

SP_Data_Prep

April 3, 2019

```
In [43]: # Mount Google Drive
        """
        No need to execute this block when working on local system.
        """

        from google.colab import drive
        drive.mount("/content/vdrive", force_remount = True)
```

Mounted at /content/vdrive

```
In [0]: # Files to process
        """
        Modify the locations below as per your directory struture.
        """
        root_dir = "/content/vdrive/My Drive/Colab Notebooks/Projects/Bondai/SP 500/data/"
        data_dir = "/content/vdrive/My Drive/Colab Notebooks/Projects/Bondai/SP 500/data/raw/"
        prep_dir = "/content/vdrive/My Drive/Colab Notebooks/Projects/Bondai/SP 500/data/prep/"
```

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In [0]: # Loading the csv tickers file
import pandas as pd
ticker_list_df = pd.read_csv(root_dir + "ticker_list.csv", header=None, names=["Tickers"])
```

```
In [0]: def prep_data(ticker):
# INCOME STATEMENT
income_statement = pd.read_excel(data_dir + ticker + ".xlsx", sheet_name = "income_s
income_statement = income_statement.loc[["Gross Profit", "Operating Income", "Net I
income_statement.rename(index = {
    "Gross Profit": "gross_profit",
    "Operating Income": "op_income",
    "Net Income": "net_income"
}, inplace = True)

# BALANCE SHEET
balance_sheet = pd.read_excel(data_dir + ticker + ".xlsx", sheet_name = "balance_s
balance_sheet = balance_sheet.loc[["Total current assets", "Total non-current asse
balance_sheet.rename(index = {
    "Total current assets": "crr_asst",
    "Total non-current assets": "ncrr_asst",
```

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        "Total current liabilities": "crr_libt",
        "Total non-current liabilities": "ncrr_libt"
    }, inplace = True)

    df = pd.concat([income_statement, balance_sheet])
    df = df[df.columns[::-1]]
    df = df.transpose()
    df = (df - df.shift(1))/abs(df.shift(1))
    df *= 100
    df.dropna(inplace = True)
    df = df[["net_income", "op_income", "gross_profit", "crr_asst", "ncrr_asst", "crr_"]
    # print(df)
    df.to_csv(prepare_dir + ticker + ".csv")
    return

# prepare_data("AES")

```

In [0]: # the companies for which balance sheet without current and non-current assets and liabilities

```

def prepare_data_2(ticker):
    # INCOME STATEMENT
    income_statement = pd.read_excel(data_dir + ticker + ".xlsx", sheet_name = "income_statement")
    income_statement = income_statement.loc[["Gross Profit", "Operating Income", "Net Income"]]
    income_statement.rename(index = {
        "Gross Profit": "gross_profit",
        "Operating Income": "op_income",
        "Net Income": "net_income"
    }, inplace = True)

    # BALANCE SHEET
    balance_sheet = pd.read_excel(data_dir + ticker + ".xlsx", sheet_name = "balance_sheet")
    balance_sheet = balance_sheet.loc[["Total assets", "Total liabilities"]]
    balance_sheet.rename(index = {
        "Total assets": "ncrr_asst",
        "Total liabilities": "ncrr_libt"
    }, inplace = True)

    df = pd.concat([income_statement, balance_sheet])
    df = df[df.columns[::-1]]
    df = df.transpose()
    df = (df - df.shift(1))/abs(df.shift(1))
    df *= 100
    df.dropna(inplace = True)
    df.insert(0, "crr_asst", 0)
    df.insert(0, "crr_libt", 0)
    df = df[["net_income", "op_income", "gross_profit", "crr_asst", "ncrr_asst", "crr_"]
    df.to_csv(prepare_dir + ticker + ".csv")
    return

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In [48]: counter = 0

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Pre Processing Data for: TRV(409/482; Failed(0))
-----
Pre Processing Data for: FE(410/482; Failed(0))
Pre Processing Data for: NWL(411/482; Failed(0))
Pre Processing Data for: GPC(412/482; Failed(0))
Pre Processing Data for: CME(413/482; Failed(0))
Pre Processing Data for: HAS(414/482; Failed(0))
Pre Processing Data for: TXT(415/482; Failed(0))
Pre Processing Data for: LOW(416/482; Failed(0))
Pre Processing Data for: HOG(417/482; Failed(0))
Pre Processing Data for: CNP(418/482; Failed(0))
Pre Processing Data for: FLS(419/482; Failed(0))
Pre Processing Data for: HLT(420/482; Failed(0))
Pre Processing Data for: TSCO(421/482; Failed(0))
Pre Processing Data for: CTAS(422/482; Failed(0))
Pre Processing Data for: SRCL(423/482; Failed(0))
Pre Processing Data for: TIF(424/482; Failed(0))
Pre Processing Data for: MNST(425/482; Failed(0))
Pre Processing Data for: EXR(426/482; Failed(0))
-----
Pre Processing Data for: IQV(427/482; Failed(0))
Pre Processing Data for: IBM(428/482; Failed(0))
Pre Processing Data for: SPG(429/482; Failed(0))
-----
Pre Processing Data for: XRAY(430/482; Failed(0))
Pre Processing Data for: VZ(431/482; Failed(0))
Pre Processing Data for: ULTA(432/482; Failed(0))
Pre Processing Data for: NCLH(433/482; Failed(0))
Pre Processing Data for: FTI(434/482; Failed(0))
Pre Processing Data for: MAT(435/482; Failed(0))
Pre Processing Data for: PLD(436/482; Failed(0))

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Pre Processing Data for: COP(437/482; Failed(0))
Pre Processing Data for: FTV(438/482; Failed(0))
Pre Processing Data for: CINF(439/482; Failed(0))

Pre Processing Data for: ABBV(440/482; Failed(0))
Pre Processing Data for: PEP(441/482; Failed(0))
Pre Processing Data for: MTD(442/482; Failed(0))
Pre Processing Data for: PSA(443/482; Failed(0))

Pre Processing Data for: PFE(444/482; Failed(0))
Pre Processing Data for: XYL(445/482; Failed(0))
Pre Processing Data for: SRE(446/482; Failed(0))
Pre Processing Data for: WEC(447/482; Failed(0))
Pre Processing Data for: ANTM(448/482; Failed(0))
Pre Processing Data for: TRIP(449/482; Failed(0))
Pre Processing Data for: OKE(450/482; Failed(0))
Pre Processing Data for: MCD(451/482; Failed(0))
Pre Processing Data for: INCY(452/482; Failed(0))
Pre Processing Data for: ARNC(453/482; Failed(0))
Pre Processing Data for: ZBH(454/482; Failed(0))
Pre Processing Data for: BXP(455/482; Failed(0))

Pre Processing Data for: ROST(456/482; Failed(0))
Pre Processing Data for: CXO(457/482; Failed(0))
Pre Processing Data for: MLM(458/482; Failed(0))
Pre Processing Data for: NSC(459/482; Failed(0))
Pre Processing Data for: COG(460/482; Failed(0))
Pre Processing Data for: OXY(461/482; Failed(0))
Pre Processing Data for: EA(462/482; Failed(0))
Pre Processing Data for: GM(463/482; Failed(0))
Pre Processing Data for: HOLX(464/482; Failed(0))
Pre Processing Data for: SLG(465/482; Failed(0))

Pre Processing Data for: HBAN(466/482; Failed(0))

Pre Processing Data for: IRM(467/482; Failed(0))
Pre Processing Data for: BA(468/482; Failed(0))
Pre Processing Data for: DOV(469/482; Failed(0))
Pre Processing Data for: SBUX(470/482; Failed(0))
Pre Processing Data for: PKG(471/482; Failed(0))
Pre Processing Data for: KO(472/482; Failed(0))
Pre Processing Data for: CFG(473/482; Failed(0))

Pre Processing Data for: WBA(474/482; Failed(0))
Pre Processing Data for: NOC(475/482; Failed(0))
Pre Processing Data for: EOG(476/482; Failed(0))
Pre Processing Data for: FISV(477/482; Failed(0))

```
Pre Processing Data for: NKTR(478/482; Failed(0))  
Pre Processing Data for: INTC(479/482; Failed(0))  
Pre Processing Data for: UNP(480/482; Failed(0))  
Pre Processing Data for: SYK(481/482; Failed(0))  
Pre Processing Data for: HRL(482/482; Failed(0))
```

0.0.1 References

1. <http://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.DataFrame.insert.html>