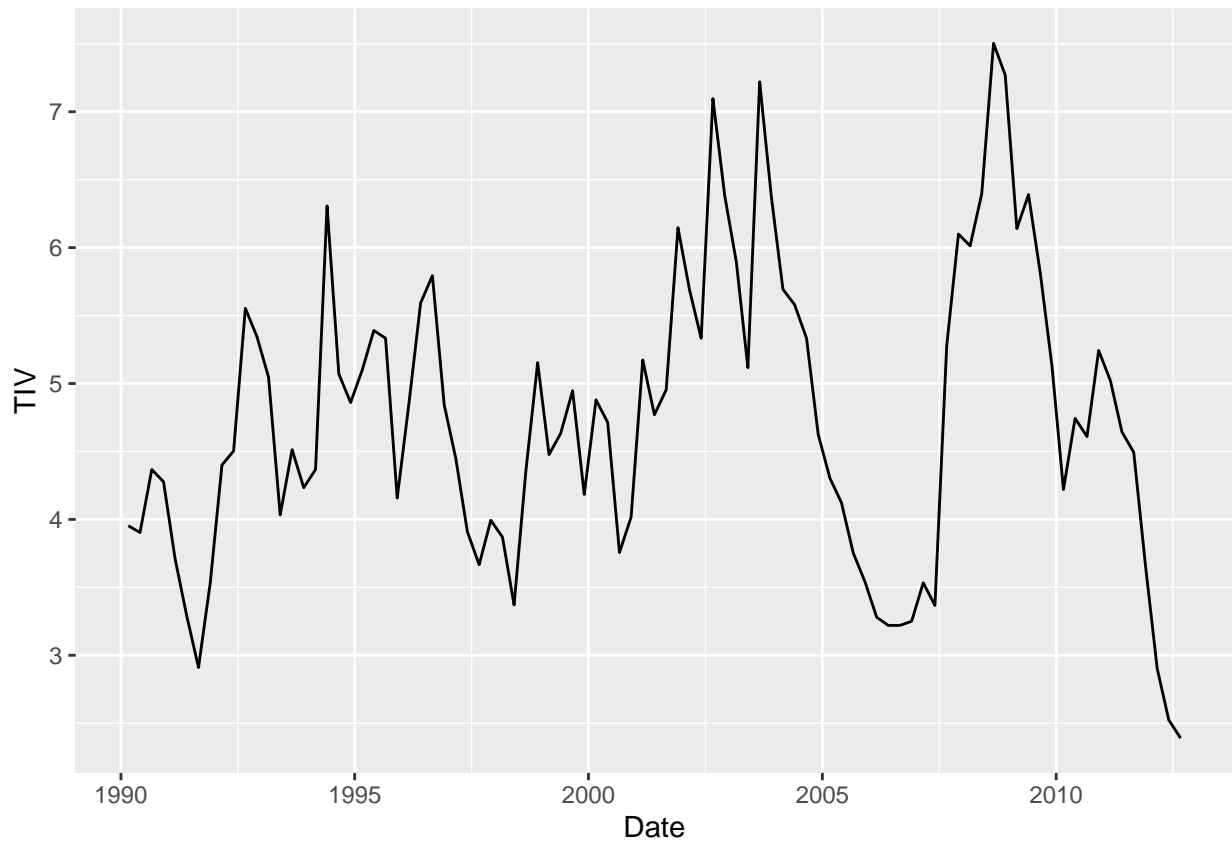


TIV

1 Appendices

```
#create lags
df2 <- df2 %>%
  mutate(TIV_lag1=lag(TIV,1)) %>%
  mutate(TIV_lag2=lag(TIV,2)) %>%
  mutate(TIV_lag3=lag(TIV,3)) %>%
  mutate(TIV_lag4=lag(TIV,4)) %>%
  mutate(TIV_lag5=lag(TIV,5)) %>%
  mutate(TIV_lag6=lag(TIV,6)) %>%
  mutate(TIV_lag7=lag(TIV,7)) %>%
  mutate(TIV_lag8=lag(TIV,8)) %>%
  mutate(TIV_lag9=lag(TIV,9)) %>%
  mutate(TIV_lag10=lag(TIV,10))

TIV_graph <- ggplot(df2,aes(x=Date, y=TIV)) + geom_path()
print(TIV_graph)
```



```
summary(df2)
```

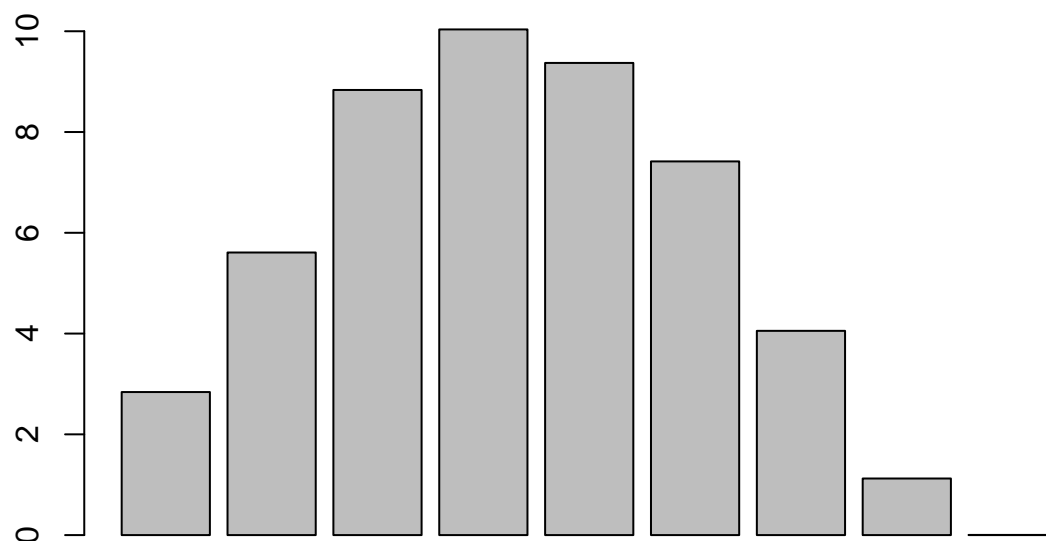
```
##      Date      GDP      TIV      H12
## Min.   :1990-02-28 Min.   :-3.924 Min.   :2.390 Min.   : -0.106
## 1st Qu.:1995-10-14 1st Qu.: 1.724 1st Qu.:3.973 1st Qu.: 1.947
## Median :2001-05-30 Median : 2.673 Median :4.643 Median : 2.995
## Mean   :2001-05-30 Mean   : 2.522 Mean   :4.737 Mean   : 2.646
## 3rd Qu.:2007-01-13 3rd Qu.: 4.063 3rd Qu.:5.338 3rd Qu.: 3.513
## Max.   :2012-08-30 Max.   : 5.298 Max.   :7.503 Max.   : 4.608
##                                     NA's   :13
##      H18      H24      H30      TIV_lag1
## Min.   :0.5594 Min.   :0.9728 Min.   :1.463 Min.   :2.523
## 1st Qu.:2.4798 1st Qu.:2.5388 1st Qu.:2.321 1st Qu.:3.999
## Median :2.9692 Median :2.9797 Median :3.196 Median :4.678
## Mean   :2.7617 Mean   :2.8606 Mean   :2.929 Mean   :4.763
## 3rd Qu.:3.5019 3rd Qu.:3.6134 3rd Qu.:3.428 3rd Qu.:5.341
## Max.   :4.4872 Max.   :4.1044 Max.   :3.938 Max.   :7.503
## NA's   :19      NA's   :25      NA's   :31      NA's   :1
##      TIV_lag2      TIV_lag3      TIV_lag4      TIV_lag5
## Min.   :2.903 Min.   :2.910 Min.   :2.910 Min.   :2.910
## 1st Qu.:4.017 1st Qu.:4.029 1st Qu.:4.078 1st Qu.:4.056
```

```
## Median :4.713   Median :4.728   Median :4.743   Median :4.757
## Mean    :4.788   Mean    :4.810   Mean    :4.823   Mean    :4.827
## 3rd Qu.:5.343   3rd Qu.:5.355   3rd Qu.:5.367   3rd Qu.:5.378
## Max.    :7.503   Max.    :7.503   Max.    :7.503   Max.    :7.503
## NA's    :2      NA's    :3      NA's    :4      NA's    :5
##      TIV_lag6      TIV_lag7      TIV_lag8      TIV_lag9
## Min.    :2.910   Min.    :2.910   Min.    :2.910   Min.    :2.910
## 1st Qu.:4.033   1st Qu.:4.029   1st Qu.:4.025   1st Qu.:4.021
## Median :4.770   Median :4.757   Median :4.743   Median :4.757
## Mean    :4.829   Mean    :4.827   Mean    :4.822   Mean    :4.824
## 3rd Qu.:5.390   3rd Qu.:5.431   3rd Qu.:5.472   3rd Qu.:5.513
## Max.    :7.503   Max.    :7.503   Max.    :7.503   Max.    :7.503
## NA's    :6      NA's    :7      NA's    :8      NA's    :9
##      TIV_lag10
## Min.    :2.910
## 1st Qu.:4.017
## Median :4.770
## Mean    :4.825
## 3rd Qu.:5.553
## Max.    :7.503
## NA's    :10
```

```
do_regression <- function(var)
{ # var - the name of the variable to be regressed
  res <- dynlm(as.formula(paste0("H12 ~", var)), df2) # run linear regression
  coefs <- c("R-Squared"= summary(res)$r.squared*100, "Beta" = summary(res)$coefficient)
  return(coefs)
}

output_lagsregression2 <- as.data.frame(t(sapply(colnames(df2)[9:17], do_regression)))

barplot(output_lagsregression2$'R-Squared')
```



1.1 Appendix B.

Table 1.1: Regression output

	H12	H18	H24	H30
Panel A: TIV				
R-Squared	0.00	0.11	0.00	0.23
Intercept	2.39	0.96	2.72	4.89
Beta	0.05	0.39	0.03	-0.41
t-	3.42	1.55	4.68	10.21
statistic.(Intercept)				
t-statistic.TIV	0.37	2.94	0.25	-4.17

Note:

Preliminary regression output. Initial data needs to be re-checked.