The **flexipage** package

Anton Vrba

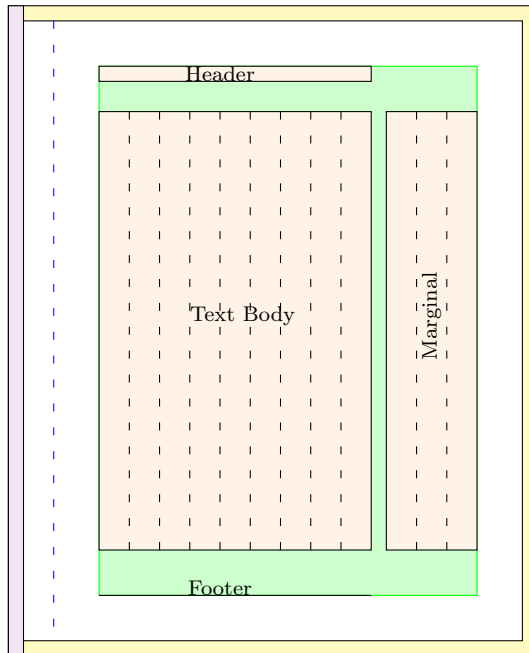Home Page: https://github.com/anton-vrba/flexipage

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Abstract

The package flexipage allows easy page layout if marginalia is required. Mid document changes are possible such as: new marginal width, full width text, and landscape text without marginal. Partners well with the package sidenotesplus. The package also aids the layout for book printing, allowing for binding corrections and adding page bleed, if required,

The aim is an easy to use the page geometry setup, and allow mid-document changes such as from portrait to landscape, or change the text body width to marginalia width ratio. The philosophy is simple, easy to understand options quickly set up the page geometry:

1. `pageheight` and `pagewidth` of final document, default inherited.

2. Defines page margins `inner`, `outer`, `top` and `bot`. Inner refers to the binding that is the left side margin of on odd pages in `twoside` documents, or of pages in `oneside` documents. Page margins surround the printable area. Default for all `36pt`, or `0.5in`.

3. Add a `binding` correction, default `9pt`.

4. Add an `outerbleed`, increases the papersize by adding a bleed area to the non bound margins. For the seldom requirement an `innerbleed` adds to the paperwidth on the inner side. Refer to your publisher. Default for both `0pt`.

5. Divide the remaining printable area into a vertical `grid`, default `12`.

6. Insert a `marginparsep` (default `3ex`) at the `margingrid` position counting from the outer edge; 0 is for no marginalia, 1 is a narrow marginal note area, and 4 is a marginal note area of one halve the width of the text body area's width when `grid=12`. The marginal area is placed by the outer edge.

7. The LaTeX `headsep`, `headheight` and `footskip` dimension can also be passed as options, otherwise default to class values.

8. As a visual guide, the option `show` frames the page geometry in the output

The basic paper geometry for book printing is illustrated to the left. This for odd page numbers, the recto page. The even pages mirror this geometry to maintain verso–recto symmetry. The final page size is the white area. The yellow outer coloured area is the `outerbleed` and the violet colored area on the left is the `innerbleed`, these are trimmed and discarded. Please refer to your publisher if needed.

The green area is the text block containing the text body, the marginal, the header and footer and is defined by the margins `top`, `outer` and `bottom` to the trimmed paper's edge. The inner side (left) vertical dot-dashed line represents the `binding` correction and the `inner` margin is defined from this line.

Here the illustrated text width plus the marginal width are divided into 12 equal `grid=12` divisions with the marginal takin 3 of them, defined by `marginalgrid=3`. .

Also refer to: https://www.overleaf.com/learn/latex/Single_sided_and_double_sided_documents

1 Usage

1.1 Document preamble

```
\PassOptionsToPackage{
% a4paper          , % or another recognised paper size
% paperheight =    , %  inherits from class
% paperwidth =     , %  inherits from class
% inner =          , %  default 36pt or 0.5in
% outer =          , %          36pt or 0.5in
% top =            , %          36pt or 0.5in
% bot =            , %          36pt or 0.5in
% binding =        , %           9pt or 0.125in
% outerbleed =     , %            0pt, but check with your printer
% innerbleed =     , %            0pt, but check with your printer
% grid =           , %           12 it is just a number
% marginalgrid =   , %            3 it is just a number
% marginparsep =   , %            3ex, if using sidenotesplus change to 4 or 5ex
% headsep =        , % inherits from class
% headheight =     , % inherits from class
% footskip=        , % inherits from class
% extrafirstfoot=  , % 0pt, first page extra footer, reduces textheight
% show             , % a switch to show frames around the printable areas.
% fancyhdrOff      , % Do not use the fancyhdr package
% NoFixMargin        % a possible future requirement
}{flexipage}
\usepackage{flexipage}
```

Known Issue: If using the option show and the package xcolor is loaded later with options, an error will occur. The reason is that when option show is specified the package eso-pic is loaded which in turns loads xcolor without options. Remedy, load xcolor with options before loading flexipage

If the option extrafirstfoot is used, and show is used then the frames for the first page do not show the effect of extrafirstfoot.

Marginalia Position Issue: When doing mid document changes to \textwidth and \marginparwidth then \marginpar{content} renders the marginalia to the correct width but places it at the old position. A patch is provided here to correct this issue. Should this ever be fixed in the latex base software then the NoFixMargin option would be required.

Using fancyhdr package By default the fancyhdr package is loaded and the \headerlength is set to span the page, that is it overhangs the text body. The advantage here is that the header has the same format throughout the document if mid-document layout changes are made. If no such changes are made then use the fancyhdrOff and load fancyhdr in your preamble. Now the header does not overhang the text body and is as shown in the previous illustration.

The following paper sizes are recognised:

Standard Paper		Standard Book	
a4paper	210×297mm	US-Trade	6×9in
a5paper	148×210mm	UK-B-Format	135×210mm
b4paper	250×353mm	US-B-Format	129×198mm
b5paper	176×250mm	UK-Royal	156×234mm
c4paper	229×324mm	Quarto	9.5×12in
c5paper	162×229mm	Octavo	6×9in
b4jpaper	257×364mm	CrownQuarto	189×246mm
b5jpaper	182×257mm	Demi	138×216mm
letterpaper	8.5×11in		
legalpaper	8.5×14in		
executivepaper	7.25×10.5in		

1.2   User Interfaces

\NewMarginPage Changes text–marginal ratio. \NewMarginPage[$\langle g \rangle$]<$\langle parsep \rangle$>{$\langle m \rangle$} where optionally the grid count is reset to grid=g, and marginal width is determined by marginalgrid=m. The ratio of the lengths \textwidth to \marginparwidth is $g - m$ to n. The second option changes the \parsep length.

\NewFullPage   Continues the document with a new page without margins, and is equivalent to \NewMarginPage{$\langle 0 \rangle$}

\OldMarginPage   After \NewMarginPage or \NewFullPage revert to the previous page geometry,
\ResetFlexiPage these are not stacked. \ResetFlexiPage reverts to the layout specified in the initial options

Landscape (*env.*)   These two environments provide landscape layouts. The big Landscape pro-
landscape (*env.*) vides full text block landscape. The small landscape environments respects the portrait orientated marginal space which now is white space. Do not use marginalia in landscape mode.

Alternatives to \begin{Landscape} · · · · · · \end{Landscape}

2   Implementation

```
1 \RequirePackage{xparse}   % new LaTeX3 syntax to define macros and environments
2 \RequirePackage{l3keys2e} % nice way for option processing
3 \RequirePackage{calc}     % length manipulation
4 \RequirePackage{fp}       % floating point calculation
5 \RequirePackage{ifoddpage}
6 \RequirePackage{graphics}  % provides landscaping
7 \RequirePackage{mparhack} % not needed here, but the user certainly needs it.
8 \RequirePackage{etoolbox} % provides \patchcmd
9 % ****** \RequirePackage{eso-pic} only loaded later if option show is specified
10 \newlength{\fleximarginparsep}
11 \newlength{\flx@paperheight}
12 \newlength{\flx@paperwidth}
13 \newlength{\flx@temp}
14 \newlength{\flx@LSfix}
15 \setlength{\flx@LSfix}{0pt}
16 \newlength{\flx@lsfix}
17 \setlength{\flx@lsfix}{0pt}
18 \newlength{\flx@textheigt}
19 \newlength{\flx@orgtextwidth}
20 \newlength{\flx@oldparsep}
21 \newlength{\flx@oparsep}
22 \newlength{\flx@binding}
23 \newlength{\marginparsepodd}
24 \newlength{\marginparsepeven}
25 \newlength{\flx@inner}
26 \newlength{\flx@outer}
27 \newlength{\flx@top}
28 \newlength{\flx@bot}
29 \newlength{\flx@parsep}
30 \newlength{\flx@printarea}
31 \newlength{\flx@outerbleed}
32 \newlength{\flx@innerbleed}
33 \newlength{\flx@extrafirstfoot}
34 \setlength{\flx@extrafirstfoot} {0pt}
35 \setlength{\flx@binding}  {9pt}
36 \setlength{\flx@inner} {36pt}
37 \setlength{\flx@outer} {36pt}
38 \setlength{\flx@top}    {36pt}
39 \setlength{\flx@bot}    {45pt}
40 \setlength{\flx@parsep}{3ex}
41 \setlength{\flx@outerbleed} {0pt}
42 \setlength{\flx@innerbleed} {0pt}
43 \FPset\flx@m{3}
44 \FPset\flx@g{12}
45 \newif\ifSF@frame\SF@framefalse
46 \newif\ifFix@Margin\Fix@Margintrue
47 \newif\ifUse@fancyhdr\Use@fancyhdrtrue

48 \setlength{\flx@paperheight}{\paperheight}
49 \setlength{\flx@paperwidth}{\paperwidth}
```

```
50
51 \NewDocumentCommand \flx@setpapersize {o o m}{
52 \setlength{\flx@paperheight}{#2#3}
53 \setlength{\flx@paperwidth}{#2#3}
54 }
55
56
57 \ExplSyntaxOn
58 \keys_define:nn { flexiprint }
59 {
60          binding .code:n = \setlength{\flx@binding}{#1},
61            inner .code:n = \setlength{\flx@inner}{#1},
62            outer .code:n = \setlength{\flx@outer}{#1},
63              top .code:n = \setlength{\flx@top}{#1},
64              bot .code:n = \setlength{\flx@bot}{#1},
65     marginparsep .code:n = \setlength{\flx@parsep}{#1},
66      paperheight .code:n = \setlength{\flx@paperheight}{#1},
67       paperwidth .code:n = \setlength{\flx@paperwidth}{#1},
68       outerbleed .code:n = \setlength{\flx@outerbleed}{#1},
69       innerbleed .code:n = \setlength{\flx@innerbleed}{#1},
70             grid .code:n = \FPset\flx@g{#1},
71      marginalgrid .code:n = \FPset\flx@m{#1} ,
72             show .code:n = \SF@frametrue ,
73      NoFixMargin .code:n = \Fix@Marginfalse ,
74          headsep .code:n = \setlength{\headsep}{#1},
75       headheight .code:n = \setlength{\headheight}{#1},
76         footskip .code:n = \setlength{\footskip}{#1},
77 extrafirstfoot .code:n = \setlength{\flx@extrafirstfoot}{#1},
78      fancyhdrOff .code:n = \Use@fancyhdrfalse,
79          a4paper .code:n = \flx@setpapersize[210][297]{mm},
80          a5paper .code:n = \flx@setpapersize[148][210]{mm},
81          b4paper .code:n = \flx@setpapersize[250][353]{mm},
82          b5paper .code:n = \flx@setpapersize[176][250]{mm},
83          c4paper .code:n = \flx@setpapersize[229][324]{mm},
84          c5paper .code:n = \flx@setpapersize[162][229]{mm},
85         b4jpaper .code:n = \flx@setpapersize[257][364]{mm},
86         b5jpaper .code:n = \flx@setpapersize[182][257]{mm},
87      letterpaper .code:n = \flx@setpapersize[8.5][11]{in},
88       legalpaper .code:n = \flx@setpapersize[8.5][14]{in},
89 executivepaper .code:n = \flx@setpapersize[7.25][10.5]{in},
90        10x8paper .code:n = \flx@setpapersize[8][10]{in},
91         US-Trade .code:n = \flx@setpapersize[6][9]{in},
92       UK-B-Format .code:n = \flx@setpapersize[135][210]{mm},
93       US-B-Format .code:n = \flx@setpapersize[129][198]{mm},
94         UK-Royal .code:n = \flx@setpapersize[156][234]{mm},
95           Quarto .code:n = \flx@setpapersize[9.5][12]{in},
96           Octavo .code:n = \flx@setpapersize[6][9]{in},
97      CrownQuarto .code:n = \flx@setpapersize[189][246]{mm},
98             Demi .code:n = \flx@setpapersize[138][216]{mm},
99 }
100 \ProcessKeysOptions { flexiprint }
101
102 \DeclareExpandableDocumentCommand{\IfNoValueOrEmptyTF}{ m m m }
103 {
```

```
104  \IfNoValueTF{#1}
105   {#2}
106   {\tl_if_empty:nTF {#1} {#2} {#3}}
107 }
108 \ExplSyntaxOff
109
110 \FPset\flx@oldg{\flx@g}
111 \FPset\flx@oldm{\flx@m}
112 \FPset\flx@og{\flx@g}
113 \FPset\flx@om{\flx@m}
114 \setlength{\flx@oparsep}{\flx@parsep}
115 \ifUse@fancyhdr
116    \RequirePackage{fancyhdr}
117    \pagestyle{fancy}
118 \fi
119
120 \setlength{\flx@oldparsep}{\flx@parsep}
121 \setlength{\flx@oparsep}{\flx@parsep}
122 \addtolength{\flx@binding}{\flx@innerbleed}
123 \global\hoffset=0pt
124 \global\voffset=0pt
125
```

\flx@setpagevertical

```
126 \NewDocumentCommand \flx@setpagevertical {} {
127   \setlength{\flx@temp}{\flx@paperwidth+\flx@innerbleed+\flx@outerbleed}
128   \global\paperwidth=\flx@temp
129
130   \setlength{\flx@temp}{\flx@paperheight+2\flx@outerbleed}
131   \global\paperheight=\flx@temp
132
133   \setlength{\flx@temp}{\flx@top+\flx@outerbleed-72pt}
134   \setlength{\topmargin}{\flx@temp}
135
136   \setlength{\flx@temp}{\paperheight - \flx@top %
137           - \headheight - \headsep -\footskip - \flx@bot - 2\flx@outerbleed}
138   \setlength{\flx@textheigt}{\flx@temp}
139   \setlength{\textheight}{\flx@textheigt-\flx@extrafirstfoot}
140 %****************************************************************
141 }
142 \flx@setpagevertical
143 \AddToHook{shipout/firstpage}{%
144 \global\textheight=\flx@textheigt
145 }
146
147
148
149 \newlength{\flx@linewidth}
```

\flx@setpage

```
150
151 \NewDocumentCommand \flx@setpage {} {
152     \FPifgt\flx@m0\relax\else\setlength{\flx@parsep}{0pt}\fi
```

```latex
153     \setlength{\flx@temp}{\flx@binding+\flx@inner-72pt}
154     \global\oddsidemargin=\flx@temp
155
156     \setlength{\flx@linewidth}{\paperwidth-\oddsidemargin-\flx@outer-72pt-\flx@outerbleed}
157     \ifUse@fancyhdr
158         \setlength{\headwidth}{\flx@linewidth}
159     \fi
160     \setlength{\flx@printarea}{\flx@linewidth-\flx@parsep}
161     \FPsub\flx@t\flx@g\flx@m
162     \setlength{\flx@temp}{\flx@printarea * \real{\flx@t}/\real{\flx@g} }
163     \global\textwidth=\flx@temp
164
165     \setlength{\flx@temp}{\flx@printarea * \real{\flx@m}/\real{\flx@g} }
166     \global\marginparwidth=\flx@temp
167     \global\marginparsep=\flx@parsep
168     \if@twoside
169         \setlength{\flx@temp}{\flx@outer+\marginparwidth+\marginparsep-1in+\flx@outerbleed}
170         \global\evensidemargin=\flx@temp
171     \else
172         \global\evensidemargin=\oddsidemargin
173     \fi
174     \global\fleximarginparsep=\marginparsep
175     \global\hsize=\textwidth
176 }

177 \flx@setpage
178 \flx@orgtextwidth=\textwidth
179 \FPset\flx@oldg\flx@g
180 \FPset\flx@oldm\flx@m
181 \setlength{\flx@oparsep}{\flx@parsep}
182 \setlength{\flx@oldparsep}{\flx@parsep}
```

\NewMarginPage

```latex
183 \NewDocumentCommand \NewMarginPage {o d<> m} {
184     \FPset\flx@oldg\flx@g
185     \FPset\flx@oldm\flx@m
186     \setlength{\flx@oldparsep}{\flx@parsep}
187     \ResetFlexiPage
188     \IfNoValueOrEmptyTF{#2}{\relax}{\setlength{\flx@parsep}{#2} }
189     \IfNoValueOrEmptyTF{#1}{\relax}{\FPset\flx@g{#1}}
190     \FPset\flx@m{#3}
191     \flx@setpage
192     \flx@marginparcorrection
193 }
```

\OldMarginPage

```latex
194 \NewDocumentCommand \OldMarginPage {} {
195     \FPset\flx@m\flx@oldm
196     \FPset\flx@g\flx@oldg
197     \flx@ResetFlexiPage
198     \setlength{\flx@parsep}{\flx@oldparsep}
199     \flx@setpage
200     \flx@marginparcorrection
201 }
```

`\NewFullPage`

```
202 \NewDocumentCommand \NewFullPage {}{
203     \FPset\flx@oldg\flx@g
204     \FPset\flx@oldm\flx@m
205     \setlength{\flx@oldparsep}{\flx@parsep}
206     \flx@ResetFlexiPage
207     \FPset\flx@m{0}
208     \setlength{\flx@parsep}{0pt}
209     \flx@setpage
210 }
```

`\ResetFlexiPage`

```
211 \NewDocumentCommand \ResetFlexiPage{} {
212     \FPset\flx@oldg\flx@g
213     \FPset\flx@oldm\flx@m
214     \flx@ResetFlexiPage
215 }
```

`\flx@ResetFlexiPage`

```
216 \NewDocumentCommand \flx@ResetFlexiPage{} {
217     \clearpage
218     \FPset\flx@g\flx@og
219     \FPset\flx@m\flx@om
220     \setlength{\flx@parsep}{\flx@oparsep}
221     \flx@setpage
222     \flx@marginparcorrection
223 }
```

`\Landscape`

```
224 \NewDocumentCommand \Landscape {}

225 {
226     \FPset\flx@oldm\flx@m
227     \FPset\flx@oldg\flx@g
228     \setlength{\flx@oldparsep}{\flx@parsep}
229   \clearpage
230   \setlength{\flx@LSfix}{\textheight-\flx@linewidth}
231   \FPset\flx@m{0}
232   \setlength{\flx@parsep}{0ex}
233   \flx@setpage
234   \flx@landscape
235 }
```

`\endLandscape`

```
236 \NewDocumentCommand \endLandscape {}
237 {
238     \flx@endlandscape
239     \FPset\flx@m\flx@oldm
240     \FPset\flx@g\flx@oldg
241     \setlength{\flx@parsep}{\flx@oldparsep}
242     \flx@setpage
243     \setlength{\flx@LSfix}{0pt}
244     \flx@marginparcorrection
245 }
```

`\landscape`

```
246 \NewDocumentCommand \landscape {}

247 {
248    \FPset\flx@oldm\flx@m
249    \FPset\flx@oldg\flx@g
250    \setlength{\flx@oldparsep}{\flx@parsep}
251    \clearpage
252    \setlength{\flx@LSfix}{\textheight-\textwidth}
253    \FPset\flx@m{0}
254    \setlength{\flx@parsep}{0ex}
255    \flx@landscape
256 }
```

`\endlandscape`

```
257 \NewDocumentCommand \endlandscape {}
258 {
259    \flx@endlandscape
260    \FPset\flx@m\flx@oldm
261    \FPset\flx@g\flx@oldg
262    \setlength{\flx@parsep}{\flx@oldparsep}
263    \flx@setpage
264    \setlength{\flx@LSfix}{0pt}
265    \flx@marginparcorrection
266 }
```

If the page layout includes a marginal these lscape.sty package respect these

```
267 %
268
269 \def\flx@LS@rot{%
270   \setbox\@outputbox\vbox{\hbox{\rotatebox{90}{\box\@outputbox}}}}

271
272 \def\flx@landscape{%
273   \let\flx@LS@makecol=\@makecol
274   \let\flx@LS@makefcolumn=\@makefcolumn
275   \clearpage
276   \begingroup
277   \global\vsize=\textwidth
278   \global\hsize=\textheight
279   \linewidth=\hsize
280   \columnwidth=\hsize
281   \@colroom=\vsize
282   \textheight=\vsize
283   \@colht=\vsize
284   \def\@makecol{\flx@LS@makecol\flx@LS@rot}%
285   \def\@makefcolumn##1{\flx@LS@makefcolumn{##1}\flx@LS@rot}}

286
287 \def\flx@endlandscape{%
288   \clearpage
289   \endgroup
290   \global\@colht=\textheight
291   \global\vsize=\textheight
292   \global\@colroom=\textheight}
293 %
```

`\flx@marginparcorrection` Mid-document changes to textwidth are not communicated the LaTeX marginpar routines hence the patch to correct the odd-side marginparsep.

lifted from https://tex.stackexchange.com/questions/174605

```
294 \NewDocumentCommand\flx@marginparcorrection{}{
295 \ifFix@Margin
296     \setlength{\marginparsepodd}{\marginparsep-\flx@orgtextwidth+\textwidth}
297     \setlength{\marginparsepeven}{\marginparsep}
298     \patchcmd{\@addmarginpar}%In this command
299     {\mph@orig@addmarginpar}%...replace this...
300     {\if@twoside\ifodd\c@page\relax%...with this
301         \marginparsep=\marginparsepodd%Page isodd
302       \else%twoside and eveb
303         \marginparsep=\marginparsepeven%Page iseven
304       \fi
305       \else% oneside
306         \marginparsep=\marginparsepodd
307       \fi
308    \mph@orig@addmarginpar}
309    {}%success
310    {\message{Error! Couldn't hook into command    %failure
311    '\string\@addmarginpar'}} %end patch command
312
313    {
314    \def\patcherr{%
315       \message{Error!Couldn't hook into command'\string\@mn@@@marginnote'}}
316       \def\patchok{%
317       \let\patcherr\relax%Only display error if first patch fails
318       \patch%Now patch again.
319    }
320    \def\patch{
321       \patchcmd{\@mn@@@marginnote}%In this command
322          {\kern\marginparsep}%...replace this...
323       {\ifx\@mn@currpage\relax\else%...with this
324          \if@twoside\ifodd\@mn@currpage\relax
325             \kern\marginparsepodd%Page is odd
326          \else
327             \kern\marginparsepeven
328          \fi
329          \else% one side
330             \kern\marginparsepodd
331          \fi
332       \fi}
333       {\message{Patched!}\patchok}%success(recurse)
334       {\patcherr}%fail
335    }
336    \message{Patching'\string\@mn@@@marginnote'!}
337    \patch
338    \global\let\@mn@@@marginnote\@mn@@@marginnote%Makepatch global
339    }
340 \fi
341 }
```

The package showframe.sty is adapted and localised

```
342 \ifSF@frame\RequirePackage{eso-pic}\fi  % so that below code can draw frames
343
344 \ifSF@frame\AddToShipoutPictureBG{\flx@ShowFramePicture}\fi
345
346 \newcommand*\flx@framecolor{\color{green}}
347 \newcommand*\flx@frameline{.8pt}
348 \newdimen\SF@tempdima
349
350 \newcommand\flx@ShowFramePicture{%
351   \begingroup
352     \color{orange}\linethickness{\flx@frameline}%
353     \if@twoside
354       \ifodd\c@page
355         \AtPageUpperLeft{%
356           \put(\flx@innerbleed,-\paperheight+\flx@outerbleed){%
357             \framebox(\paperwidth-\flx@outerbleed-\flx@innerbleed,\paperheight-2\flx@outerbl
358       \else
359         \AtPageUpperLeft{%
360           \put(\flx@outerbleed,-\paperheight+\flx@outerbleed){%
361             \framebox(\paperwidth-\flx@outerbleed-\flx@innerbleed,\paperheight-2\flx@outerbl
362       \fi
363     \else
364       \AtPageUpperLeft{%
365        \put(\flx@innerbleed,-\paperheight+\flx@outerbleed){%
366          \framebox(\paperwidth-\flx@outerbleed-\flx@innerbleed,\paperheight-2\flx@outerbleed
367     \fi
368     \flx@framecolor\linethickness{\flx@frameline}%
369     \AtTextLowerLeft{%
370       \put(0,-\flx@LSfix){\framebox(\textwidth,\textheight+\flx@LSfix){}}}%
371
372 \ifUse@fancyhdr
373     \if@twoside
374         \ifodd\c@page
375             \AtPageUpperLeft{%
376                 \put(\flx@inner+\flx@binding,-\flx@outerbleed-\flx@top-\headheight){%
377                     \framebox(\flx@linewidth,\headheight){}}}%
378             \AtPageUpperLeft{%
379                 \put(\flx@inner+\flx@binding,%
380                         -\flx@outerbleed-\flx@top-\headheight-\headsep-\textheight%
381                         -\footskip -\flx@LSfix){%
382                     \line(1,0){\flx@linewidth}}}%
383         \else
384         \AtPageUpperLeft{%
385          \put(\flx@outer+\flx@outerbleed,-\flx@outerbleed-\flx@top-\headheight){%
386           \framebox(\flx@linewidth,\headheight){}}}%
387         \AtPageUpperLeft{%
388            \put(\flx@outer+\flx@outerbleed,%
389                    -\flx@outerbleed-\flx@top-\headheight-\headsep-\textheight%
390                    -\footskip -\flx@LSfix){%
391                \line(1,0){\flx@linewidth}}}%
392
393         \fi
394     \else
395         \AtPageUpperLeft{%
```

```
396            \put(\flx@inner+\flx@binding,-\flx@outerbleed-\flx@top-\headheight){%
397             \framebox(\flx@linewidth,\headheight){}}}%
398         \AtPageUpperLeft{%
399            \put(\flx@inner+\flx@binding,%
400                  -\flx@outerbleed-\flx@top-\headheight-\headsep-\textheight%
401                  -\footskip -\flx@LSfix){%
402               \line(1,0){\flx@linewidth}}}%
403     \fi
404 %
405 \else
406     \AtTextUpperLeft{%
407       \put(0,\headsep){%
408        \framebox(\textwidth,\headheight){}}}%
409     \AtTextLowerLeft{%
410       \put(0,-\footskip-\flx@LSfix){%
411        \line(1,0){\textwidth}}}%
412 \fi
413 %
414 \FPifgt\flx@m 0{%
415     \AtTextLowerLeft{%
416       \SF@tempdima=\textwidth\advance\SF@tempdima\marginparsep%
417       \if@twoside
418         \ifodd\c@page\else
419           \if@mparswitch
420             \SF@tempdima=-\marginparsep\advance\SF@tempdima-\marginparwidth
421           \fi
422         \fi
423       \fi
424       \put(\SF@tempdima,0)%
425         {\framebox(\marginparwidth,\textheight){}}%
426     }%
427   }\fi
428   \endgroup
429 }
```