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Stata and Dropbox

Raymond Hicks
Woodrow Wilson School
Niehaus Center for Globalization and Governance
Princeton University
Princeton, NJ
rhicks@princeton.edu

Abstract. Dropbox makes scholarly collaboration much easier because it allows scholars to share files across different computers. However, because the Dropbox directories have different pathnames for different users, sharing do-files can be complicated. In this article, I offer some tips on how to navigate pathnames in do-files when using Dropbox, and I present a command that automatically finds and changes to a user's Dropbox directory.

Keywords: pr0058, dropbox, Dropbox, directories, tips

1 Introduction

Dropbox makes scholarly collaboration much easier because it allows scholars to share files across different computers. At the same time, sharing do-files in Dropbox presents its own complications. Because users may install Dropbox in different locations and because users have different usernames, often on different computers, directory paths to Dropbox folders may not work in do-files. This is especially likely when multiple Dropbox users collaborate. Here I present some tips on how to overcome these difficulties.

2 What are the issues?

There are three issues in using Stata with Dropbox. Two issues involve potential difficulties in syncing files. The third issue, which this article discusses more, is the pathnames of files.

2.1 Syncing

One issue with using Dropbox to share files is that Dropbox automatically syncs files as they are saved. Stata do-files can get ahead of the Dropbox synchronization if, for instance, a user saves files and then appends these files soon after in a loop. It may also happen if a user saves a file and then uses it. This problem can be solved with a `sleep` command at the end of the loop. Telling Stata to wait for five seconds or so before continuing the loop will usually solve the problem.

2.2 Simultaneous files open

A second issue may arise if multiple users have the same file open simultaneously. Changes made by one user may not be saved if another user also has the file open. Therefore, some people may want to store the data and do-files outside of Dropbox and share only log and result files in Dropbox.

2.3 Different usernames

Many users, however, will want to store data and do-files in a shared Dropbox folder, especially users that do all of their Stata work within do-files, including opening and saving files located in Dropbox. To open or save the files, Stata needs a pathname so that it knows where the Dropbox folder is located. Because the Dropbox directory is usually placed within a user's home directory, this creates a potential problem. Different people will have different usernames, and even the same user may have different usernames on office and personal computers. If a do-file explicitly refers to a specific username, the do-file will stop running if the username does not exist on the computer. For example, `use /users/jdoe/Dropbox/data1.dta` will not work if the user's name is `johndoe`. This type of failure may make collaborating or using multiple computers (such as home and office) frustrating.

Moreover, two other issues may complicate sharing files in Dropbox. First, different computers have different conventions for pathnames. Although `cd /users/`*username*`/Dropbox` will work on Windows and Mac computers, it will not work on Unix computers. For Macs and Unix, `cd ~/Dropbox` will work, but it will not work with Windows.[1]

Second, Dropbox can be installed in a default location (`/users/`*username*`/Dropbox`), but many users install it in different places. Some users install it as `My Dropbox`, while others store it within their Documents folder (`/users/`*username*`/Documents/Dropbox`).

All three of these issues potentially make it difficult to share Stata files in Dropbox.

3 Solutions

There are several different ways to ensure that everyone can easily share and use Stata do-files in Dropbox without errors. I discuss the advantages and drawbacks of the different ways below.

3.1 Edit file

One solution, at least for Windows users, is to open do-files using the `edit` option. The user does not have to specify a pathname, because Stata will automatically change the

1. I use `/users/`*username* to refer to a user's home directory because most users use Windows or Macs. Unix users should read it as `~`.

directory to the one where the do-file is located. From there, relative paths can be used to negotiate around the shared directory. The biggest drawback to this method is that it is limited to Windows users. It also does not fit with how a lot of people use Stata, because each time a user wants to open a do-file in a different directory, the user has to open a new instance of Stata or change the directory within Stata.

3.2 Capture

Other users may prefer to use the `capture` command to change the directory. Here each user puts a change directory (`cd`) command to his or her Dropbox folder preceded by the `capture` command, which prevents Stata from returning an error and aborting the do-file if the specified directory does not exist. As the number of users increases, or if users have different usernames for their home and office computers, keeping track of all the different directories becomes difficult.

3.3 c(username)

Stata stores the user's name in a c-class value called `c(username)`. If all users have Dropbox in the same place, the macro can be used to specify the Dropbox directory. As noted above, one of the common places users store Dropbox is in `/users/`*username*`/Dropbox/`. The *username* is stored by Stata as `c(username)`, which can be inserted as a local in the change directory command: `cd /users/‘c(username)’/Dropbox`. This will work as long as all users have Dropbox installed in the same directory. However, some users may install Dropbox in `/users/`*username*`/My Dropbox/` or in `/users/`*username*`/Documents /Dropbox`. If this is the case, then `c(username)` will not work. Moreover, as noted above, this will work with Windows and Mac computers but not with Unix computers. If all collaborators use Unix or Macs, they could use `~/Dropbox` to go to the root Dropbox directory.

3.4 dropbox.ado

A final solution is to use an ado-file I created, `dropbox.ado`, which looks for the Dropbox directory in the most common places that users install Dropbox. It starts in the most commonly used location (`/users/‘c(username)’/Dropbox` for Windows and `~/Dropbox` for Mac and Unix computers) and then searches within the Documents directory and then the root directory to find Dropbox. The command returns the local Dropbox directory as `r(db)`, and unless the `nocd` option is specified, it changes the directory to a user's root Dropbox directory. From there, the relative paths of all users within Dropbox will be the same. The command also uses the `username` macro to look for the Dropbox directory.

This command is limited because it may not provide the correct Dropbox directory if a user has more than one instance of Dropbox installed. It will not work if a Windows user has Dropbox installed on a drive other than the `c:` drive. Also the command will work only if all shared users have the command on their computers.

4 Conclusion

Using multiple computers and sharing files in the Cloud is increasingly common. In this article, I presented some tips on how to best handle do-files shared with the popular Dropbox program. Here I conclude with a couple of general tips about navigating directories when sharing do-files.

First, avoid using the backslash when setting paths; instead, use a forward slash. The backslash is used only by Windows machines; it is also used as an escape character by Stata, which often causes confusion when users include locals in their pathnames. For example, `c:\users\‘c(username)’\Dropbox` will not work in Stata because Stata will ignore the backslash between users and `‘c(username)’`. Both Unix and Macs use the forward slash in directories, and Windows recognizes the forward slash, so it is a costless change. It will also ensure conformability across operating systems. Similarly, Windows users should avoid references to the `c:\` drive as often as possible. Sometimes, this is unavoidable, especially with network drives or with partitioned drives. However, if all work is done on the `c:\` drive, Windows will recognize `cd /` as referring to the `c:\` drive, which brings Windows syntax in line with Unix and Mac syntax.

Second, users should become familiar with the commands to move around directories without specifying full path names. Users can move up one directory using `cd ..` or up two directories using `cd ../..`. From the current directory, users can move down a directory by specifying only the new directory name. For example, to go from `/users/`*username*`/Dropbox/` to `/users/`*username*`/Dropbox/Shared Folder/`, one can type `cd "Shared Folder"`.

About the author

Raymond Hicks is a statistical programmer in the Niehaus Center for Globalization and Governance at Princeton University, where he focuses on trade and monetary issues.