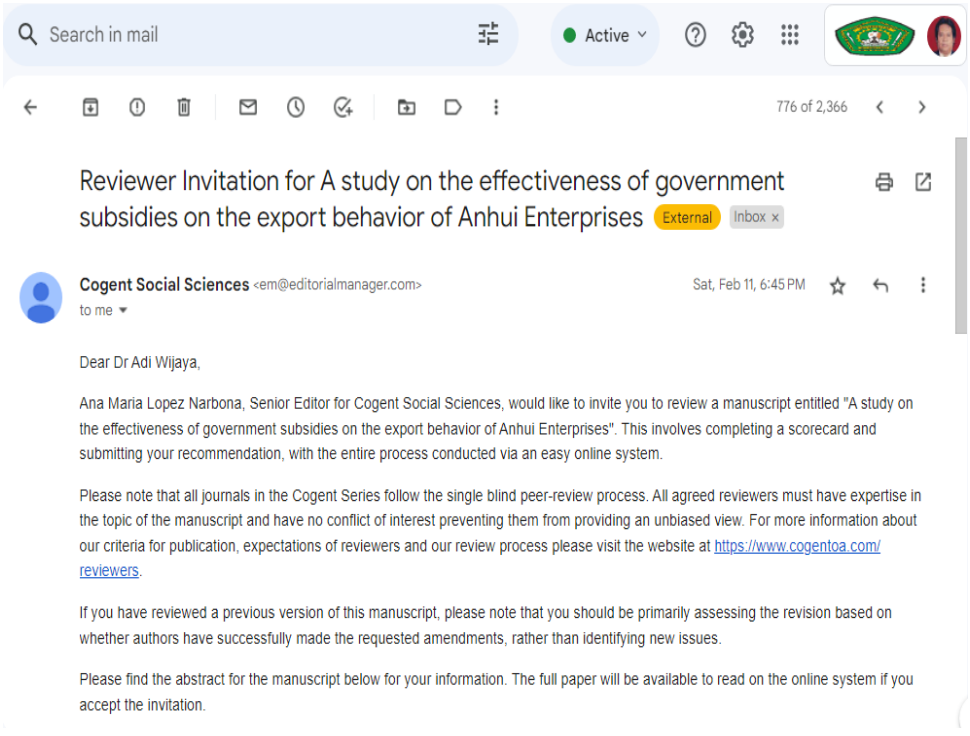


Reviewer Invitation for A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises

External Inbox ×

Cogent Social Sciences <em@editorialmanager.com>
to me

Sat, Feb 11, 6:45 PM

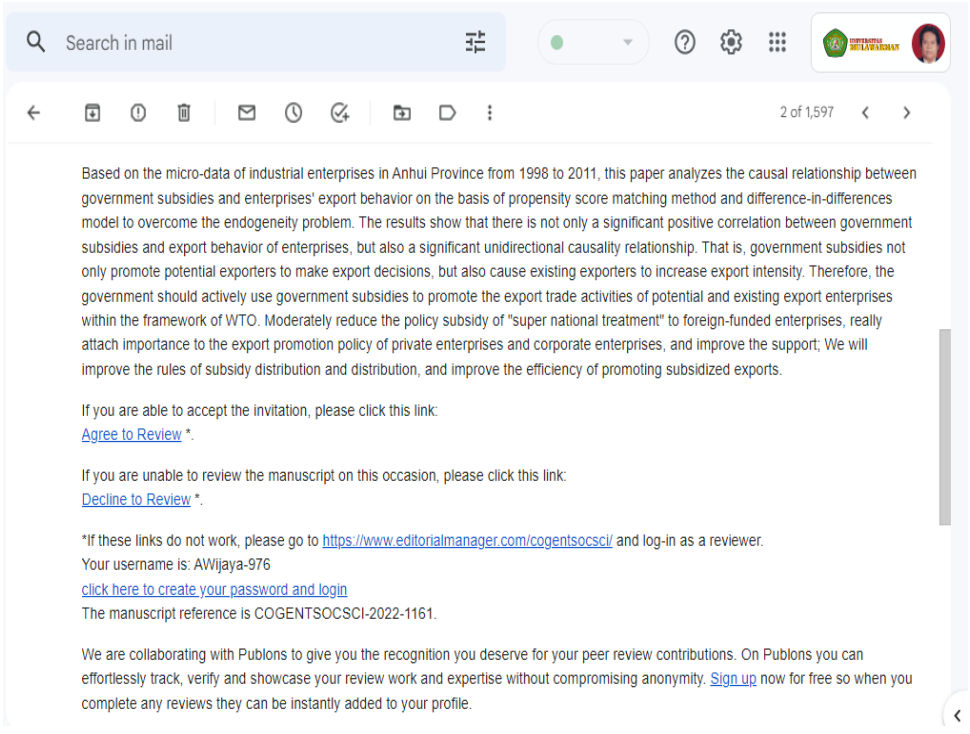
Dear Dr Adi Wijaya,

Ana Maria Lopez Narbona, Senior Editor for Cogent Social Sciences, would like to invite you to review a manuscript entitled "A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises". This involves completing a scorecard and submitting your recommendation, with the entire process conducted via an easy online system.

Please note that all journals in the Cogent Series follow the single blind peer-review process. All agreed reviewers must have expertise in the topic of the manuscript and have no conflict of interest preventing them from providing an unbiased view. For more information about our criteria for publication, expectations of reviewers and our review process please visit the website at https://www.cogentoa.com/reviewers.

If you have reviewed a previous version of this manuscript, please note that you should be primarily assessing the revision based on whether authors have successfully made the requested amendments, rather than identifying new issues.

Please find the abstract for the manuscript below for your information. The full paper will be available to read on the online system if you accept the invitation.



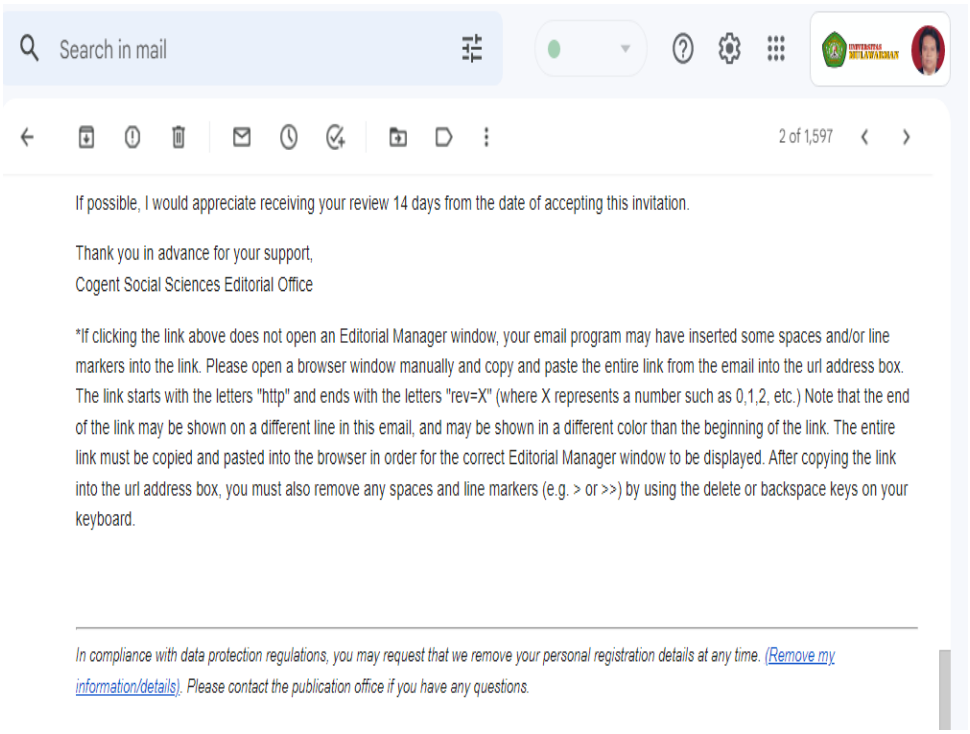
Based on the micro-data of industrial enterprises in Anhui Province from 1998 to 2011, this paper analyzes the causal relationship between government subsidies and enterprises' export behavior on the basis of propensity score matching method and difference-in-differences model to overcome the endogeneity problem. The results show that there is not only a significant positive correlation between government subsidies and export behavior of enterprises, but also a significant unidirectional causality relationship. That is, government subsidies not only promote potential exporters to make export decisions, but also cause existing exporters to increase export intensity. Therefore, the government should actively use government subsidies to promote the export trade activities of potential and existing export enterprises within the framework of WTO. Moderately reduce the policy subsidy of "super national treatment" to foreign-funded enterprises, really attach importance to the export promotion policy of private enterprises and corporate enterprises, and improve the support; We will improve the rules of subsidy distribution and distribution, and improve the efficiency of promoting subsidized exports.

If you are able to accept the invitation, please click this link:
Agree to Review *.

If you are unable to review the manuscript on this occasion, please click this link:
Decline to Review *.

*If these links do not work, please go to https://www.editorialmanager.com/cogentsocsci/ and log-in as a reviewer.
Your username is: AWijaya-976
click here to create your password and login
The manuscript reference is COGENTSOCSCI-2022-1161.

We are collaborating with Publons to give you the recognition you deserve for your peer review contributions. On Publons you can effortlessly track, verify and showcase your review work and expertise without compromising anonymity. Sign up now for free so when you complete any reviews they can be instantly added to your profile.



Registration Questions

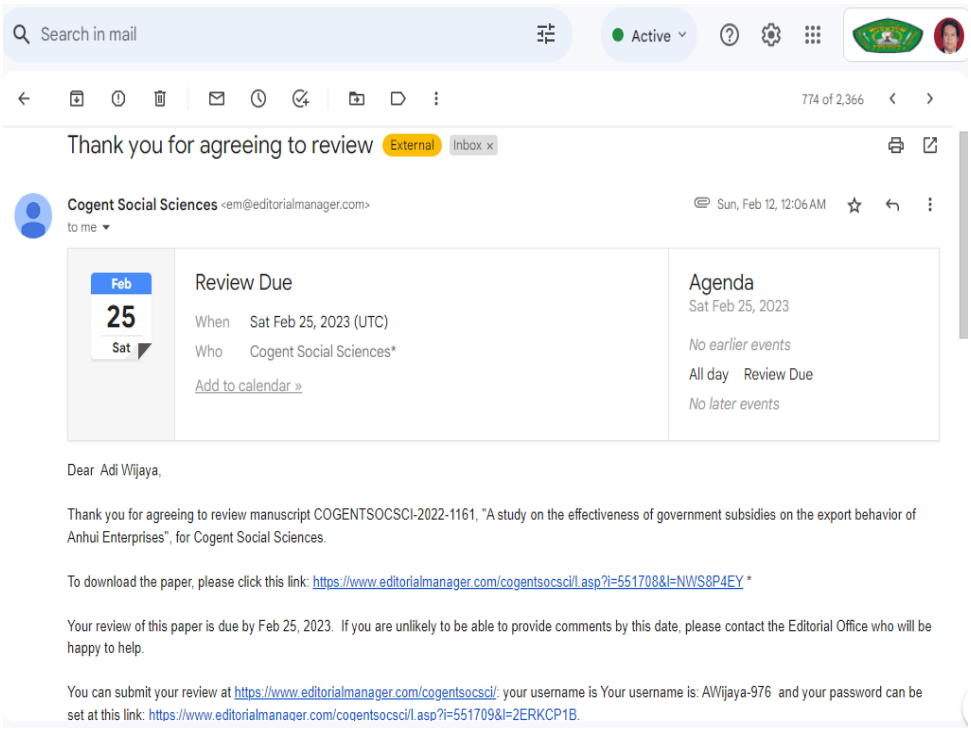
Required Questions

Please respond to any questions below and click Continue:

Please click on the privacy policy links below and then check the box.

☑ * I acknowledge that my personal information will be accessed, used and otherwise processed in accordance with the Publisher's Data Use Privacy Policy and the Aries Privacy Policy.

<< Logout | Continue >>



We encourage you to focus your review on the methodological and/or theoretical rigour of the manuscript and its relevance to the journal's audience, rather than on a prediction of its future level of importance to the field. In addition to completing the scorecard, we would appreciate you providing thorough and constructive feedback for the authors in the comments box.

When submitting your recommendation, you can choose from the following options:

* Sound
* Sound with minor or moderate revisions
* Unsound or fundamentally flawed

Please do highlight severe language issues (you could refer the author to the Taylor & Francis Editing Services), but bear in mind that all accepted articles are copyedited and references are correctly styled if needed.

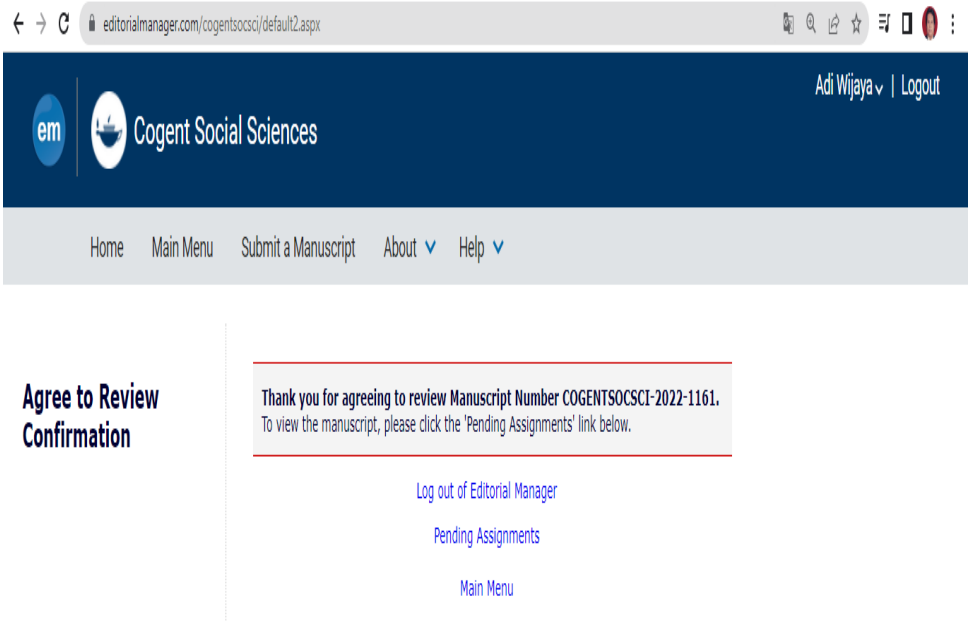
We greatly appreciate the voluntary contribution that each reviewer gives to the Journal. As a token of our appreciation, and to assist you with your review, we are able to offer you 30 days free access to Taylor & Francis Online. You can sign up for the free access at the following web address (please make sure that you register an account first): https://www.tandfonline.com/r/reviewer access

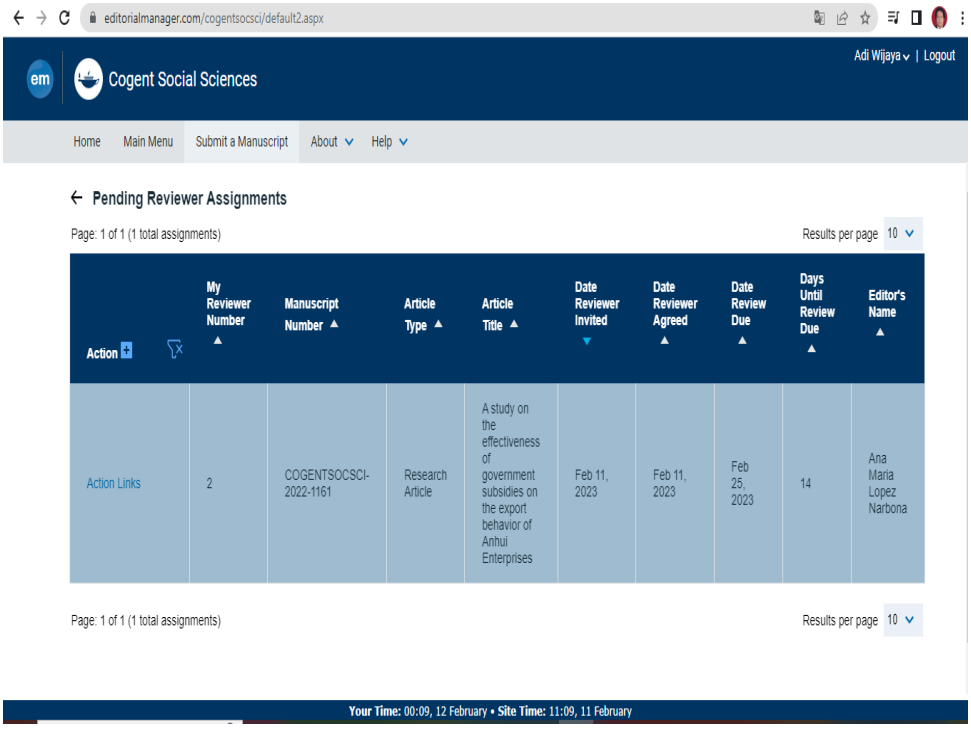
For more information about our criteria for publication, expectations of reviewers and our review process please visit the website at https://www.cogentoa.com/reviewers.

With kind regards,

Ana Maria Lopez Narbona
Senior Editor
Cogent Social Sciences

*If clicking the link above does not open an Editorial Manager window, your email program may have inserted some spaces and/or line markers into the link.


editorialmanager.com/cogentsocsci/default2.aspx
Cogent Social Sciences
Adi Wijaya | Logout
Home
Main Menu
Submit a Manuscript
About
Help
Agree to Review Confirmation
Thank you for agreeing to review Manuscript Number COGENTSOCSCI-2022-1161.
To view the manuscript, please click the 'Pending Assignments' link below.
Log out of Editorial Manager
Pending Assignments
Main Menu


editorialmanager.com/cogentsocsci/default2.aspx
Cogent Social Sciences
Adi Wijaya | Logout
Home
Main Menu
Submit a Manuscript
About
Help
Pending Reviewer Assignments
Page: 1 of 1 (1 total assignments)
Results per page 10
Action
My Reviewer Number
Manuscript Number
Article Type
Article Title
Date Reviewer Invited
Date Reviewer Agreed
Date Review Due
Days Until Review Due
Editor's Name
Action Links
2
COGENTSOCSCI-2022-1161
Research Article
A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises
Feb 11, 2023
Feb 11, 2023
Feb 25, 2023
14
Ana Maria Lopez Narbona
Page: 1 of 1 (1 total assignments)
Results per page 10
Your Time: 00:09, 12 February • Site Time: 11:09, 11 February

editorialmanager.com/cogentsocsci/default2.aspx

Cogent Social Sciences

Adi Wijaya | Logout

Home | Main Menu | Submit a Manuscript | About | Help

Reviewer Recommendation and Comments for Manuscript Number COGENTSOCSCI-2022-1161

A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises

Original Submission
Adi Wijaya (Reviewer 2)

Recommendation: Sound with minor or moderate revisions

Logout of Editorial Manager | Save & Submit Later | Upload Reviewer Attachments | Proof & Print | Proceed

Reviewer Instructions

By reviewing this manuscript, you agree for your review comments to be seen confidentially by editors of other related Taylor & Francis journals if the manuscript is rejected and subsequently transferred. This supports a system of portable peer review.

Please note that this title utilises format-free submission. The version of this article you are reviewing may have been submitted format-free and there is no need to comment on formatting as part of the review process. Formatting of the references and article style will be applied by Taylor & Francis post-acceptance.

Please complete the below scorecard to assess the key elements of the manuscript, then provide an overall evaluation of the work in the comments box. Your comments should offer constructive feedback to authors on how to strengthen their manuscript. Finally, submit an overall recommendation for the editor. You can provide confidential comments to the editor in the final box below; these comments will not be visible to the author(s).

As per COPE guidelines, the editor expects expert subject knowledge, good judgement, and an honest and fair assessment of the strengths and weaknesses of the work.

Your Time: 02:15, 12 February • **Site Time:** 13:14, 11 February

editorialmanager.com/cogentsocsci/default2.aspx

Cogent Social Sciences

Adi Wijaya | Logout

Home | Main Menu | Submit a Manuscript | About | Help

*Do you want to get recognition for this review on Publons?

Don't let your reviewing work go unnoticed! Researchers the world over use Publons to effortlessly track their valuable peer review contributions for any journal. If you opt in, your Publons profile will automatically be updated to show a verified record of this review in full compliance with the journal's review policy. If you don't have a Publons profile, you will be prompted to create a free account. [Learn more]

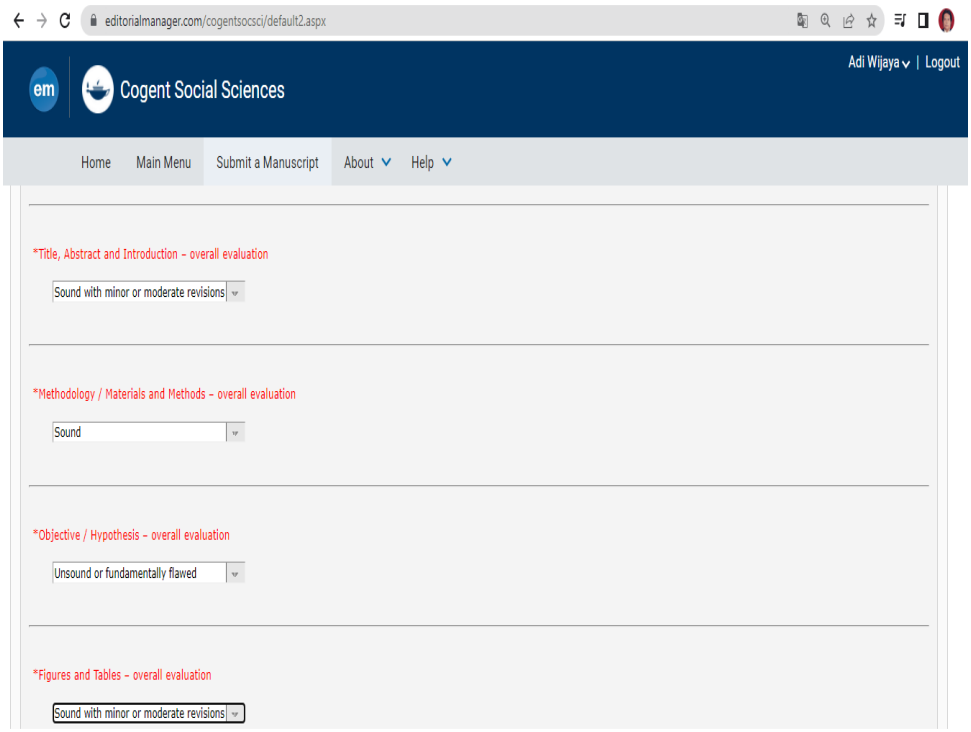
Yes

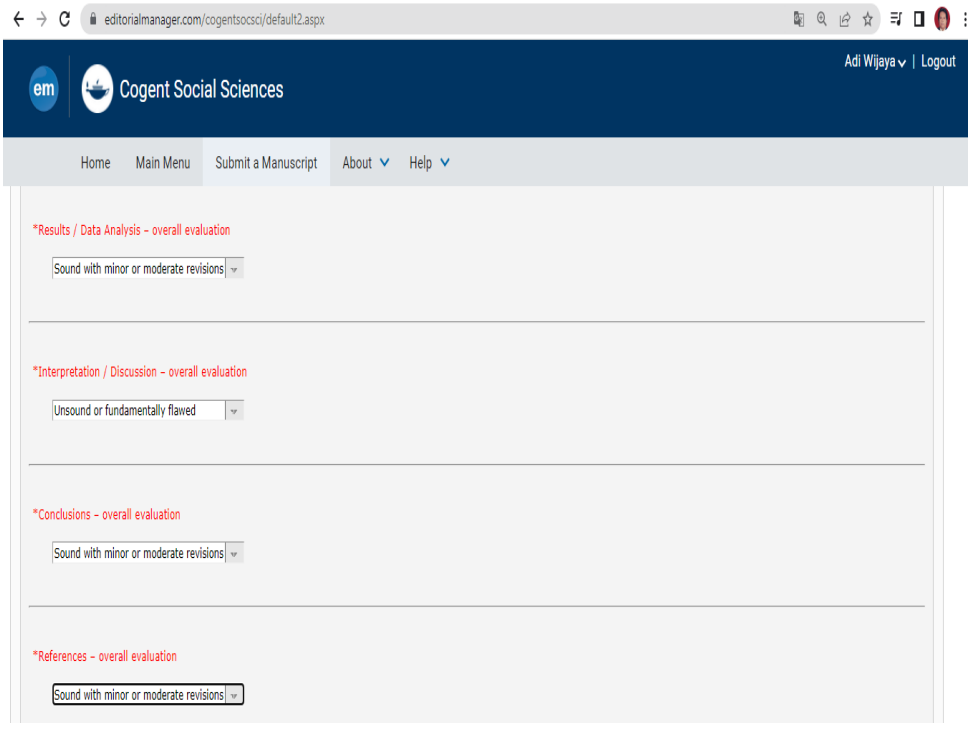
*I confirm that I have the necessary subject knowledge and expertise to review this article, and have no conflict of interest that would prevent me from offering an unbiased review. [Instructions]

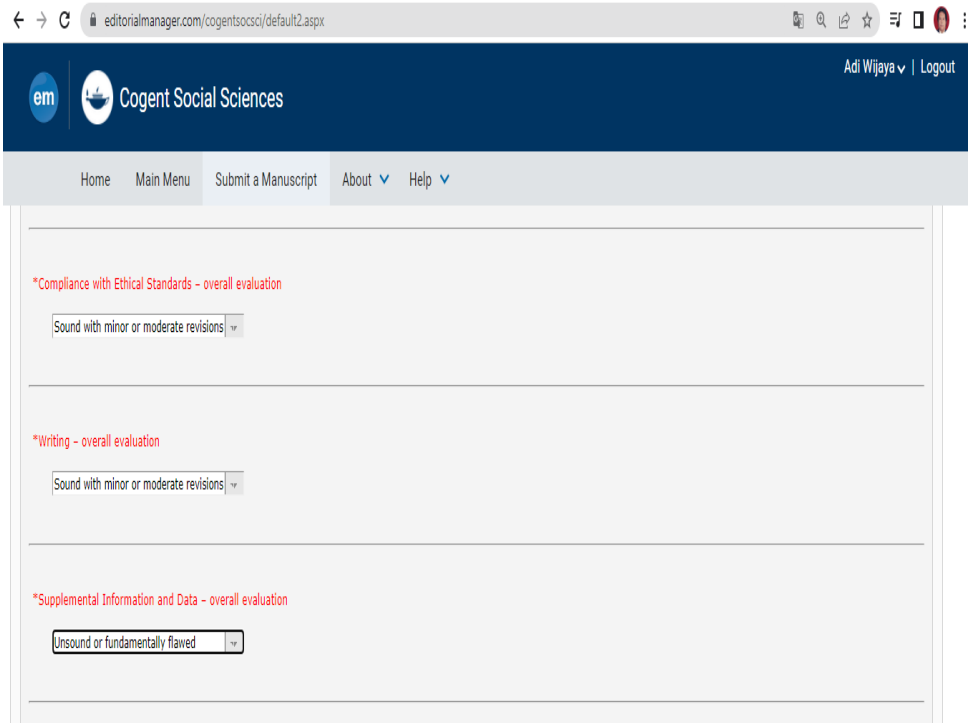
Yes

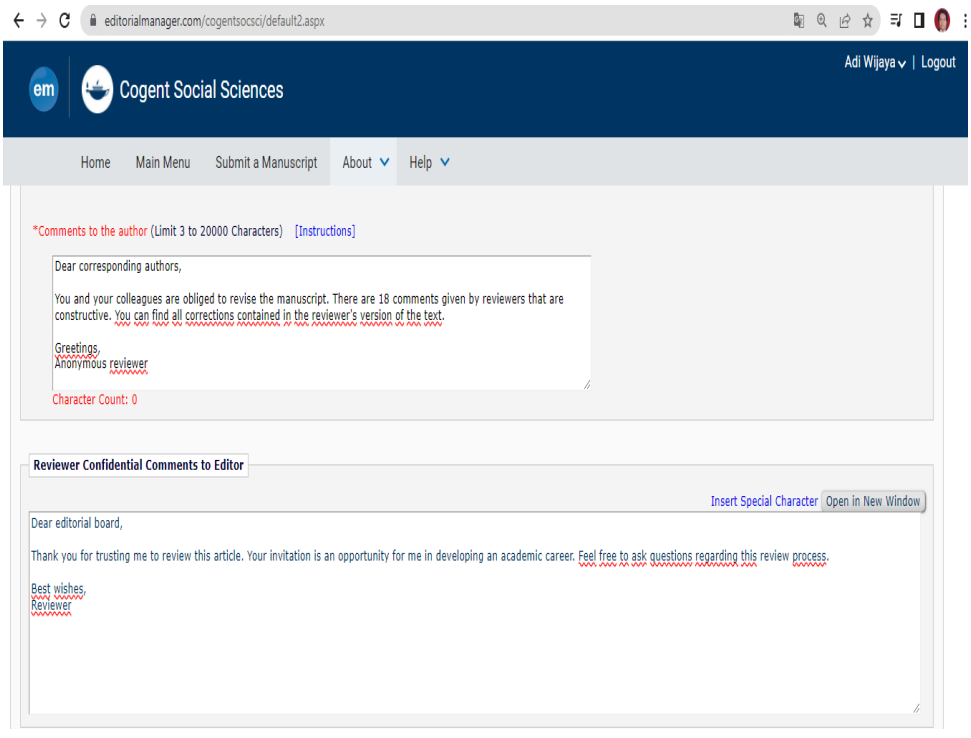
*Would you be willing to review a revision of this manuscript?

Yes


editorialmanager.com/cogentsocsci/default2.aspx
Cogent Social Sciences
Adi Wijaya | Logout
Home
Main Menu
Submit a Manuscript
About
Help
*Title, Abstract and Introduction – overall evaluation
Sound with minor or moderate revisions
*Methodology / Materials and Methods – overall evaluation
Sound
*Objective / Hypothesis – overall evaluation
Unsound or fundamentally flawed
*Figures and Tables – overall evaluation
Sound with minor or moderate revisions


editorialmanager.com/cogentsocsci/default2.aspx
Cogent Social Sciences
Adi Wijaya | Logout
Home
Main Menu
Submit a Manuscript
About
Help
*Results / Data Analysis – overall evaluation
Sound with minor or moderate revisions
*Interpretation / Discussion – overall evaluation
Unsound or fundamentally flawed
*Conclusions – overall evaluation
Sound with minor or moderate revisions
*References – overall evaluation
Sound with minor or moderate revisions


editorialmanager.com/cogentsocsci/default2.aspx
Adi Wijaya | Logout
Cogent Social Sciences
Home
Main Menu
Submit a Manuscript
About
Help
*Compliance with Ethical Standards - overall evaluation
Sound with minor or moderate revisions
*Writing - overall evaluation
Sound with minor or moderate revisions
*Supplemental Information and Data - overall evaluation
Unsound or fundamentally flawed


editorialmanager.com/cogentsocsci/default2.aspx
Adi Wijaya | Logout
Cogent Social Sciences
Home
Main Menu
Submit a Manuscript
About
Help
*Comments to the author (Limit 3 to 20000 Characters) [Instructions]
Dear corresponding authors,
You and your colleagues are obliged to revise the manuscript. There are 18 comments given by reviewers that are constructive. You can find all corrections contained in the reviewer's version of the text.
Greetings,
Anonymous reviewer
Character Count: 0
Reviewer Confidential Comments to Editor
Insert Special Character
Open in New Window
Dear editorial board,
Thank you for trusting me to review this article. Your invitation is an opportunity for me in developing an academic career. Feel free to ask questions regarding this review process.
Best wishes,
Reviewer

editorialmanager.com/cogentsocsci/default2.aspx

Cogent Social Sciences

Adi Wijaya | Logout

Home | Main Menu | Submit a Manuscript | About | Help

Reviewer Recommendation and Comments for Manuscript Number COGENTSOCSCI-2022-1161

A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises

Original Submission
Adi Wijaya Reviewer 2

Back | Edit Review | Print | Submit Review to Editorial Office

Recommendation: Sound with minor or moderate revisions

Custom Review Question(s):	**Response**
As a thank you and to acknowledge the contribution of our reviewers, the journal may publish a list of the names of those who have reviewed at the end of the year. This will not be linked to any specific paper and will only be done if the list of reviewers is long enough to protect the anonymity of the review process for individual papers. If you would prefer for your name **not to be included** in a published list of reviewers, please indicate this below.	Include my name
If anyone else was involved in writing this report, for example a student or a colleague, and they agree to be recognised for this work please provide their name and email address in the free text box below.	
Do you want to get recognition for this review on Publons?	Yes

Don't let your reviewing work go unnoticed! Researchers the world over use Publons to effortlessly track their valuable peer review contributions for any journal. If you opt in, your Publons profile will automatically be updated to show a verified record of this review in full compliance with the journal's review policy. If you don't have a Publons profile, you will be prompted to create a free account. [Learn more]

Search in mail

Active

773 of 2,366

Thank you for the review of COGENTSOCSCI-2022-1161 External Inbox ×

Cogent Social Sciences <em@editorialmanager.com>
to me

Sun, Feb 12, 2:27 AM

Ref.: Ms. No. COGENTSOCSCI-2022-1161
A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises
Cogent Social Sciences

Dear Wijaya,

Thank You for your review of this manuscript.

You can access your review comments and the decision letter (when available) by logging onto the Editorial Manager site at:

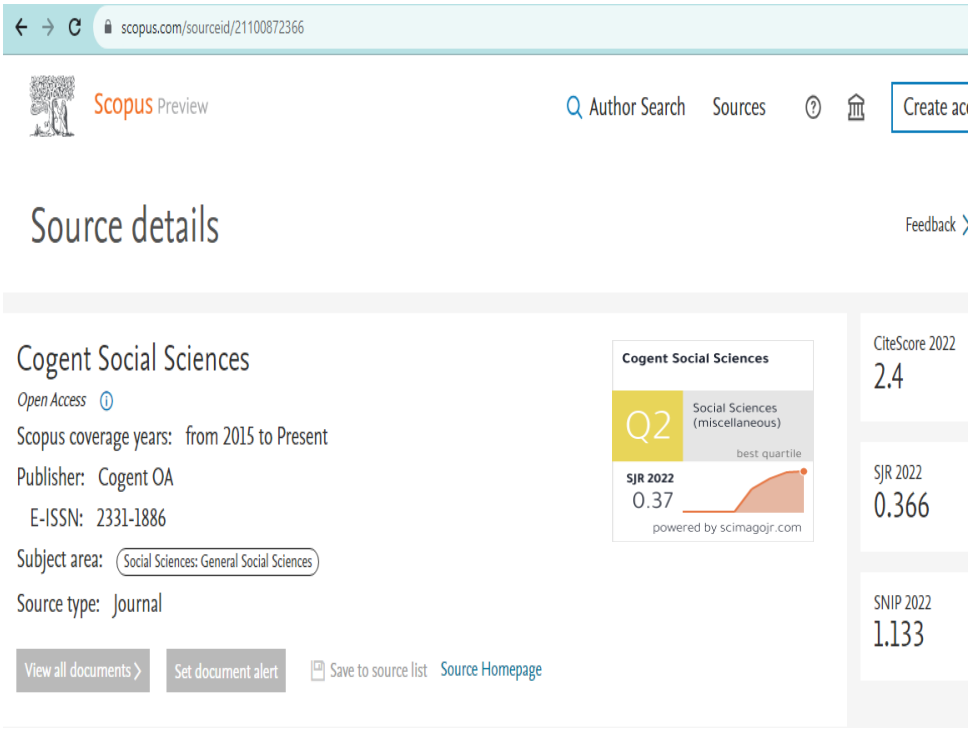
https://www.editorialmanager.com/cogentsocsci/
username: AWijaya-976
your password can be set at this link: click here to create your password and login

We are collaborating with Publons to give you the recognition you deserve for your peer review contributions. If you haven't already added a record of this review to your Publons profile, simply forward this thank you email to reviews@publons.com to ensure your hard work doesn't go unnoticed. Publons helps you effortlessly track, verify and showcase your review work and expertise without compromising anonymity.

In appreciation, you are eligible for a 30% discount on Routledge, CRC Press, and Taylor & Francis books. For details on how to claim please go to www.tandf.co.uk/journals/pdf/books_discount_postcard.pdf

We would be interested to hear your experience of reviewing for us today, please click the following link to complete a short survey: https://survey.alchemer.eu/s3/90329429/Taylor-Francis-peer-review-survey?ac=OASS

Kind regards,


scopus.com/sourceid/21100872366
Scopus Preview
Author Search
Sources
Create ac
Source details
Feedback
Cogent Social Sciences
Open Access
Scopus coverage years: from 2015 to Present
Publisher: Cogent OA
E-ISSN: 2331-1886
Subject area: Social Sciences: General Social Sciences
Source type: Journal
View all documents
Set document alert
Save to source list
Source Homepage
Cogent Social Sciences
Q2
Social Sciences (miscellaneous)
best quartile
SJR 2022
0.37
powered by scimagojr.com
CiteScore 2022
2.4
SJR 2022
0.366
SNIP 2022
1.133

Cogent Social Sciences

A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises

--Manuscript Draft--

Full Title:	A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises
Manuscript Number:	COGENTSOCSCI-2022-1161
Article Type:	Research Article
Keywords:	government subsidy; export activity; export intensity; propensity score matching; difference-in-differences model
Manuscript Classifications:	50.6.1 Economics; 50.6.4 Business, Management and Accounting; 50.6.5 Industry & Industrial Studies
Abstract:	Based on the micro-data of industrial enterprises in Anhui Province from 1998 to 2011, this paper analyzes the causal relationship between government subsidies and enterprises' export behavior on the basis of propensity score matching method and difference-in-differences model to overcome the endogeneity problem. The results show that there is not only a significant positive correlation between government subsidies and export behavior of enterprises, but also a significant unidirectional causality relationship. That is, government subsidies not only promote potential exporters to make export decisions, but also cause existing exporters to increase export intensity. Therefore, the government should actively use government subsidies to promote the export trade activities of potential and existing export enterprises within the framework of WTO. Moderately reduce the policy subsidy of "super national treatment" to foreign-funded enterprises, really attach importance to the export promotion policy of private enterprises and corporate enterprises, and improve the support; We will improve the rules of subsidy distribution and distribution, and improve the efficiency of promoting subsidized exports.

A study on the effectiveness of government subsidies on the export behavior of Anhui Enterprises

Abstract: Based on the micro-data of industrial enterprises in Anhui Province from 1998 to 2011, this paper analyzes the causal relationship between government subsidies and enterprises' export behavior on the basis of propensity score matching method and difference-in-differences model to overcome the endogeneity problem. The results show that there is not only a significant positive correlation between government subsidies and export behavior of enterprises, but also a significant unidirectional causality relationship. That is, government subsidies not only promote potential exporters to make export decisions, but also cause existing exporters to increase export intensity. Therefore, the government should actively use government subsidies to promote the export trade activities of potential and existing export enterprises within the framework of WTO. Moderately reduce the policy subsidy of "super national treatment" to foreign-funded enterprises, really attach importance to the export promotion policy of private enterprises and corporate enterprises, and improve the support; We will improve the rules of subsidy distribution and distribution, and improve the efficiency of promoting subsidized exports.

Keywords: government subsidy; export activity; export intensity; propensity score matching; difference-in-differences model

Comment [i-[1]: Q1. The general points, in the abstract detailing: (1) few phenomena relevant to research motivation, (2) methodology representing data sources, data collection, timeframe (optional), and explorat analysis, (3) primary findings, (4) conclusions and (5) implications for the future.

Comment [i-[2]: Q2. Not many public, especially scholars know where the location Anhui Province is. Authors must address a country in the abstract or study title.

Comment [i-[3]: Q3. This needs to be considered. Observation design has expired. Ideally, you and your colleagues can design more actual research timeframe, for example 2021.

Comment [i-[4]: Q4. What methods and models were applied to analyze, tabulate, an interpret the data? This section is not specifically described.

Comment [i-[5]: Q5. Don't use non-standa words in writing articles, for example: we or o and I.

1 Introduction

In recent years, Anhui economy has been sustained development, export in the economic development of the status of the step by step, the export leapfrog development of strong driving Anhui economy of high speed growth. According to the statistical bulletin of Anhui Province, in 2012, the total import and export trade of Anhui Province reached 39.33 billion US dollars, an increase of 12.6 times compared with 3.12 billion US dollars in 1998, and the proportion of export in GDP is also rapidly increasing. The continuous growth of exports is closely related to a series of policies issued by the government to promote exports. As transfer payments from the government to enterprises, subsidies are also an important part of export promotion policies. The academic circle has always paid more attention to the export behavior of enterprises by subsidies, mainly for the following reasons: First, there is a big dispute on whether government subsidies can promote enterprises' export behavior in existing studies. Opponents believe that the collusion between government and enterprises and rent-seeking by officials are very likely to occur in the process of subsidy distribution, which may deviate from the original intention of the formulation and implementation of such policies. As a result, the subsidy policy can not play its role in promoting enterprises' export as expected in theory. In addition, some studies even point out that, even if the subsidy is effective in promoting enterprises' export, its positive effect is relatively small, and its direct financial cost is large. Therefore, it is particularly necessary to carefully and

prudently evaluate the effect of government subsidies on the export trade of enterprises. Second, the public budget of subsidies from the national finance, as a result of the developing countries usually public budgets are relatively limited, in the national economy need to meet all aspects of public funds in support of gap is very big, so if this kind of policy not to export enterprises play a role in promoting, will directly cause the government limited financial resources wasted, even abuse.

In fact, it is not easy to accurately measure the impact of subsidies on enterprises' export behavior. One important reason is that whether enterprises get subsidies is not a random event. On the one hand, subsidies are affected by enterprises' export behavior, and the government may be more likely to subsidize exporting enterprises. On the other hand, subsidies and enterprises' export behavior may be jointly affected by third-party factors. For example, enterprises with R&D behavior may be more susceptible to government subsidies and export more easily. Therefore, whether a firm accepts subsidies or not is a non-random event and an endogenous variable. In this paper, propensity score matching method and difference model method are proposed to overcome the endogeneity problem.

Based on the above analysis, this paper will use the micro data of industrial enterprises in Anhui Province from 1998 to 2011 to overcome the endogeneity problem through the propensity score matching method and the difference model method, and further analyze the causal link between government

Comment [i-[6]: Q6. The background is written "very weak". There are no indications that address the phenomenon at the study si In general, the background presents the gaps the problem based on the existing literature a empirical information from publications that address the topic or issue related to the basi objective.

subsidies and the export behavior of Anhui enterprises. This paper focuses on the influence of government subsidies on whether enterprises export and the increase of export intensity (export scale), in order to provide theoretical and empirical basis for the implementation of this policy.

2 Literature review

Although relevant theories all speculate that government subsidies can promote enterprises' export behavior, the actual policy implementation process is limited by institutional environment, regulatory ability and other factors, which may make the formulation and implementation of subsidy policy deviate from the original intention, and thus may have a negative impact on enterprises' export behavior. Therefore, It is necessary to empirically test the effectiveness of government subsidies through empirical studies.

Up to now, empirical studies on the correlation between government subsidies and enterprise exports can be roughly divided into two stages: The first stage is related research based on meso-industry level data, such as Brander and Spencer (1985), Jung and Lee (1986), Meza (1986), Hoffmaister (1991), etc. It should be noted that since the early relevant studies were mainly based on the data at the meso-industrial level, they ignored the important information of the characteristics of micro enterprises that affect the effective implementation of subsidy policies. In addition, most of the early literatures on the relationship between export and subsidy conducted theoretical and empirical exploration based on the effectiveness of export subsidy policy, which

Comment [i-[7]: Q7. Why aren't literature reviews compiled separately? For example, t theoretical foundation that refers to the key variables. If this paper is oriented towards empirically focused socio-economic studies, must propose hypotheses that are connected certain variables. Then, the main concept framework is also not shown. This section should be enriched with up-to-date studies fr cases in a particular region or country.

has been explicitly banned by WTO, so the research on this policy has lost its timeliness. Based on these two considerations, in order to make up for this defect, current scholars began to consider the characteristics of enterprise heterogeneity under the premise of various econometric models to carry out empirical analysis on the large sample of enterprise data in various countries. However, although the theory of heterogeneous firm trade, the theoretical basis of the study on the characteristics of firm heterogeneity, is the latest frontier of international trade theory, it has not been developed for a long time. Therefore, it is rare for the international academia to apply it to the research on the effectiveness of subsidies. However, in a broad sense, no matter what type of subsidy, it belongs to one of the government's policies to encourage enterprises to export. Therefore, the research perspective of relevant literature can be further expanded to analyze the effectiveness of the government's policy to encourage enterprises to export to a country's enterprises by using the data of large samples of micro enterprises.

The second stage is related research based on micro-level data of enterprises. Examples include Alvarez and Crespi (2000), Bernard and Jensen (2004), Volpe Martincus and Carballo (2008), Helmers and Trofimenko (2010), and Marques Helena (2019), Kalafsky Ronald V. and Graves William W (2020), Wawan Dhewanto et al (2021). In recent years, due to the availability of large sample data in China, attention has been paid to the relationship between government subsidies and enterprises' export behavior. Such as Shi Bingzhan

(2012), Yu Jianxun (2012), Su Zhendong and Hong Yujuan and Liu Luyao (2012), Yanfeng Lou and Yezhuang Tian and Kai Wang (2020), Qi Zhen Yu and Yang Si Ying (2021), Deng Ming and Wang Jinbo (2022), Qiao Lu and Fei Junjun (2022), etc. In general, the Chinese government's policies to promote the export of enterprises' products mainly include export credit, export tax rebates, export subsidies, etc. There are still few direct studies on the export behavior of government subsidies to enterprises. In addition, the endogeneity between government subsidies and enterprises' export behavior is also worth noting, which is easy to be ignored in previous literatures, thus reducing the reliability and accuracy of research conclusions. Although Girma et al. (2009) attach great importance to this problem and seek instrumental variable method in Tobit regression to better solve the endogeneity problem of subsidy variables, they cannot solve the "self-selection bias" in the process of enterprises accepting government productive subsidies.

3 Data processing and model setting

Comment [i-[8]]: Q8. I recomended this session to be put in a sub-chapter (at 3.4). It suggested to the author to change "data processing and model setting" to "methodology/method" as chapter 3.

3.1 Data sources and processing

The data in this paper are from the survey data of Anhui Province Enterprises in China Industrial Enterprise Database from 1998 to 2011, which is the database of industrial statistics of all state-owned enterprises and non-state-owned industrial legal entities with an annual income of 5 million yuan from their main business. Due to the lack of statistical data on government subsidies, the key explanatory variable in this paper, the sample processing and analysis in

2009 had to be removed from the full-text analysis.

Although the database of Chinese industrial enterprises contains quite a lot of useful information, some samples have errors, omissions and statistical caliber errors, and there are also some biases in the sampling process. For example, some businesses have a total payroll payable of 0, which is generally unlikely. Therefore, as long as one of the following conditions occurs, we will eliminate the sample: Deal with total wages is zero or negative, deal with welfare funds is negative, the paid-in capital is zero or negative, the number of employees is zero or less than 10, the main income or operating revenue or gross industrial output value or industrial added value of total assets or current assets or fixed assets to zero or negative, income, or cost is zero or negative and the other is the enterprise accounting rules or obvious wrong samples.

3.2 Variable selection and description

Comment [i-[9]: Q9. This section is too lo and congested. The selected variables can b described in a Table which summarizes the arrangement of the variables with operationa definition sources or if necessary the expecte signs. If you want to specify variable labels, I suggest discussing them in the literature revi

This paper needs data on export, subsidies, and variables affecting export and subsidies. According to previous empirical studies in relevant literature, variable indicators are selected as follows:

Export: exp indicates whether an enterprise exports and is defined by the "export delivery value" of an enterprise. If the "export delivery value" of an enterprise is greater than 0, it is an exporting enterprise; if the "export delivery value" is 0 or missing, it is a non-exporting enterprise. This variable analyzes the export behavior of enterprises from a qualitative perspective and is one of the performance indicators to measure the export behavior of enterprises. lnexp

represents the export intensity of enterprises, which is measured by the ratio of export delivery value and industrial sales output value of enterprises. This variable analyzes the export behavior of enterprises from a quantitative perspective, and is another performance index to measure the export behavior of enterprises. Subsidy: The dummy variable of subsidy or not is denoted sub, which is defined by the variable of "subsidy income" of enterprises. If it is greater than 0, it is a subsidy enterprise, and other enterprises are non-subsidy enterprises.

Selection of other variables affecting exports and subsidies :(1) Enterprise size(lnl). According to the new trade theory, the larger the enterprise scale is, the easier it is to realize the scale economy, and the lower the fixed cost and variable cost input of the enterprise, the more conducive to export. The larger the scale of enterprise production, the greater the impact on the economy, the stronger the lobbying of the government, and thus the easier it is to obtain subsidies. Therefore, firm size becomes a non-negligible factor in exports and subsidies, and we expect that the larger the size, the more able the firm is to export and receive subsidies. This paper uses the natural logarithm of the average number of employees in an enterprise in a year to measure.

(2) Total factor productivity (lnlptfp). Total factor productivity is an important index to measure the production efficiency of enterprises. According to the theory of new-new trade, enterprises with higher production efficiency are more likely to export, and at the same time, enterprises with greater growth space

are more likely to get government subsidies. In order to avoid the endogeneity problem in the calculation process of the traditional Solow residual value method, LP method proposed by Petrin and Levinsohn (2003) is used in this paper. The advantages of this method in measuring TFP have been recognized more and more by the academic community. Total industrial output value is used for output, labor is the annual average number of employees, capital is the average annual net value balance of fixed assets, and intermediate input is the index of "total intermediate input" in the sample base.

(3) Foreign capital or not (for). Generally speaking, foreign-funded enterprises are export-oriented enterprises with stronger export motivation and easier to export. At the same time, the local government investment competition, foreign-funded enterprises received super national treatment, the more easy to obtain preferential policies, the more easy to obtain government subsidies. In this paper, the ownership type of enterprises is determined based on the actual holding ratio, and then foreign-invested enterprises and enterprises in Hong Kong, Macao and Taiwan are defined as foreign-invested enterprises, while other enterprises are defined as domestic enterprises.

(4) Whether a state-owned enterprise (state). To be sure, state-owned enterprises are more likely to receive government subsidies, but whether they are more likely to export is debatable. It is necessary to test whether state-owned enterprises have little incentive to participate in exports due to their strong domestic market monopoly power, as Shi argues.

(5) Per capita wage (lnw). A higher per capita wage indicates a higher level of human capital, which is conducive to promoting the export of enterprises. At the same time, the higher the per capita wage, the lower the export price competitiveness, which is not conducive to export. Measured by the natural logarithm of (total wage payable + total benefit payable)/total number of employees, the annual total wage payable is deflated by the CPI index of the corresponding year (base period is 1998) to obtain its actual value. This variable is an important indicator to measure the human capital intensity of the enterprise.

(6) Capital intensity (lnk). Governments are also generally more inclined to support capital-intensive firms than labor-intensive ones, so it is easier for capital-intensive firms to receive subsidies. It is expressed by the natural logarithm of the average annual net value balance of fixed assets.

(7) Financing constraint (finance). The greater the financing constraint, the more difficult it is to overcome the fixed cost and variable cost in the process of export, so the less easy it is to export. The larger the financing constraint is, the easier the government may be to subsidize the enterprise in order to alleviate the financing constraint. In this paper, the interest expense divided by the average annual net fixed asset balance is used to measure the financing constraints faced by the firm.

(8) R&d enterprise or not (rd). In general, R&D firms produce higher-quality products that are easier to export; For the cultivation of independent innovation

ability, the government is more likely to subsidize R&D enterprises. Whether there is a "research and development fee" index to measure.

(9) New product development intensity (new). The higher the intensity of new product development, the easier it is to obtain government subsidies, the more able it is to participate in export competition, and the greater the survival space of enterprises. Use the ratio of new product value to industrial sales value to measure.

Table 1 Indicator data statistics of variables

variable	define	Subsidies enterprises		Non subsidized enterprise		The whole enterprise	
		Number of samples	The average	Number of samples	The average	Number of samples	The average
exp	Export or not	9748	0.321	62869	0.152	72617	0.175
lnexp	Intensity of export	9748	0.134	62869	0.085	72617	0.090
sub	Whether to subsidize virtual	9748	1.000	62869	0.000	72617	0.127
lnl	Enterprise size	9748	5.547	62869	4.723	72617	4.902
lnlptfp	Total factor productivity	9748	6.902	62869	6.024	72617	6.298
for	Foreign capital or not	9748	0.126	62869	0.076	72617	0.079
state	Whether a state-owned enterprise	9748	0.176	62869	0.106	72617	0.112
lnw	Per capita wage	9748	9.325	62869	9.041	72617	9.081
lnk	Capital intensity	9748	9.405	62869	8.203	72617	8.368
finance	Financing constraint	9748	0.221	62869	0.194	72617	0.195
rd	R&d enterprise or not	9748	0.643	62869	0.636	72617	0.627
new	New product development intensity	9322	0.066	63295	0.034	72617	0.038

Note: All units of value are in thousands of dollars.

Comment [i-[10]: Q10. I recommend that Table 1 is displayed in the results/findings. In addition, official sources in Tables and Figure must be written.

3.3 Propensity score matching method

From the perspective of facts, on the one hand, the export behavior of enterprises may be the reason for enterprises to obtain government subsidies. For example, the government supports various subsidy policies for enterprises to go global. In this case, the attributes of such enterprises enable enterprises to obtain relevant subsidies. On the other hand, government subsidies may be the reason for enterprises' export decisions or the expansion of export intensity, that is, enterprises with government subsidies can better reduce their export transaction costs, so as to lower the threshold of entering foreign markets or expand their living space. Therefore, it can be seen that there is a certain relationship between government subsidies and enterprises' export behavior, but it cannot be simply believed that the two have an actual causal relationship. In other words, in reality, the causal relationship between government subsidies and enterprises' export behavior may be one-way or two-way. If the OLS method is used to explain this uncertain correlation, there may be endogeneity problem, and the estimation results may be biased.

Next, this paper uses PSM method to deeply reveal the actual causal relationship between the two. Chose PSM method, and there is no direct comparison get subsidies enterprises and due to the difference between businesses get subsidies, subsidies are not randomly assigned to the enterprise, the enterprise get subsidies, mostly export enterprises or enterprises with better performance, these characteristics can not determine

the direct result of subsidies. The key is that we cannot observe whether such firms' export decisions change or export intensity increases before they receive government subsidies, which is called the "counterfactual situation". This paper draws on the PSM method proposed by Heckman et al. (1999) to try to answer whether government subsidies promote the export behavior of industrial enterprises in Anhui Province. The following is a brief description of this approach.

1. Basic assumptions. (1) Conditional Independence Assumption (CIA) means that the decision to choose subsidy or non-subsidy is mutually independent with the export behavior of enterprises after controlling the common influencing factor X, which can be expressed as follows:

$$(Y_0, Y_1) \perp sub_i | X_i \quad (1)$$

(2) Common Support Condition refers to that the enterprise propensity score in the treatment group is not higher than the lowest value of the enterprise propensity score in the control group. The way to achieve this condition is to eliminate not only the enterprises in the treatment group whose propensity score is lower than the lowest one in the control group, but also those in the treatment group whose propensity score is higher than the highest one in the control group. To ensure that enterprises in each treatment group can be paired with enterprises in the control group through propensity score, enterprises in each treatment group can be expressed by the formula:

$$0 < \Pr(sub_i = 1 | X_i) < 1 \quad (2)$$

(3) Balancing Property Condition refers to the fact that after successful matching, enterprises in the treatment group and the control group have no difference in each variable in the matching variable group. In this paper, That is, there is no difference in firm size, production efficiency, average wage level of employees, capital intensity, financing constraints and other capabilities, and controlling for time and industry dummy variables.

2. Basic ideas. When assessing the impact of subsidies on enterprises' export, if a Control Group that is as similar as possible to the Treatment Group receiving subsidies can be found, that is, it is different only in the nature of whether subsidies are granted or not, while other enterprise characteristics remain the same or similar, In this way, it can replace the export behavior of the subsidized enterprises in the non-subsidized situation. However, the difficulty lies in the non-subsidy status of enterprises that cannot receive subsidies. An alternative approach is to establish a treatment group that receives subsidies. Before receiving subsidies, its main characteristics are as similar as possible to those of the control group that does not receive subsidies. After matching, the matching enterprises of the two sample groups are only different in the aspect of receiving subsidies, and the other aspects remain the same or similar. In this way, the control group can be used to simulate the "counterfactual situation" of enterprises in the treatment group to the maximum extent, and then compare the differences of enterprises receiving subsidies before receiving subsidies. Since the change of export behavior of the same enterprise in different states

is compared, it can be confirmed that the change of export behavior is caused by government subsidies, which effectively reduces the sample selective bias problem of OLS. It can be found that the advantage of this method is to avoid "selection bias" as much as possible.

3. Procedure. (1) Probit model was used to estimate propensity score. In the process of finding a control group, a satisfactory matching effect is often not achieved by using only one characteristic. Therefore, PSM uses some special methods to condense multiple characteristics into a single indicator, the Propensity Score, which makes the multiple matching possible. To be specific, first of all, the characteristic variables of an enterprise before receiving subsidies should be considered to synthesize a score, as follows:

$$\Pr(X_i) = \Pr(sub_i = 1 | X_i) \quad (3)$$

Among them, sub_i is a binary dummy variable, sub_i=1 represents enterprises in the treatment group, sub_i=0 represents enterprises in the control group, and X represents observable enterprise characteristics (matching variable) in the treatment group. If the subsidy received by the enterprise is random, then the binary choice model probit regression is used to estimate, $\Pr(sub_i=1|X_i)$ represents the probability that the firm gets subsidies under the condition of X_i.

(2) Measurement of average treatment effect of treatment group and selection of matching method. As for the ith firm, assuming that its propensity score $\Pr(Xi)$ was known, the Average Effect of Treatment on the Treated

group (ATT) was:

$$ATT = \frac{1}{N_A}\sum_{i\in A} Y_A^i - \frac{1}{N_A}\sum_{j\in B}\lambda(p_i, p_j) Y_B^j \quad (4)$$

Where N_A is the number of enterprises receiving subsidies, A represents the matched treatment group, Y_A^i represents the observed result of the ith enterprise in the treatment group, Y_B^j represents the observed result of the jth enterprise in the control group, $\lambda(p_i, p_j)$ represents the weight function of p_i and p_j, p_i represents the predicted probability value of enterprise I in the treatment group. p_j represents the predicted probability value of enterprise J in the control group. According to the different matching methods, the choice of weight function is not the same. Gilligan et al. (2007) believe that Kernel matching does not have the problem that invalid standard deviation may occur in NN matching, so this paper also adopts the form of Kernel matching. The expression of weight function is:

$$\lambda(p_i, p_j) = G(\frac{p_j - p_i}{\alpha_n}) / \sum_{j\in(sub_i=0)} G(\frac{p_j - p_i}{\alpha_n}) \quad (5)$$

Where, G(•) follows Gaussian normal distribution function, and α_n is the window width parameter.

(3) Finally, the matching variables should be tested for matching balance to check whether the matching method meets the requirements of balance. If it does not, the matching method should be selected again.

3.4 Difference-in-differences model

Difference-in-differences model is a widely used econometric analysis tool in

policy analysis and evaluation. It is a kind of econometric analysis method suitable for estimating the net impact of a certain policy on the target of the policy.

The basic idea of difference-in-differences model, a public policy implementation, such as government subsidies, affected by a certain part of the group in society, while there may not be affected by any other part of the group, or the impact is small, so it can perform as the test object on some kind of " treatment " . The exogenous events that change the environment of individuals, manufacturers and cities in the society are called natural experiment or quasi experiment. If a public policy can be regarded as a natural experiment, then there is the treatment group, which is the target of the policy, and the control group, which is the non-target of the policy, which is the non-recipient of the government subsidy.

Although the propensity score matching method can make the enterprise's observable characteristics X as much as possible the same, it cannot control the unobservable factors of the enterprise, such as the enterprise cultural characteristics, etc., so the difference model is introduced to eliminate the influence of unobservable factors. Specifically, it is assumed that there are two periods and a binary time dummy variable T_i is constructed. T_i=0 and T_i=1 represent the two periods before and after the subsidy of enterprise I; D represents whether the enterprise accepts the subsidy; $lnexp_{it}$ represents the export intensity of enterprise I in period T (the logarithm of the export delivery

value of the enterprise). *lnexp*1 and *lnexp*0 represent the export intensity of enterprises with or without subsidies. Therefore, the impact of government subsidies on enterprise export intensity can be expressed in Equation (6) :

$$\alpha = E(\ln exp_{it}^{1} - \ln exp_{it}^{0} \mid D_{it}=1) = E(\ln exp_{it}^{1} \mid D_{it}=1) - E(\ln exp_{it}^{0} \mid D_{it}=1) \quad (6)$$

Where, $E(\ln exp_{it}^{1} \mid D_{it}=1)$ denotes the export intensity of subsidized enterprises with subsidies, and $E(\ln exp_{it}^{0} \mid D_{it}=1)$ denotes the export intensity of subsidized enterprises without subsidies. The difficulty in the estimation of equation (6) $E(\ln exp_{it}^{0} \mid D_{it}=1)$ is that it is unobservable, and the key to the measurement result $E(\ln exp_{it}^{0} \mid D_{it}=1)$ is the unbiased estimator to be found. Difference-in-differences model provides an idea: If there are enterprises that do not receive government subsidies throughout the sample period, their export intensity can be used to measure the export intensity of subsidized enterprises without receiving subsidies. That is $E(\ln exp_{it}^{0} \mid D_{it}=1) = E(\ln exp_{it}^{0} \mid D_{it}=0)$, Equation (6) is transformed into:

$$\alpha = E(\ln exp_{it}^{1} \mid D_{it}=1) - E(\ln exp_{it}^{0} \mid D_{it}=0) \quad (7)$$

The enterprises receiving subsidies were taken as the treatment group, and the enterprises without subsidies were taken as the control group. The specific estimation equation is set as follows:

$$\ln exp_{it} = b_0 + b_1 D_{it} + b_2 T_{it} + b_3 D_{it} \times T_{it} + \varepsilon_{it} \quad (8)$$

Where ε denotes the random disturbance term and $E(\varepsilon_{it})=0$. In Formula (5) For enterprise I in the treatment group, the change of export intensity of the explained variable in the two periods before and after the subsidy is:

$$\Delta lnexp_{i(1)} = \Delta lnexp_i^1 - \Delta lnexp_i^0 = (b_0 + b_1 + b_2 + b_3) - (b_0 + b_2) = b_1 + b_3 \quad (9)$$

Similarly, when firm I belongs to the control group, the change of export intensity of the explained variable in the two periods is:

$$\Delta lnexp_{i(2)} = \Delta lnexp_i^1 - \Delta lnexp_i^0 = (b_0 + b_1) - b_0 = b_1 \quad (10)$$

Then, the actual effect of the subsidy, that is, the export intensity difference between the treatment group and the control group before and after the subsidy, is:

$$\alpha = \Delta lnexp_{i(1)} - \Delta lnexp_{i(2)} = (b_1 + b_3) - b_1 = b_3 \quad (11)$$

Thus, b_3 is our difference-of-difference estimator of interest, which measures the true effect of subsidies on the export intensity of firms. If $b_3>0$, it indicates that the relative increase of export intensity of subsidized enterprises is greater than that of non-subsidized enterprises in the two periods before and after the subsidy. Similarly, the differential model can also be used to measure the change of export decision of subsidy enterprises in the preceding and following periods.

4 Further analysis

Comment [i-[11]: Q11. Replace the title of this chapter with "results or findings".

4.1 Based on PSM method

According to the processing steps of the PSM method, probit regression analysis should be conducted on all subsidy decision-making factors of the treatment group first, so as to obtain the propensity score. That is, the probability of enterprises receiving government subsidies is estimated according to appropriate matching variables, and the matching conditions are

used to estimate the average treatment effect of the treatment group. Since the probit model is suitable for 0-1 variables, it can only judge the direction of the influence of explanatory variables on the explained variables and cannot give the marginal effect of subsidy decision variables, so it is necessary to further find the marginal effect of each variable. Table 2 presents the estimates of probit regression coefficients and marginal effects and the z-values of the corresponding tests. From the results of regression coefficients and marginal effects, the propensity score of the selected matching variables is reasonable and significant, and the direction of each parameter supports the theoretical hypothesis of this paper.

Table 2 Probit regression results and PSM matching treatment effect

Comment [i-[12]]: Q12. Source not written. it comes from the output of a particular statistical software or program, it should also listed.

Step 1: Regression results and marginal effects of probit model					Step 2: Estimate the average treatment effect of treatment group		
Explanator-y variables	Coeffi-cient	Z value	Marginal effect	Z value	Treatment effect	OLS	ATT
lnl	0.183	16.26	0.043	15.99	Treatment group	0.343	0.316
lnlptfp	0.078	7.35	0.022	8.23	The control group	0.145	0.201
for	0.165	6.79	0.042	5.92	The gap between	0.198	**0.115**
state	0.145	5.76	0.034	3.68	T statistic	31.29	14.68
lnw	0.314	17.54	0.065	17.58			
lnk	0.082	9.89	0.026	12.36			
finance	0.069	4.98	0.013	5.24			
rd	-0.012	-0.46	-0.006	-0.45			
new	0.225	6.35	0.039	5.28			
constant	-7.443	-45.36					

Among the factors that affect the probability of an enterprise getting government subsidies, the average wage level of employees (LNW) and the

output value intensity of new products (NEW) play a role in promoting government subsidies to a large extent and affecting whether an enterprise can get government subsidies. The coefficient and marginal effect of enterprise size (LNL) and total factor productivity (LNLPTFP) are significantly positive, indicating that enterprises with larger scale and higher production efficiency have higher probability of receiving government subsidies. The coefficients and marginal effects of foreign-funded enterprises (FOR) and state-owned enterprises (State) are significantly positive, indicating that foreign-funded enterprises and state-owned enterprises are more likely to obtain government subsidies. As can be seen from the results of probit marginal effect, the probability of foreign-funded enterprises and state-owned enterprises obtaining government subsidies is 4.2% and 3.4% higher than that of domestic enterprises and non-state-owned enterprises, respectively. The coefficient of capital intensity (LNK) is significantly positive, indicating that enterprises with higher capital intensity have a higher probability of receiving government subsidies. Governments are also generally more inclined to support capital-intensive firms than labor-intensive ones, in line with the expected assumption. From the probit marginal effect results, it can be seen that the probability of receiving government subsidy will increase by 0.026% for every percentage point increase in the capital intensity of a firm. In addition, the estimated value of the enterprise financing constraint parameter is significantly positive, indicating that the larger the enterprise financing constraint is, the easier the

government may be to subsidize it in order to alleviate the financing constraint.

It can be seen from Table 2 that the average ATT difference of treatment effect between the treatment group and the control group after propensity score matching is 11.5%, and the T value is significant, indicating that the export decision of the treatment group and the control group is significantly different, which means that the probability of participating in export of those enterprises receiving government subsidies is higher than that of non-subsidized enterprises on average. That is, after solving the "self-selection" problem, there is no impact effect of 19.8% as shown by OLS. Therefore, this paper believes that the PSM method can more accurately estimate the causal effect of government subsidies on export decisions, which also indicates that the contribution of government subsidies to the export decisions of Anhui industrial enterprises is significant.

The selection of propensity score matching variables and the matching effect need to be further tested for balance. The balance tests for matching treatment and control groups are reported here (Table 3).

There are two indexes to judge whether the selection of matching variables is reasonable and the matching effect. First, the smaller the value of the standard deviation of matching variables after matching, the better the model matching effect is. It is generally believed that as long as the absolute value of standard deviation is less than 20%, it will not cause the failure of matching. Second, when comparing before and after the match the standard deviation of

the variables of the degree of change at the same time, the treatment group and control group match variable mean T test, to further examine the effects of matching the wheat from the chaff, if T test results of two groups of variables have no statistically significant difference, is that match results meet the requirements of matching, on the contrary, if significant differences two sets of variables, Then the matching method must be changed to match again.

Table 3 Step 3: Matching balance test

Match the variable		Mean value of treatment group	Mean of control group	The standard deviation %	Standard deviation reduction %	t	p>|t|
lnl	Before	5.491	4.727	65.9		45.34	0
	After	5.491	5.474	1.5	98.2	0.68	0.662
lnlptfp	Before	6.921	6.239	59.0		41.58	0
	After	6.921	6.912	1.2	97.9	0.48	0.547
for	Before	0.122	0.079	16.4		11.52	0
	After	0.122	0.123	-0.2	98.5	-0.21	0.98
state	Before	0.184	0.103	22.6		18.72	0
	After	0.184	0.210	-7.3	66.2	-3.02	0.002
lnw	Before	9.314	9.029	41.9		26.09	0
	After	9.314	9.316	-0.6	98.4	-0.79	0.701
lnk	Before	9.418	8.205	69.1		51.03	0
	After	9.418	9.405	0.7	97.8	0.41	0.526
finance	Before	0.216	0.195	4.7		2.88	0.01
	After	0.216	0.219	-1.9	51.3	-1.1	0.925
rd	Before	0.604	0.585	3.0		1.93	0.06
	After	0.604	0.591	1.3	45.3	0.93	0.821
new	Before	0.067	0.035	16.7		21.32	0
	After	0.067	0.060	2.0	91.3	0.86	0.336

Comment [i-[13]: Q13. Table format is als inconsistent. Please review the writing rules t are made to be consistent.

The results show that before matching, the standard deviation of each matching variable is very large, which indicates the rationality and necessity of PSM matching to a certain extent. After matching, the standard deviations of all matched variables decreased by more than 91% except Finance, RD and State, which decreased by 51.3%, 45.3% and 66.2%. According to the requirements

of whether the standard deviation of the matched variable and the mean of the matched treatment group and the control group have significant differences, on the one hand, it can be seen from the column of standard deviation that the absolute value of the standard deviation of the matched variable is significantly less than 20%, so it can be considered that the selected matching variable is reasonable. On the other hand, by observing the t-test probability values of the matched variables in the last column, it can be seen that most matched variables are significantly different before matching, indicating that there is a systematic difference between subsidized enterprises and non-subsidized enterprises, and not considering these factors will lead to estimation bias. After matching, all matched variables except State could not reject the null hypothesis that there was no significant difference between enterprises in the post-matching treatment group and the control group at the significance level of 10%. It indicates that there is no systematic difference between subsidized enterprises and non-subsidized enterprises in all variables, so the difference in export behavior of enterprises can only be attributed to government subsidies. In this way, matching can make the two groups of enterprises before the subsidy do not have systematic differences in export behavior and other aspects, so as to effectively solve the endogeneity problem. At the same time, it also shows that the matching method selected in this paper is appropriate, and the result of Kernel matching estimation can be trusted. In summary, the results of matching balance test meet the requirements of matching balance.

4.2 Based on difference-in-differences model

In this part, the difference-in-differences model is used to investigate the impact of government subsidies on enterprises' export behavior, so as to compensate for the failure of PSM method to eliminate the influence of unobservable factors.

First, we examine the difference estimation of government subsidies on export decisions. Table 4 reports the result b_3 of the differential estimation with 1998 as the Base Line and other years as the experimental period. b_3 represent different years government subsidies influence on export decisions, combined with figure 1 government subsidies to enterprises to export decisions of double differential dynamic change as a result, it can be seen that before China's accession to the WTO in 2001, the government subsidies for decision-making of enterprise exports have been gradually deepening, is more and more important role for decision of enterprises to export, But 2001 years later, in addition to a higher estimates of the number of double difference results in 2004, the government subsidized exports effect basic is gradually weakening trend, to a certain extent shows that with the development of the enterprise, the market competition gradually thorough, the influence of government subsidies to enterprises to export decisions, though still has certain status, but the key still depends on the strength of the enterprise itself, The role of government subsidies is diminishing. It is noteworthy that there was a temporary increase in the difference estimator in 2008, and then the effect continued to decrease at the margin. It can be seen that government subsidies had a significant effect

on enterprises' export in 2008, which may be due to the temporary and substantial increase in government subsidies, which significantly reduced enterprises' costs, improved the market competitiveness of enterprises' export products, and was conducive to enterprises' further export. However, the fact is not as optimistic as expected. With the relative stabilization of government subsidies since 2008, this effect no longer increases but shows a weakening trend. In 2011, the difference estimator b_3 is only 0.063, indicating that the probability of enterprises in the treatment group making export decisions is 6.3% higher than that in the control group. In other words, government subsidies still have a positive impact on enterprises' export decisions, but this result is much lower than the 11.5% average treatment effect of PSM. From the average difference estimation of the total sample time, it is basically consistent with the estimated result of PSM.

Table 4 Difference-in-differences results of export decision and change of export intensity from 1998 to 2011

year	Export decisions		Intensity of export		Number of samples
	Difference-in-differences estimation b_3	P>|t|	Difference-in-differences estimation b_3	P>|t|	
1998/1999	0.06*	0.054	0.019	0.339	5484
1998/2000	0.1***	0.002	0.019	0.363	5553
1998/2001	0.145***	0.000	0.042**	0.050	5588
1998/2002	0.143***	0.000	0.069***	0.001	5848
1998/2003	0.117***	0.000	0.033*	0.100	6159
1998/2004	0.161***	0.000	0.096***	0.000	6374
1998/2005	0.131***	0.000	0.071***	0.000	6974
1998/2006	0.094***	0.000	0.034*	0.052	7878
1998/2007	0.065***	0.007	0.028*	0.086	9328
1998/2008	0.078***	0.000	0.031***	0.000	13559
1998/2010	0.068***	0.002	0.029**	0.015	10822
1998/2011	0.063***	0.001	0.027**	0.028	18882

Second, we examine the difference estimation change of government subsidies on the export intensity of enterprises. Conclusion shows that the sample period export intensity changes of the double difference estimation results before the WTO was not significant, after the WTO accession is significantly positive, means the government subsidies to enterprises to export intensity does exist certain promote role, but the promotion effect only after WTO entry, may the reason is that the government subsidies on a smaller scale, Therefore, it cannot overcome the high trade costs in the process of participating in foreign trade before WTO entry, indicating that there is a threshold effect of government subsidies on export intensity under the given condition of trade costs. In addition, the effect of government subsidies on the enhancement of enterprise export intensity is basically consistent with the dynamic trend of its contribution to enterprise export decision, only the contribution magnitude is lower than the latter. Also in 2004 the government subsidy effect to the promotion of enterprise export intensity is highest, the average is higher than 9.6% of government subsidies, also briefly in 2008, then to 2011 the significance level and ratio are decreased, it may be the reason is that the role of government subsidies is to develop the international market, but when enterprises enter the international market, It is no longer government subsidies but market effects that determine the export intensity of enterprises, such as the product characteristics of enterprises themselves, and the contribution of government subsidies gradually decreases.

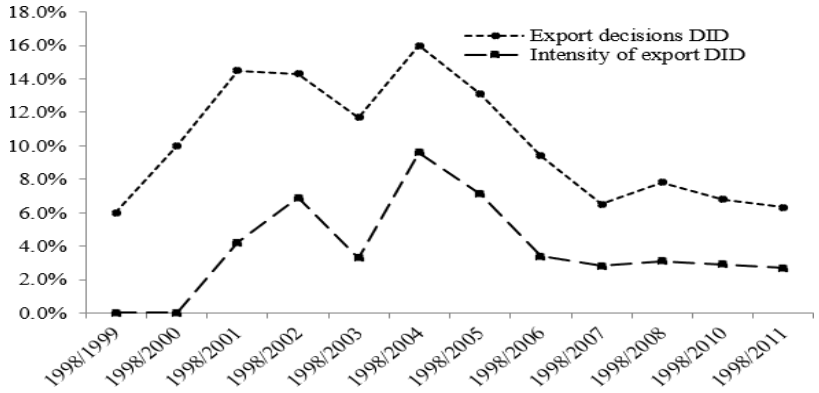


FIG. 1 Dynamic change of enterprises' export decision and the difference-in-differences results of export intensity

Comment [i-[14]: Q14. Do not use Image from a screenshot. This can be a serious problem, where the quality of the resolution is low.

Industrial enterprises in Anhui province is small, more international operation time is short, in enterprise management, research and development, production and marketing is still far from international operations needed to request, and as a result of the need of economic backwardness after strategy, have to in their own advantages have not been consolidated before involved in foreign trade, the resulting in the face of the international market competition facing all kinds of trade barriers, The fixed cost of settling into the market and the variable cost of penetration after entering the market cannot overcome the financing constraints and policy restrictions in a timely manner. Under such circumstances, if the government's export promotion policy is properly implemented and enterprises can make reasonable use of such external support according to their own conditions, This kind of policy will effectively help such enterprises to solve the problem of "short board of competence" in the process of internationalization, that is, it can indeed play a role of "timely assistance" to the internationalization growth of such enterprises, so as to

expand the export scale of enterprises.

The above conclusion shows that government subsidies can effectively improve the possibility of enterprises' export in the short term, and can also help enterprises to expand export intensity and help enterprises to go out and become bigger and stronger. From this perspective, it is of positive significance. But in the long run, government subsidies to promote enterprise's decision-making and export the function of the intensity weakening, especially for the contribution of export intensity of significance level is not stable, the role of government to promote enterprise's export intensity is conditional, and not any time that any enterprise, through the government subsidies intensity increase exports. After an enterprise goes to the international market with the support of subsidies, its sales volume and sustainable growth in the international market mainly depend on its own competitiveness. Therefore, from the policy level, government subsidies should focus on cultivating the sustainable development ability of enterprises, and building the micro foundation for sustainable export growth is the long-term solution.

5 Conclusions and policy implications

In order to analyze whether government subsidies have a positive promoting effect on the export behavior of enterprises in Anhui province, this paper selects the micro panel data of 72617 sample enterprises in Anhui industrial enterprises from 1998 to 2011, and uses PSM method and differential model to analyze the causal relationship between government subsidies and enterprise export

Comment [i-[15]: Q15. In scientific work, there must be verification of the analysis contained in the "discussion". It highlights whether this article aligns with or contrasts w other publications that have developed.

Comment [i-[16]: Q16. This phase must b placed separately. Ideally, the conclusion is r wordy and only summarizes the output findin Policy implications can be developed in anoth chapter. Follow-up material should also prese research weaknesses and future study directions. Several paragraphs should be elaborated in the discussion section.

behavior. The main conclusions are as follows:

(1) Statistical analysis shows that in recent years, both the coverage and depth of government subsidies provided to enterprises in Anhui Province have been greatly improved, and the scale of enterprises' export and the number of export enterprises have also been continuously improved; As a province with large labor resources, labor-intensive enterprises are more in line with comparative advantages to make export choices. However, compared with labor-intensive enterprises, enterprises with high capital intensity are more likely to obtain government subsidies. In terms of industry differences, the high-tech industry is easier to obtain government subsidies, and the export probability of the high-tech industry is much higher than that of the non-high-tech industry. In addition, the probability of manufacturing enterprises receiving subsidies and the proportion of export enterprises are the highest, which is in line with the main characteristics of foreign trade types in Anhui Province and even the whole country. The most prominent manifestation of the difference in the ownership of enterprises: the probability of receiving subsidies of state-owned enterprises and foreign-invested enterprises and the proportion of export enterprises have absolute advantages, more than other types of enterprises. An interesting finding is that although state-owned enterprises are highly likely to receive government subsidies, the proportion of export enterprises is much lower than that of Hong Kong, Macao, Taiwan and foreign-invested enterprises. In addition, corporate enterprises and private enterprises,

as the main components of industrial enterprises in Anhui Province, account for 68.93% of the total number of enterprises, but the proportion of subsidies and exports is relatively weak.

(2) In order to further investigate the causal relationship between government subsidies and enterprises' export behavior, a counterfactual solution based on propensity score matching was introduced. After selecting appropriate matching variables, probit model was used to estimate the probability of obtaining subsidies as the propensity score of matching reference, and Kernel matching of samples was carried out. The results show that the average ATT difference between the treatment group and the control group is 11.5%, and the T-test has statistical significance, indicating that the export decision of the treatment group and the control group is obviously different, and the government subsidy can bring the expected export promotion effect. This means that those firms that receive government subsidies are, on average, more likely to participate in exports than non-subsidised firms. That is, after solving the "self-selection" problem, there is no impact effect of 19.8% as shown by OLS. Therefore, this paper believes that the PSM method can more accurately estimate the causal effect of government subsidies on export decisions, which also indicates that the contribution of government subsidies to the export decisions of Anhui industrial enterprises is significant.

(3) Difference-in-differences model is used to investigate the influence of government subsidies on enterprises' export behavior, so as to make up for the

failure of PSM method to eliminate the influence of unobservable factors. On the one hand, it is reflected in the influence of government subsidies on the export decisions of enterprises. Before entering WTO, the contribution of government subsidies to the export decisions of Anhui enterprises was gradually deepening. After entering WTO, the export effect of government subsidies turned to a weakening trend. In 2008, the government stimulus policy showed that the export effect of government subsidies increased temporarily, and then the effect level gradually decreased. On the other hand, the effect of government subsidies on the enhancement of enterprise export intensity is basically consistent with the dynamic trend of its contribution to enterprise export decision, only the contribution magnitude is lower than the latter. In general, government subsidies still have a certain promoting effect on enterprises' export decisions and export intensity, and the test results are in line with the basic conclusion of PSM.

Based on the empirical research conclusions, this paper puts forward the following policy suggestions:

(1) Under the premise of not violating WTO trade rules, actively use government subsidies to promote the export of Anhui enterprises and the expansion of export scale. According to the relevant provisions of the WTO subsidies and countervailing trade subsidies are divided into actionable subsidies and prohibitive subsidies, while the direct export subsidies are typically prohibitive subsidies can no longer be used, but the export tax rebate,

productive subsidies, such as is allowed by the WTO, and its effect on encouraging enterprises to export behavior, from the empirical research was more effective, It can help enterprises reduce export costs and export transaction costs needed to enter the international market, so enterprises should make good use of government subsidies. Due to the existence of market failure, especially for Anhui province as an economically underdeveloped province, the congenital weakness of the market is more prominent, so it is feasible to strengthen the government policy adjustment, through subsidies to realize the expansion of enterprise export and export scale.

(2) We should carefully choose the subsidy object, really pay attention to the export promotion policy of Anhui private enterprises and corporate enterprises, improve the support intensity, and moderately reduce the policy subsidy of "super national treatment" for foreign-funded enterprises. This study shows that corporate enterprises and private enterprises, as the main components of industrial enterprises in Anhui Province, account for 68.93% of the total number of enterprises, but the proportion of subsidies and exports is relatively weak. Existing research shows that the foreign capital enterprise in high degree of industrialization of developed countries, in enterprise management, research and development, production and marketing links all have the comparative advantage, such as government subsidies of marginal revenue has not obvious, if for the introduction of these enterprises with malignant competition in introducing foreign capital, and national wealth to

foreign capital, and not conducive to the development of domestic enterprises, at the same time for the foreign capital enterprise, Government subsidies are not significant either in export or in the expansion of export scale. For domestic enterprises represented by private enterprises and legal persons, it is a wise choice for enterprises, the government and the society to improve the depth and breadth of government subsidies, and it is urgent to change the focus of government subsidies.

(3) Improve the subsidy distribution and distribution rules, pay attention to the optimization of subsidy distribution methods, and improve the efficiency of government subsidies to Anhui enterprises export. First of all, it is necessary to simplify the rule system of government subsidy distribution as far as possible, reduce the participation cost of relevant enterprises to apply for government subsidy, and improve the enthusiasm of these enterprises to apply for government subsidy. Secondly, we should adhere to the open and transparent information and process of government subsidy distribution, so as to ensure that as many enterprises as possible know the relevant government subsidy information, and at the same time, we can strengthen the external supervision and management of the government subsidy distribution process. Third, a strict and effective auditing and supervision system should be formulated and strictly implemented to prevent rent-seeking by officials and collusion between government and enterprises in the process of allocating government subsidies, prevent the waste and abuse of limited public budget funds, and reduce

unnecessary financial costs arising therefrom. So as to guarantee and improve the promotion efficiency of the government subsidy to the enterprise export decision and the enterprise export intensity.

References

Brander J A., Spencer B J. Export subsidies and international market share rivalry [J]. Journal of International Economics, 1985, 18(1-2): 83–100.

Meza D D. Export subsidies and high productivity: cause or effect? [J]. The Canadian Journal of Economics, 1986, 19(2): 347–350.

Jung W S, Lee G. The effectiveness of export promotion policies: the case of Korea [J]. WeltwirtschaftlichesArchiv, 1986, 122(1): 340–357.

Hoffmaister A W. The Cost of Export Subsidies: Evidence from Costa Rica [R]. IMF Working Paper, 1991, No. 91/94.

Álvarez R. Crespi G. Exporter Performance and Promotion Instruments:

Comment [i-[17]: Q17. Is the writing of references in accordance with the guidelines "Cogent Social Sciences"? Authors must comply with all applicable standards and formats. The next situation that must be highlighted is regarding minimal citations. In addition, the year of publication should follow the latest developments. For example: a jour or book published at least from 2010 and the latest upgrade.

Chilean Empirical Evidence [J]. Estudios de Economía, 2000, 27(1): 225–241.

Bernard A B, Jensen J B. Why Some Firms Export [J]. The Review of Economics and Statistics, 2004, 86(2): 561-569.

Gil-Pareja, S., LlorcaVivero, R., Martinez Serrano, J., Measuring the impact of regional export promotion: the Spanish Case[R]. Working Paper,2005, 01/05.

Nitsch, V., 2005. State visits and international trade. FreieUniversität Berlin, mimeo.

Lederman, D., Olarreaga, M., Payton, L. Export promotion agencies: What works and what doesn't. World Bank Policy Research Working Paper 4044 2006.

Rose A. 2007. The foreign service and foreign trade: embassies as export promotion [J]. The World Economy 30(1): 22–38.

Martincus C V, Carballo J.Is Export Promotion Effective in Developing Countries?Firm-level Evidence on the Intensive and the Extensive Margins of Exports [J]. Journal of International Economics, 2008, 76(1): 89–106.

Görg H, Michael H, Eric S. Grant Support and Exporting Activity [J]. The Review of Economics and Statistics, 2008, 90(1): 168–174.

Yi S, Dan L. Impact of Energy Enterprise Exports on Technological Innovation: PSM Analysis Based on Chinese Industrial Enterprise Database. Science, Technology and Society. July 2022.

Qi Zhen Yu and Yang Si Ying. Can Government Subsidies Promote the

TFP of Enterprises? The Mediating Effect of R&D Decisions[J]. Science, Technology and Society, 2021, 26(3): 392-412.

Deng Ming and Wang Jinbo. Why do zombie firms seldom die or resurrect? The effect of government subsidies on the survival duration of China's zombie firms[J]. Economics, 2022, 16(1) : 212-228.

Yanfeng Lou and Yezhuang Tian and Kai Wang. The Spillover Effect of US Industrial Subsidies on China's Exports[J]. Sustainability, 2020, 12(7): 2938-2938.

Marques Helena. Export activity, innovation and institutions in Southern European nascent entrepreneurship[J]. Economics: The Open-Access, Open-Assessment E-Journal, 2019, 13(1)

Wawan Dhewanto et al. SME informal export model in Cibaduyut SME cluster in Indonesia[J]. International Journal of Public Sector Performance Management, 2021, 7(1)

Qiao Lu and Fei Junjun. Government subsidies, enterprise operating efficiency, and "stiff but deathless" zombie firms[J]. Economic Modelling, 2022, 107

Sourafel Girma and Holger GÖrg and Joachim Wagner. Subsidies and Exports in Germany. First Evidence from Enterprise Panel Data[J]. Applied Economics Quarterly, 2009, 55(3): 179-195.

Kalafsky Ronald V. and Graves William W.. Global reach and second-tier cities: An initial exploration of export activity from the bottom of the U.S.

metropolitan hierarchy[J]. Journal of Urban Affairs, 2020, 42(7) : 1014-1027.

Helmers C. Trofimenko N. Export Subsidies in a Heterogeneous Firms Framework [J].Kiel Institute for the World Economy Working Paper, 2010, No. 1476.

Heckman, J. J. et al. The Economics and Econometrics of Active Labor Market Programs [J]. Handbook of Labor Economics, 1999, 3(A): 1865-2097.

Chaney T. Liquidity Constrained Exporters[EB/OL].http://home.uchicago.edu /~/tchaney/research/ConstrainedExporters.pdf

Li Z, Yu M. Exports Productivity and Credits Constraints: A Firm Level Empirical Investigation for China [EB/OL]. http: // mjyu. ccer. edu.cn/research/EPC.pdf, 2009.

Gilligan, D. O., Hoddinott, J. Is There Persistence in the Impact of Emergency Food Aid? Evidence on Consumption, Food Security, and Assets in Rural Ethiopia [J].American Agricultural Economics Association, 2007, 89(2).

Levinsohn J, Petrin N A. Estimating Production Functions Using Inputs to Control for Unobservables[J]. Review of Economic Studies, 2003, 70(2).

Smith, J., and P. Todd. 2005. Does matching Overcome LaLonde's Critique of Nonexperimental Estimators[J].Journal of Econometrics, 125(1-2): 305–353.

Shi Bingzhan. The effect of subsidies on export behavior of Chinese enterprises: An empirical analysis based on paired double difference method

[J]. Journal of Finance and Economics, 2012, (5) : 70 -- 80.

Yu Jianxun. Promotion effect of production subsidy on export [J]. Statistical Research, 2012, (10) : 85 -- 89.

Su Zhendong, Hong Yujuan, Liu Luyao. Do productive government subsidies boost Chinese companies' exports? Microeconometric analysis based on panel data of manufacturing enterprises [J]. Management World, 2012, (5) : 24 -- 43.

Zhu, S., Zhao, Y. L. (2017). Resource misallocation and firms' exporting behaviour: An empirical study based on the Chinese industrial firms data. Financial Research, 11, 49-64.

Comment [i-[18]: Q18. If you are implementing "Mendeley" to compile a list of citations, it should be looked at with caution. Many references are compiled incorrectly. Fo example, in "APA style", the inclusion of journals, books, and website resources certa has a different character from other technique

Like the following example:

Website: Katadata. (2020). 6 sektor usaha paling terdampak saat pandemi Corona [6 business sectors most affected during the Corona pandemic]. Retrieved from https://databoks.katadata.co.id/datapublish/2 0/09/15/6-sektor-usaha-paling-terdampak-sa pandemi-corona

Book: Negruşa, A. L., Toader, V., & Rus, V. (2017). Innovation in product/service development and delivery, 1st Edition. Oxfordshire: Routledge.

Journal: Mohammad, A. A. (2020). The effect customer empowerment and customer engagement on marketing performance: The mediating effect of brand community membership. Business: Theory and Practice, 21(1), 30-38. https://doi.org/10.3846/btp.2020.11617

Working paper: Wisniewski, T. P., Polasik, M Kotkowski, R., & Moro, A. (2021). Switching from cash to cashless payments during the COVID-19 pandemic and beyond. NBP Work Paper No. 337. Narodowy Bank Polski, Warsaw. Retrieved from https://www.nbp.pl/publikacje/materialy_i_stu /337_en.pdf

Proceeding: Davcik, N. S., & Sharma, P. (201 The role of product innovation in marketing performance: Empirical study in FMCG mark (an abstract). In: Rossi, P. (eds) Marketing at the Confluence between Entertainment and Analytics. Developments in Marketing Scienc Proceedings of the Academy of Marketing Science. Springer, Cham. https://doi.org/10.1007/978-3-319-47331-4_4