	(0.051 0.908)	(0.017 0.016)	(0.018 0.033)	(0.076 0.416)	(0.052 0.841)
	10	(0.116 0.223)	(0.140 0.491)	(0.063 0.824)	(0.048 0.963)	(0.032 0.032)	(0.075 0.113)	(0.083 0.572)	(0.051 0.924)	(0.016 0.012)	(0.019 0.036)	(0.071 0.357)	(0.063 0.878)
	15	(0.129 0.268)	(0.137 0.521)	(0.071 0.883)	(0.053 0.974)	(0.028 0.038)	(0.074 0.123)	(0.118 0.684)	(0.057 0.945)	(0.014 0.011)	(0.021 0.031)	(0.099 0.485)	(0.072 0.907)
	20	(0.143 0.363)	(0.158 0.626)	(0.109 0.901)	(0.044 0.982)	(0.045 0.049)	(0.099 0.189)	(0.152 0.708)	(0.058 0.962)	(0.013 0.013)	(0.035 0.046)	(0.149 0.506)	(0.073 0.939)
	25	(0.131 0.338)	(0.168 0.597)	(0.079 0.885)	(0.029 0.969)	(0.037 0.046)	(0.091 0.169)	(0.132 0.697)	(0.055 0.939)	(0.014 0.011)	(0.029 0.041)	(0.106 0.513)	(0.069 0.903)
	30	(0.152 0.378)	(0.166 0.669)	(0.091 0.903)	(0.027 0.975)	(0.037 0.053)	(0.116 0.224)	(0.129 0.724)	(0.052 0.952)	(0.007 0.011)	(0.041 0.056)	(0.149 0.537)	(0.075 0.924)
0.20	5	(0.071 0.141)	(0.092 0.271)	(0.070 0.753)	(0.051 0.931)	(0.042 0.033)	(0.038 0.058)	(0.084 0.485)	(0.043 0.858)	(0.020 0.018)	(0.017 0.028)	(0.072 0.283)	(0.067 0.768)
	10	(0.081 0.195)	(0.109 0.412)	(0.065 0.739)	(0.028 0.937)	(0.026 0.029)	(0.062 0.098)	(0.074 0.465)	(0.036 0.898)	(0.013 0.012)	(0.024 0.031)	(0.069 0.268)	(0.050 0.848)
	15	(0.089 0.245)	(0.128 0.461)	(0.053 0.788)	(0.017 0.943)	(0.031 0.036)	(0.066 0.103)	(0.083 0.558)	(0.030 0.912)	(0.009 0.011)	(0.022 0.028)	(0.086 0.380)	(0.041 0.872)
	20	(0.101 0.310)	(0.131 0.515)	(0.040 0.849)	(0.014 0.940)	(0.027 0.047)	(0.073 0.129)	(0.085 0.687)	(0.036 0.901)	(0.011 0.014)	(0.024 0.032)	(0.103 0.541)	(0.044 0.860)
	25	(0.112 0.292)	(0.136 0.551)	(0.050 0.845)	(0.013 0.945)	(0.026 0.040)	(0.076 0.150)	(0.095 0.655)	(0.025 0.911)	(0.008 0.010)	(0.026 0.036)	(0.099 0.474)	(0.038 0.874)
	30	(0.121 0.310)	(0.136 0.494)	(0.073 0.833)	(0.012 0.956)	(0.036 0.045)	(0.064 0.109)	(0.117 0.599)	(0.019 0.931)	(0.008 0.011)	(0.019 0.025)	(0.101 0.391)	(0.023 0.908)
0.50	5	(0.015 0.029)	(0.037 0.143)	(0.035 0.410)	(0.019 0.787)	(0.016 0.018)	(0.025 0.035)	(0.030 0.200)	(0.020 0.696)	(0.016 0.018)	(0.018 0.026)	(0.031 0.122)	(0.025 0.614)
	10	(0.035 0.084)	(0.059 0.220)	(0.030 0.613)	(0.013 0.837)	(0.013 0.014)	(0.035 0.044)	(0.048 0.354)	(0.019 0.758)	(0.009 0.009)	(0.014 0.022)	(0.047 0.219)	(0.021 0.669)
	15	(0.034 0.068)	(0.054 0.251)	(0.033 0.532)	(0.011 0.830)	(0.012 0.012)	(0.032 0.055)	(0.047 0.245)	(0.014 0.753)	(0.007 0.007)	(0.013 0.018)	(0.035 0.125)	(0.021 0.682)
	20	(0.048 0.113)	(0.065 0.291)	(0.031 0.643)	(0.008 0.862)	(0.013 0.016)	(0.028 0.051)	(0.051 0.399)	(0.012 0.808)	(0.006 0.006)	(0.010 0.016)	(0.046 0.235)	(0.015 0.759)
	25	(0.041 0.115)	(0.063 0.300)	(0.029 0.646)	(0.006 0.867)	(0.012 0.017)	(0.030 0.058)	(0.045 0.404)	(0.009 0.815)	(0.006 0.007)	(0.010 0.015)	(0.045 0.242)	(0.017 0.776)
	30	(0.051 0.142)	(0.071 0.352)	(0.024 0.708)	(0.010 0.859)	(0.016 0.020)	(0.036 0.075)	(0.047 0.494)	(0.021 0.773)	(0.006 0.008)	(0.013 0.022)	(0.049 0.323)	(0.030 0.687)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 11: DF, $p = 1$, Setup A^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	(0.048 0.147)	(0.040 0.278)	(0.045 0.966)	(0.052 1.000)	(0.058 0.087)	(0.050 0.123)	(0.057 0.663)	(0.053 0.995)	(0.069 0.086)	(0.066 0.100)	(0.050 0.448)	(0.050 0.955)
	10	(0.065 0.156)	(0.051 0.302)	(0.030 0.829)	(0.049 1.000)	(0.077 0.088)	(0.071 0.125)	(0.040 0.472)	(0.044 0.974)	(0.081 0.087)	(0.070 0.102)	(0.040 0.306)	(0.052 0.919)
	15	(0.059 0.152)	(0.051 0.267)	(0.049 0.874)	(0.054 1.000)	(0.068 0.089)	(0.065 0.113)	(0.058 0.529)	(0.057 0.983)	(0.070 0.087)	(0.056 0.095)	(0.047 0.353)	(0.046 0.924)
	20	(0.046 0.164)	(0.056 0.310)	(0.058 0.864)	(0.047 1.000)	(0.069 0.090)	(0.055 0.125)	(0.055 0.492)	(0.056 0.989)	(0.082 0.091)	(0.051 0.102)	(0.064 0.322)	(0.051 0.959)
	25	(0.047 0.156)	(0.051 0.289)	(0.047 0.853)	(0.054 0.999)	(0.066 0.091)	(0.057 0.120)	(0.046 0.521)	(0.048 0.972)	(0.080 0.089)	(0.062 0.096)	(0.047 0.356)	(0.050 0.907)
	30	(0.054 0.162)	(0.049 0.316)	(0.047 0.855)	(0.044 1.000)	(0.060 0.092)	(0.058 0.130)	(0.047 0.505)	(0.051 0.980)	(0.068 0.090)	(0.068 0.102)	(0.061 0.340)	(0.056 0.928)
0.20	5	(0.044 0.165)	(0.051 0.250)	(0.056 0.875)	(0.054 1.000)	(0.079 0.090)	(0.054 0.108)	(0.052 0.518)	(0.043 0.971)	(0.084 0.092)	(0.063 0.089)	(0.049 0.340)	(0.057 0.872)
	10	(0.050 0.165)	(0.051 0.288)	(0.057 0.788)	(0.047 1.000)	(0.074 0.093)	(0.067 0.127)	(0.048 0.420)	(0.048 0.987)	(0.074 0.086)	(0.067 0.105)	(0.053 0.279)	(0.058 0.937)
	15	(0.047 0.173)	(0.058 0.277)	(0.045 0.830)	(0.049 1.000)	(0.062 0.097)	(0.071 0.119)	(0.046 0.507)	(0.050 0.991)	(0.074 0.092)	(0.068 0.099)	(0.056 0.343)	(0.052 0.955)
	20	(0.048 0.178)	(0.053 0.293)	(0.047 0.924)	(0.049 1.000)	(0.060 0.099)	(0.062 0.123)	(0.053 0.631)	(0.057 0.976)	(0.075 0.093)	(0.066 0.101)	(0.061 0.442)	(0.057 0.923)
	25	(0.052 0.168)	(0.054 0.309)	(0.050 0.883)	(0.051 1.000)	(0.068 0.094)	(0.055 0.126)	(0.048 0.535)	(0.050 0.982)	(0.076 0.088)	(0.058 0.102)	(0.051 0.356)	(0.050 0.939)
	30	(0.053 0.165)	(0.047 0.246)	(0.050 0.806)	(0.050 1.000)	(0.070 0.095)	(0.053 0.111)	(0.055 0.423)	(0.045 0.994)	(0.076 0.091)	(0.062 0.091)	(0.055 0.273)	(0.051 0.972)
0.50	5	(0.048 0.108)	(0.046 0.304)	(0.052 0.780)	(0.052 1.000)	(0.072 0.079)	(0.056 0.117)	(0.048 0.490)	(0.048 0.998)	(0.082 0.080)	(0.063 0.105)	(0.048 0.340)	(0.055 0.972)
	10	(0.052 0.158)	(0.050 0.287)	(0.052 0.892)	(0.045 1.000)	(0.065 0.093)	(0.062 0.128)	(0.054 0.542)	(0.051 0.978)	(0.078 0.087)	(0.065 0.103)	(0.055 0.359)	(0.049 0.913)
	15	(0.051 0.133)	(0.051 0.310)	(0.052 0.759)	(0.053 1.000)	(0.068 0.082)	(0.061 0.129)	(0.055 0.382)	(0.048 0.979)	(0.077 0.081)	(0.064 0.097)	(0.053 0.251)	(0.050 0.920)
	20	(0.053 0.166)	(0.050 0.288)	(0.048 0.847)	(0.047 1.000)	(0.064 0.089)	(0.055 0.120)	(0.058 0.499)	(0.049 0.986)	(0.074 0.084)	(0.062 0.097)	(0.055 0.334)	(0.050 0.947)
	25	(0.048 0.163)	(0.050 0.293)	(0.051 0.833)	(0.046 1.000)	(0.062 0.093)	(0.057 0.131)	(0.054 0.509)	(0.048 0.994)	(0.072 0.087)	(0.059 0.107)	(0.057 0.342)	(0.049 0.963)
	30	(0.053 0.172)	(0.049 0.306)	(0.048 0.867)	(0.050 0.999)	(0.066 0.094)	(0.057 0.130)	(0.053 0.579)	(0.049 0.944)	(0.078 0.091)	(0.060 0.103)	(0.056 0.397)	(0.050 0.834)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 12: SPSM, $p = 1$, Setup B^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	(0.076 0.294)	(0.091 0.602)	(0.049 0.936)	(0.039 0.997)	(0.036 0.065)	(0.087 0.229)	(0.048 0.853)	(0.045 0.991)	(0.027 0.034)	(0.056 0.103)	(0.055 0.755)	(0.052 0.988)
	10	(0.115 0.478)	(0.112 0.762)	(0.053 0.954)	(0.045 0.999)	(0.056 0.094)	(0.118 0.396)	(0.065 0.897)	(0.050 0.996)	(0.016 0.029)	(0.065 0.163)	(0.081 0.821)	(0.048 0.994)
	15	(0.145 0.578)	(0.119 0.778)	(0.050 0.965)	(0.049 0.999)	(0.069 0.144)	(0.148 0.402)	(0.065 0.919)	(0.039 0.997)	(0.021 0.035)	(0.069 0.154)	(0.088 0.856)	(0.056 0.995)
	20	(0.166 0.639)	(0.119 0.818)	(0.052 0.971)	(0.042 0.998)	(0.095 0.175)	(0.139 0.462)	(0.077 0.926)	(0.054 0.997)	(0.038 0.045)	(0.093 0.194)	(0.099 0.865)	(0.059 0.994)
	25	(0.145 0.626)	(0.112 0.830)	(0.036 0.963)	(0.030 0.995)	(0.079 0.166)	(0.146 0.509)	(0.059 0.921)	(0.025 0.991)	(0.032 0.043)	(0.085 0.229)	(0.079 0.867)	(0.029 0.988)
	30	(0.168 0.654)	(0.149 0.838)	(0.034 0.969)	(0.026 0.996)	(0.094 0.186)	(0.168 0.512)	(0.061 0.932)	(0.029 0.994)	(0.028 0.048)	(0.099 0.237)	(0.099 0.882)	(0.027 0.990)
0.20	5	(0.083 0.335)	(0.091 0.603)	(0.043 0.936)	(0.044 0.997)	(0.038 0.081)	(0.099 0.236)	(0.054 0.856)	(0.050 0.993)	(0.017 0.035)	(0.050 0.102)	(0.055 0.775)	(0.070 0.987)
	10	(0.099 0.399)	(0.094 0.657)	(0.027 0.920)	(0.034 0.986)	(0.048 0.074)	(0.088 0.274)	(0.031 0.857)	(0.033 0.979)	(0.017 0.029)	(0.050 0.102)	(0.053 0.782)	(0.028 0.965)
	15	(0.102 0.494)	(0.094 0.715)	(0.027 0.914)	(0.019 0.983)	(0.064 0.115)	(0.111 0.366)	(0.055 0.843)	(0.020 0.977)	(0.028 0.031)	(0.062 0.145)	(0.070 0.758)	(0.017 0.972)
	20	(0.112 0.475)	(0.097 0.731)	(0.018 0.923)	(0.012 0.980)	(0.053 0.096)	(0.115 0.383)	(0.039 0.865)	(0.014 0.974)	(0.018 0.024)	(0.072 0.148)	(0.065 0.793)	(0.016 0.966)
	25	(0.124 0.555)	(0.099 0.752)	(0.014 0.934)	(0.012 0.979)	(0.077 0.140)	(0.120 0.405)	(0.037 0.879)	(0.015 0.973)	(0.028 0.038)	(0.069 0.164)	(0.061 0.820)	(0.012 0.968)
	30	(0.123 0.548)	(0.097 0.763)	(0.016 0.936)	(0.011 0.983)	(0.071 0.131)	(0.128 0.420)	(0.041 0.880)	(0.011 0.977)	(0.024 0.030)	(0.075 0.181)	(0.064 0.823)	(0.011 0.971)
0.50	5	(0.043 0.165)	(0.041 0.296)	(0.017 0.669)	(0.014 0.951)	(0.024 0.051)	(0.040 0.101)	(0.024 0.518)	(0.019 0.928)	(0.015 0.030)	(0.021 0.050)	(0.028 0.416)	(0.018 0.912)
	10	(0.046 0.218)	(0.044 0.505)	(0.014 0.783)	(0.015 0.939)	(0.028 0.045)	(0.055 0.210)	(0.023 0.668)	(0.012 0.923)	(0.014 0.022)	(0.037 0.082)	(0.037 0.559)	(0.012 0.903)
	15	(0.055 0.265)	(0.043 0.502)	(0.010 0.800)	(0.009 0.914)	(0.029 0.049)	(0.047 0.195)	(0.016 0.696)	(0.007 0.904)	(0.016 0.019)	(0.031 0.077)	(0.026 0.613)	(0.008 0.890)
	20	(0.057 0.262)	(0.054 0.521)	(0.010 0.815)	(0.005 0.931)	(0.026 0.044)	(0.050 0.185)	(0.023 0.697)	(0.007 0.920)	(0.015 0.019)	(0.029 0.062)	(0.037 0.602)	(0.007 0.910)
	25	(0.057 0.301)	(0.053 0.544)	(0.006 0.836)	(0.007 0.932)	(0.027 0.050)	(0.056 0.211)	(0.015 0.756)	(0.005 0.917)	(0.012 0.017)	(0.035 0.075)	(0.026 0.679)	(0.004 0.906)
	30	(0.065 0.305)	(0.059 0.565)	(0.009 0.835)	(0.006 0.937)	(0.029 0.054)	(0.066 0.217)	(0.023 0.740)	(0.005 0.925)	(0.011 0.017)	(0.033 0.078)	(0.038 0.640)	(0.005 0.918)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 13: DF, $p = 1$, Setup B^a

		DF 1				DF 2				DF 3			
%I(1)	(N, T)	030	050	150	400	030	050	150	400	030	050	150	400
0.05	5	0.043 (0.292)	0.057 (0.620)	0.050 (1.000)	0.042 (1.000)	0.049 (0.133)	0.058 (0.259)	0.053 (0.977)	0.049 (1.000)	0.077 (0.116)	0.060 (0.182)	0.049 (0.886)	0.053 (1.000)
	10	0.054 (0.303)	0.049 (0.657)	0.055 (0.999)	0.047 (1.000)	0.077 (0.131)	0.059 (0.282)	0.063 (0.958)	0.053 (1.000)	0.075 (0.104)	0.061 (0.182)	0.060 (0.842)	0.048 (1.000)
	15	0.052 (0.326)	0.050 (0.581)	0.050 (1.000)	0.050 (1.000)	0.058 (0.145)	0.058 (0.241)	0.055 (0.955)	0.043 (1.000)	0.066 (0.115)	0.061 (0.162)	0.049 (0.837)	0.056 (1.000)
	20	0.057 (0.330)	0.044 (0.594)	0.053 (0.999)	0.044 (1.000)	0.067 (0.145)	0.046 (0.249)	0.056 (0.935)	0.056 (1.000)	0.091 (0.119)	0.065 (0.168)	0.053 (0.796)	0.059 (1.000)
	25	0.045 (0.316)	0.045 (0.639)	0.055 (0.999)	0.051 (1.000)	0.058 (0.141)	0.055 (0.270)	0.053 (0.944)	0.049 (1.000)	0.079 (0.114)	0.060 (0.178)	0.050 (0.822)	0.059 (1.000)
	30	0.049 (0.321)	0.056 (0.604)	0.063 (0.999)	0.051 (1.000)	0.059 (0.139)	0.064 (0.253)	0.053 (0.947)	0.049 (1.000)	0.067 (0.116)	0.060 (0.170)	0.059 (0.824)	0.057 (1.000)
0.20	5	0.039 (0.322)	0.055 (0.623)	0.045 (1.000)	0.045 (1.000)	0.061 (0.146)	0.067 (0.258)	0.052 (0.979)	0.052 (1.000)	0.054 (0.121)	0.065 (0.182)	0.051 (0.900)	0.070 (1.000)
	10	0.046 (0.295)	0.051 (0.578)	0.040 (0.999)	0.053 (1.000)	0.060 (0.134)	0.056 (0.241)	0.044 (0.970)	0.052 (1.000)	0.071 (0.109)	0.063 (0.166)	0.049 (0.872)	0.060 (1.000)
	15	0.046 (0.334)	0.050 (0.627)	0.059 (0.998)	0.043 (1.000)	0.065 (0.147)	0.064 (0.268)	0.061 (0.923)	0.050 (1.000)	0.077 (0.118)	0.064 (0.178)	0.054 (0.783)	0.047 (1.000)
	20	0.047 (0.285)	0.053 (0.597)	0.050 (0.999)	0.048 (1.000)	0.061 (0.123)	0.055 (0.251)	0.052 (0.943)	0.043 (1.000)	0.077 (0.110)	0.069 (0.168)	0.052 (0.816)	0.051 (1.000)
	25	0.050 (0.329)	0.052 (0.607)	0.043 (1.000)	0.045 (1.000)	0.068 (0.143)	0.059 (0.254)	0.051 (0.955)	0.050 (1.000)	0.077 (0.119)	0.063 (0.172)	0.056 (0.840)	0.052 (1.000)
	30	0.049 (0.299)	0.048 (0.603)	0.049 (0.999)	0.054 (1.000)	0.065 (0.133)	0.058 (0.249)	0.053 (0.945)	0.057 (1.000)	0.082 (0.112)	0.063 (0.167)	0.052 (0.823)	0.055 (1.000)
0.50	5	0.049 (0.375)	0.051 (0.627)	0.048 (0.998)	0.037 (1.000)	0.067 (0.172)	0.060 (0.272)	0.053 (0.949)	0.049 (1.000)	0.069 (0.137)	0.063 (0.170)	0.053 (0.805)	0.052 (1.000)
	10	0.052 (0.328)	0.051 (0.699)	0.052 (0.999)	0.054 (1.000)	0.064 (0.137)	0.058 (0.311)	0.049 (0.947)	0.050 (1.000)	0.075 (0.116)	0.071 (0.207)	0.055 (0.826)	0.048 (1.000)
	15	0.053 (0.352)	0.049 (0.660)	0.046 (0.999)	0.049 (1.000)	0.064 (0.153)	0.057 (0.288)	0.050 (0.964)	0.049 (1.000)	0.076 (0.123)	0.065 (0.189)	0.050 (0.862)	0.050 (1.000)
	20	0.052 (0.295)	0.051 (0.584)	0.050 (0.998)	0.047 (1.000)	0.068 (0.129)	0.056 (0.241)	0.048 (0.921)	0.044 (1.000)	0.080 (0.110)	0.065 (0.172)	0.052 (0.769)	0.049 (1.000)
	25	0.051 (0.334)	0.050 (0.604)	0.052 (1.000)	0.051 (1.000)	0.064 (0.142)	0.058 (0.256)	0.053 (0.969)	0.050 (1.000)	0.077 (0.120)	0.065 (0.173)	0.053 (0.876)	0.052 (1.000)
	30	0.051 (0.300)	0.051 (0.579)	0.049 (0.999)	0.047 (1.000)	0.066 (0.136)	0.062 (0.240)	0.054 (0.927)	0.049 (1.000)	0.072 (0.114)	0.064 (0.159)	0.056 (0.784)	0.053 (1.000)

^a%I(1) denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

Table 14: A comparison of SPSM and DF for large N^a

	SPSM		
N	DF 1	DF 2	DF 3
200	$\frac{0.083}{(0.703)}$	$\frac{0.103}{(0.344)}$	$\frac{0.068}{(0.161)}$
400	$\frac{0.089}{(0.737)}$	$\frac{0.116}{(0.380)}$	$\frac{0.083}{(0.191)}$
	DF		
	DF 1	DF 2	DF 3
200	$\frac{0.050}{(0.546)}$	$\frac{0.056}{(0.213)}$	$\frac{0.061}{(0.147)}$
400	$\frac{0.050}{(0.552)}$	$\frac{0.056}{(0.214)}$	$\frac{0.061}{(0.149)}$

${}^a\%I(1)$ denotes the proportion of series which are I(1). For the notation $\binom{a}{b}$ we have that a gives the probability that an I(1) series will be classified as I(0), whereas b gives the probability that an I(0) series will be classified as I(0).

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