This file provides information on the code and datasets used in all the firm-level analyses of the paper. These include Tables 3, 4, Panel B of 8, and 9. Note that all datasets in the "Firm-level Tests" folder are pseudo data that include a randomized 1% of the original sample used in the corresponding analysis and are provided for the purpose of illustrating data structure and testing the code and will not reproduce the results reported in the paper. Detailed information on the construction of the datasets is provided in the main paper and the Internet Appendix.

The files included in the "Firm-level Tests" folder of the replication package are described as follows:

- **"Firm-Level Tests Replication Code.do"** this file contains the code for replicating all the firm-level analyses. Details on the variables and statistical methods used in each analysis are provided below.

- **"pseudo_btd_CARs.dta"** This pseudo data includes information on the cumulative abnormal returns of BTD-awarded firms, rival firms and control firms, in the 3-day window surrounding the announcement of a BTD award. The observational level of this data firm-announcement trade date (variables permno-tradeda). The data is used to replicate Table 3. Variables in this dataset are defined as follows:
    - Dependent Variable:
        - car1w: the cumulative abnormal returns of a firm in the 3-day window around a BTD announcement, winsorized at the 1% and 99% level. Firm return data is obtained from the CRSP records. Note that this potentially identifying variable is rounded to the third decimal.
    - Independent Variable:
        - btd_firm: a dummy variable equal to 1 if the firm was awarded a BTD on that trade date.
        - btd_rival: a dummy variable equal to one if the firm was shocked by a BTD award, i.e., if the firm had experienced BTD entry into a market where it was developing a drug project, on that trade date.
        - sm_rival: a dummy variable equal to 1 if a rival is shocked by a BTD award on that trade date in a market where it was developing a project that uses a different technology than that used by the BTD-awarded drug.
        - smst_rival: a dummy variable equal to 1 if a rival is shocked by a BTD award on that trade date in a market where it was developing a project that uses the same technology as that used by the BTD-awarded drug.
    - Control Variables:
        - permno: CRSP data's firm identifying variable. This identifying variable is anonymized.
        - trade_date: the business date that corresponds to the date on which the BTD was announced.
        - previous_btd_firm: a dummy variable equal to one if the firm had received a BTD award on or before the focal trade date.
    - All 3 columns of Table 3 cluster SE by firm. The first two columns include firm and trade date fixed effects, while the last column includes only the latter.
    - Note that you will need to install Stata's reghdfe package to execute all tests in this file.

- **"pseudo_btd_firm_innovation.dta"** This pseudo data includes information on the firm-level innovative activities of BTD firms, BTD rivals and control firms. The observational level of the sample is firm-quarter. The sample is used in the tests of Table 4.
    - Dependent Variables:
        - patdummy: a dummy variable equal to one if the firm had filed for a patent in a given quarter and equal to zero otherwise. Data on patents is obtained from both the Kogan et al (2017) data and the Cortellis records.
        - patnumc: the citation-weighted patent count of a firm computed for each quarter. Data on patents is obtained from both the Kogan et al (2017) data and the Cortellis records.
        - xrdw_atw: defined as the firm's quarterly R&D expenditures divided by total assets. Both R&D expenditures and total assets are obtained from Compustat Quarterly Fundamentals file and are winsorized at the 1% and 99% levels. This potentially identifying variable is rounded to the second decimal place in the pseudo data.
    - Independent Variables:
        - btd_firmq4: a dummy variable equal to 1 if the firm was awarded a BTD in one of the previous 4 quarters.
        - btd_rivalq4: a dummy variable equal to one if the firm was shocked by a BTD award, i.e., if the firm had experienced BTD entry into a market where it was developing a drug project, in the last 4 quarters.
        - sm_rivalq4: a dummy variable equal to 1 if a rival is shocked by a BTD award in the last 4 quarters in a market where it was developing a project that uses a different technology than that used by the BTD-awarded drug.
        - smst_rivalq4: a dummy variable equal to 1 if a rival is shocked by a BTD award in the last 4 quarters in a market where it was developing a project that uses the same technology as that used by the BTD-awarded drug.
    - Control Variables:
        - realid: firm identifier variable.
        - fqdate: a variable that identifies the calendar quarter.
    - Note that the tests that use the rivals only subsample will not be successfully executed due to the FE and the sample size. We have verified that the code is indeed accurate. Removing the firm FE will allow the model to be estimated.

- **"pseudo_rival_init.dta":** this sample provides information on the initiations of active rivals in the four quarters following a BTD shock. The observational level of this sample is firm-year. The sample is used in the tests of Panel B of Table 8.
    - Dependent Variables:
        - initiation: equal to one in the quarter that a rival initiates a drug project,
        - lowcomp_initiation: initiates a drug project in a low competition market (below the full drug sample's median of competition level)
        - hicomp_initiation: or initiates a drug project in a high competition market (above the full drug sample's median level of competition).
    - Independent Variables:

        - hicomp_hiexp_rival: a dummy equal to one if firm had experienced a BTD shock in the previous four quarters in a market that had a competition level above the median level of competition in the full sample, and was highly exposed to that market with an exposure level that is above the median level of exposure in the full sample.
        - hicomp_rival: a dummy equal to one if firm had experienced a BTD shock in the previous four quarters in a market that had a competition level above the median level of competition in the full sample.
        - hiexp_rival: a dummy equal to one if firm had experienced a BTD shock in the previous four quarters in a market that it was highly exposed to that market with an exposure level that is above the median level of exposure in the full sample.
    - Control Variables:
        - realid: firm identifier variable.
        - fqdate: a variable that identifies the calendar quarter.
    - Note that the tests will not be successfully executed due to the FE and the sample size. We have verified that the code is indeed accurate. Removing the firm FE will allow the model to be estimated.

- "**pseudo_btd_rival_fin.dta**" This data is used in the tests of Table 9 and includes information on the financial decisions of recently shocked rival firms and control firms (control firms are only used in Panel A of Table 9). The observational level of the sample is firm-quarter.
    - Dependent Variables:
        - acquisition: is a dummy equal to one if the firm was involved in the acquisition of another firm or drug, in the corresponding quarter.
        - cashw_atw is a firm's quarterly cash holdings divided by total assets and is obtained from the Compustat Quarterly files and winsorized at the 1% and 99% levels. This potentially identifying variable is rounded to the second decimal place.
        - sgaw_revw is a firm's quarterly sales, general and administrative expenses divided by quarterly sales and is obtained from the Compustat Quarterly files and winsorized at the 1% and 99% levels. This potentially identifying variable is rounded to the second decimal place.
        - leveragew is equal to total debt divided by total assets and is obtained from the Compustat Quarterly files and winsorized at the 1% and 99% levels. This potentially identifying variable is rounded to the second decimal place.
    - Independent Variables:
        - btd_rival: a dummy variable equal to one if the firm was shocked by a BTD award, i.e., if the firm had experienced BTD entry into a market where it was developing a drug project, in the last 4 quarters (or the last 8 quarters for the tests in the last four columns of Table 9 Panel B).
        - approved_rivalq4: a dummy variable equal to one if the firm was shocked by a BTD award, i.e., if the firm had experienced BTD entry into a market where it owned an FDA approved-for-sale product, in the last 4 quarters (or the last 8 quarters for the tests in the last four columns of Table 9 Panel B).
    - Control Variables:

        - realid: firm identifier variable.
        - fqdate: a variable that identifies the calendar quarter.
    - Note that some tests (especially with the rivals only subsample) will not be successfully executed due to the FE and the sample size. We have verified that the code is indeed accurate.